

Universal Lab Orders and Results

*Programmer Reference
Version 3.4 Rev. 1*

Foreword

• • • • •

COPYRIGHT NOTICE

Quest Diagnostics Corporate Headquarters, 3 Giralda Farms, Madison, New Jersey 07940, U.S.A.

© 2004–2010 Quest Diagnostics Incorporated. All Rights Reserved.

This document is protected by copyright and distributed under licenses restricting its use, copying and distribution. Parties to a user agreement with Quest Diagnostics for the software described in this document are granted permission to use and reproduce portions of this document solely for their internal training requirements, provided that this copyright notice and other proprietary notices appears in all copies. Except as provided in this paragraph, no part of this document may be reproduced or transmitted in any form or by any means without the express written permission of Quest Diagnostics.

TRADEMARKS

Quest, Quest Diagnostics, the associated logo and all associated Quest Diagnostics marks are the registered trademarks of Quest Diagnostics.

All third-party marks—[®] and [™]—are the property of their respective owners.

DISCLAIMER OF WARRANTIES

THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. QUEST DIAGNOSTICS DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. IN NO EVENT SHALL QUEST DIAGNOSTICS AND/OR ITS SUPPLIERS BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOSS OF USE, DATA OR PROFITS, WHICH MAY ARISE OUT OF OR IN CONNECTION WITH THE USE OF THESE MATERIALS.

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. THE INFORMATION CONTAINED IN THIS DOCUMENT IS PERIODICALLY CHANGED WITHOUT NOTICE. QUEST DIAGNOSTICS MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) AND/OR THE SOFTWARE DESCRIBED IN THIS DOCUMENT AT ANY TIME.

RESTRICTED RIGHTS LEGEND

All Quest Diagnostics products and publications are commercial in nature. Use, duplication, or disclosure by the U.S. Government is subject to restrictions of FAR 52.227-14 and FAR 52.227-19, or DFAR 252.227-7015 and DFAR 227.7202-3.

Any rights not expressly granted herein are reserved.

Table of Contents

• • • • •

About This Manualxi
Introduction	xii
Disclaimers	xii
What's New in This Release	xiii
Documentation Conventions	xv
Abbreviations and Acronyms	xvi
Related Documentation	xviii
Third-Party Internet Resources	xviii

Introduction

About This Section	2
---------------------------------	----------

Chapter 1: Universal Ordering and Resulting	3
About Universal Ordering and Resulting	4
Universal Ordering and Resulting Components	4
About the Universal Ordering and Resulting Data Flow	5
Process Walkthrough: Universal Ordering and Resulting	5
Universal Ordering and Resulting Connectivity	9
Additional Connectivity Options	9

Third-Party Laboratory Orders

About This Section	12
---------------------------------	-----------

Chapter 2: Care360 Master File Specification	13
About the Care360 Master File Specification	14
About the Master File Datasets	15
Dataset File List	15
Master File Dataset File Specifications	17
Dataset Format Specifications	17
Dataset File Details	19
Sample Master File Dataset Files	50



Submitting Third-Party Master Files	53
About the Carrier Edit Patterns	54
Chapter 3: Care360 Order HL7 Specification	55
About the Care360 Order HL7 Specification	56
Care360 Order Message Format Requirements	57
Message Segment Hierarchy	57
Message Segment Requirements	57
Newline Characters	60
Field Delimiters	60
Field Specifications	61
Data Type Specifications	62
Care360 Order Message Segment Specifications	65
Sample Care360 Order Messages	94
Chapter 4: Retrieve Order Services API Reference	97
About the Retrieve Order Services API Reference	98
Retrieve Order Services API	99
Retrieve Order Methods	99
Order Objects	101
About the WSDL Interface Document	102
Accessing the Retrieve Order Services WSDL Document	102
Third-Party Laboratory Results	
About This Section	104
Chapter 5: Care360 Results HL7 Specification	105
About the Care360 Results HL7 Specification	106
Care360 Result Message Format Requirements	107
Message Segment Hierarchy	107
Newline Characters	107
Field Delimiters	107
Field Specifications	108
Data Type Specifications	108
Care360 Result Message Segment Specifications	112
Sample Care360 Result Messages	132
Receiving Third-Party Laboratory Results Files	135
Results Formatting Requirements	135
Sample XML Result Files	136
Chapter 6: Care360 ELINCS HL7 R1 Result Specification	139
About the Care360 ELINCS HL7 R1 Result Specification	140

Care360 ELINCS HL7 R1 Result Message Format Requirements	141
Message Segment Hierarchy	141
Newline Characters	142
Field Delimiters	142
Field Specifications	142
Data Type Specifications	143
Care360 ELINCS HL7 R1 Result Message Segment Specifications	146
Sample Care360 ELINCS HL7 R1 Result Message	160
Chapter 7: Care360 Textual Results HL7 Specification	163
About the Care360 Textual Results HL7 Specification	164
Care360 Textual Results Message Format Requirements	165
Message Segment Hierarchy	165
Message Segment Requirements	165
Field Delimiters	166
Field Specifications	166
Data Type Specifications	168
Care360 Textual Results Message Segment Specifications	171
Sample Care360 Textual Results Message	183
Chapter 8: Physician Query API Reference	185
About the Physician Query API Reference	186
Physician Query API	187
Physician Query Method	187
Physician Query Objects	188
About the WSDL Interface Document	189
Accessing the Physician Query Services WSDL Document	189
Chapter 9: Submit Clinical Content API Reference	191
About the Submit Clinical Content API Reference	192
Submit Clinical Content API	193
Submit Clinical Content Method	193
Submit Clinical Content Objects	194
About the WSDL Interface Document	196
Accessing the Submit Clinical Content Services WSDL Document	196
Chapter 10: Care360 Transcribed Document HL7 Specification	197
About the Care360 Transcribed Document HL7 Specification	198
Care360 Transcribed Document Message Format Requirements	199
Message Segment Hierarchy	199
Message Segment Requirements	199
Newline Characters	201
Field Delimiters	201
Field Specifications	201
Data Type Specifications	202

Care360 Transcribed Document Message Segment Specifications	205
Sample Care360 Transcribed Document Messages	224

Linking and Single Sign-On

About This Section	226
Chapter 11: Linking to Care360 Labs & Meds	227
About Linking and Single Sign-On (SSO)	228
Care360 Labs & Meds Functions Available for Linking	228
Formatting Requirements for Linking to Care360 Labs & Meds	229
About Single Sign-On (SSO)	230
Maintaining Patient Context	230
Process Walkthrough: Linking and SSO	235
About User Summary Services	238
Process Walkthrough: Retrieving User Summary Data	239
About Order Echo	240
Process Walkthrough: Order Echo	240
About Rx Order Echo	242
Process Walkthrough: Rx Order Echo	242
About the Care360 CCR Message Specification	244
Care360 CCR Message Specifications	245
Sample Care360 CCR Message	256
About Patient Demographic Services	262
Patient Demographic Services Connectivity	262
Real-Time vs. Batch Processing	262
PID-Only vs. “Fuzzy” Matching	263
Process Walkthrough: Submitting a Patient Demographic Update	266
Process Walkthrough: Outbound Patient Demographic Updates	267
Customizing the Care360 Labs & Meds User Interface	268
Custom UI Specifications	269
Chapter 12: Care360 Labs & Meds SSO Specification	273
About the Care360 Labs & Meds SSO Specification	274
Establishing Organizational Trust	275
Implementing SAML	276
Usage Scenario 1: Care360 Labs & Meds SSO for Interactive Users	279
About Session Timeouts and Terminations	279
About SSO User Initialization	280
Usage Scenario 2: Care360 Labs & Meds SSO for Web Services	281
About Session Timeouts and Terminations	283
About SSO User Initialization	284
About the Landing Page	284

Chapter 13: User Summary Services API Reference	285
About the User Summary Services API Reference	286
User Summary Services API	287
User Summary Methods	287
User Summary Objects	288
Chapter 14: Patient Demographic Services API Reference	291
About the Patient Demographic Services API Reference	292
Patient Demographic Services API	293
Patient Demographic Methods	293
Patient Demographic Objects	294
About the WSDL Interface Document	296
Accessing the Patient Demographic Services WSDL Document	296
Chapter 15: Care360 Patient Demographic HL7 Specification	297
About the Care360 Patient Demographic HL7 Specification	298
Care360 Patient Demographic Message Format Requirements	299
Newline Characters	299
Field Delimiters	299
Field Specifications	299
Data Type Specifications	300
ADT A28 (Patient Add) Message Segment Specifications	303
Message Segment Hierarchy	303
Message Segment Specifications	304
ADT A29 (Patient Delete) Message Segment Specifications	328
Message Segment Hierarchy	328
Message Segment Specifications	328
ADT A31 (Patient Update) Message Segment Specifications	338
Message Segment Hierarchy	338
Message Segment Specifications	339
ADT A39 (Patient Merge) Message Segment Specifications	362
Message Segment Hierarchy	362
Message Segment Specifications	362
SIU (Patient Schedule) Message Segment Specifications	374
Message Segment Hierarchy	374
Message Segment Specifications	374
Sample Care360 Patient Demographic Messages	395
Chapter 16: Document Routing Services API Reference	397
About the Document Routing Service API Reference	398
Document Routing Service—API	399
Document Routing Methods	399
Document Routing Objects	400
Accessing the Transcription Service .xsd Document	400

Chapter 17: Care360 SSO and Web Services Site	401
About the Care360 SSO and Web Services Site	402
Accessing the Care360 SSO and Web Services Site	403
About the Sample Application	404
About the WSDL Interface Documents	405
Accessing the User Summary Services WSDL Document	405
About the Sample Code	406

Appendices

About This Section	408
Appendix A: Patient Demographic Reference Data	409
About Patient Demographic Reference Data	410
Patient Language (PID.15)	411
Glossary	425
Index	431
We'd Like to Hear From You	439

About This Manual

.....

In This Section:

- [Introduction](#) xii
- [What's New in This Release](#) xiii
- [Documentation Conventions](#) xv
- [Abbreviations and Acronyms](#) xvi
- [Related Documentation](#) xviii

Introduction

This *Care360™ Universal Lab Orders and Results Programmer Reference* provides information on integrating a non-Quest Diagnostics® service provider (laboratory) and/or third-party electronic medical record (EMR) into the Care360 Labs & Meds product suite. The integration of a third-party laboratory or EMR application involves the following primary services:

- **Universal Lab Orders.** The ability to submit lab orders to a third-party laboratory via Care360 Labs & Meds, or via a third-party EMR application.
- **Universal Lab Results.** The ability to receive test results and radiology results generated by a third-party laboratory via Care360 Labs & Meds, or via a third-party EMR application.
- **EMR Linking/Single Sign-On.** The ability to directly access specific functions of Care360 Labs & Meds from a partner application via single sign-on (SSO).

Additional services available to a linked application include the following:

- **User Summary Services.** The ability to view Care360 Labs & Meds lab result and user message counts from within the linked application.
- **Order Echo.** The ability to receive copies of orders placed using Care360 Labs & Meds within the linked application.
- **Patient Demographic Updates.** The ability for the linked application to submit patient add, update, delete, schedule, and merge messages to the Care360 Labs & Meds patient database (via Care360 Hub Information Services).
- **Care360 Labs & Meds User Interface (UI) Customization.** The ability to customize certain elements of the Care360 Labs & Meds user interface to more closely resemble partner applications or product branding.

For an overview of Care360 Integration Services, see [Chapter 1, “Universal Ordering and Resulting”](#) on page 3.

Disclaimers

- This Programmer Reference provides specifications necessary for exchanging laboratory data between a third-party Service Provider (laboratory) or EMR application and the various components of Care360 Integration Services. It does not, however, provide documentation on creating or updating an application to produce data files that conform to these specifications.
- All sample code referenced in this Programmer Reference is provided for example purposes only, and it may need to be modified to work in your environment. It is provided “as is,” without warranty of any kind, or support, from Quest Diagnostics.

What's New in This Release

Revision 1 of this manual includes the following updates:

- **Orders HL7 Specification.** OBR.44 through OBR.51 are now noted as repeating fields. For more information, see “[OBR—Observation Request Segment](#)” starting with “[OBR.44](#)” on page 89.

Care360 Universal Lab Orders and Results 3.4 provides the following updates and enhancements:

- **Oder Echo.** The Hub now supports order echo receipt, validation, and processing for generic lab orders (that is, lab orders submitted from Care360 Labs & Meds to non-Quest Diagnostics labs that are not part of the Care360 system). Related updates include the following:
 - PID.04 (Alternate Patient ID) changed from Not Supported (NS) to Optional (O). For more information, see “[PID.04](#)” on page 68.
 - PID.18 (Patient Account Number) changed from Not Supported (NS) to Optional (O). For more information, see “[PID.18](#)” on page 69.
 - IN1.04 (Insurance Company Name) is used for generic carrier name. For more information, see “[IN1.04](#)” on page 73.
 - NTE.02 (Source of Comment) has expanded values. For more information, see “[NTE.02](#)” on page 93.

For an overview of order echo, see “[About Order Echo](#)” on page 240.

- **Orders HL7 Specification.** The Orders HL7 Specification has been corrected by removing OBR.27.6 (Quantity/Timing Priority) and adding OBR.27.7 (Quantity/Timing Condition). For more information, see “[OBR.27.7](#)” on page 88.
- **Orders HL7 Specification.** The following updates have been made to support orders coming from Care360 to be delivered to a third-party lab system:
 - ORB.28 (Result Copies To) has been changed from Not Supported (NS) to Optional (O). For more information, see “[ORB.28](#)” on page 88.
 - OBR.44 through OBR.53 have been added. For more information, see “[OBR—Observation Request Segment](#)” starting with “[OBR.44](#)” on page 89.
 - DG1.03 (Diagnosis Code) no longer has a restriction on decimal places. For more information, see “[DG1.03](#)” on page 90.
- **Orders HL7 Specification.** The data type for GT1.41 was changed from IS to CE to reflect an update to the Hub. This change has no effect on existing orders using the IS data type. For more information, see “[GT1.41](#)” on page 80.
- **PDF Results.** A Hub Account configuration option now determines the type of PDF (clinical, enhanced, or both) that is sent with results via the Lab Results web service. For more information, see one of the following:
 - “[Lab Results Services—HL7 API](#)” on page 157.
 - OBR.04 subfields for report label and descriptions, starting with “[OBR.04](#)” on page 122.
 - OBX.03 subfields for report label and descriptions, starting with “[OBX.03](#)” on page 128.
- **Results HL7 Specification.** OBR.14 (Specimen Received Date/Time) is now required and validated for all incoming lab results *except* textual. See “[OBR.14](#)” on page 124.

- **Results HL7 Specification.** The PV1 (Patient Visit Data Segment) was removed from Chapter 5, “[Care360 Results HL7 Specification](#).”
- **Results HL7 Specification.** OBR.21 was changed to a repeating field. For more information, see “[OBR.21](#)” on page 125.
- **Results HL7 Specification.** OBX.15 was changed to pass through (no validation). For more information, see “[OBX.15](#)” on page 131.
- **Textual Results.** The Submit Clinical Content Web service no longer rejects duplicate or obsolete textual results. For more information, see “[submitClinicalContent](#)” on page 193.
- **Textual Results HL7 Specification.** OBR.24 (Diagnostic Serv Sect ID) has been changed from Not Supported (NS) to Optional (O), and a list of the valid values has been added. For more information, see “[OBR.24](#)” on page 178.
- **Master File Specification.** The following datasets have been updated:
 - Dataset 1—Fields 16 through 70 are now optional. For details, see “[Dataset 1—Client](#)” on page 19.
 - Dataset 7—Fields 12, 17, and 18 are now optional. For details, see “[Dataset 7—Order Code](#)” on page 29.
- **Prescription Order messages.** The Rx Order Echo Continuity of Care Record (CCR) specification has been updated. For details, see “[About the Care360 CCR Message Specification](#)” on page 244.
- **Radiology Results Web service.** The radiology chapters (Chapter 7: Overview of Radiology Results Services and Chapter 8: Radiology Results Services API Reference) have been removed from this programmer reference. Clients using the Radiology Results Web service can continue to do so but are encouraged to migrate to the Submit Clinical Content Web service.
- **Submission Result Services.** The Submission Result Services chapter has been removed from this programmer reference. Clients using the Submission Result Web service can continue to do so but are encouraged to migrate to the Submit Clinical Content Web service.

For more information on the Submit Clinical Content web service, see [Chapter 9, “Submit Clinical Content API Reference”](#) on page 191.

Documentation Conventions

This manual uses the following conventions:

- Manual titles, special terms, Web page and dialog box titles, menu items, toolbar button names, labels that appear on Web pages and dialog boxes, and keyboard key names appear in *italic*.
- Italic is also used to indicate variables. For example, an e-mail address might be presented as *name@company.com*. When typing the address, you would use the actual user name and company name rather than *name* and *company*.
- Words that are being emphasized appear in **bold**.
- Text that you type as well as messages and prompts that appear on the screen appear in **this type style**.
- The greater than symbol (>) indicates a series of menu items to click. For example, the instructions to click the *File* menu item and then click *Open* might be presented in the following way: “Click *File* > *Open*.”
- This manual calls your attention to important information in several ways:

Note: A note indicates exceptions to the stated rule or information that emphasizes or supplements important points in the main text. A note can supply information that might apply only in special cases.

CAUTION! A caution indicates that failure to take or avoid a specified action could result in losing data. When you see a caution, follow the instructions carefully.

Abbreviations and Acronyms

The following is a list of abbreviations and acronyms that are used in this manual.

Abbreviation/Acronym	Description
ADT	Admission Discharge Transfer
AOE	Ask on Order Entry
API	Application Programming Interface
BIS	Billing Information System
BU	(Quest Diagnostics) Business Unit
CDC	Clinical Data Compendium
CPT®	Current Procedural Terminology
DOB	Date of Birth
DOS	Directory of Service
EHR	Electronic Health Record
EMR	Electronic Medical Record
FTP	File Transfer Protocol
HIS	Hospital Information System
HL7	Health Level Seven
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol, Secure
ICD9 or ICD-9	International Classification of Diseases (of the World Health Organization), 9th Revision
IPA	Independent Physician Association
LCP	Limited Coverage Policy
LIS	Lab Information System
LOINC	Logical Observation Identifiers Names and Codes
MIS	Management Information System
MLCP	Medicare Limited Coverage Policy
MLLP	Minimal Lower Level Protocol
MN	Medical Necessity
MRN	Medical Record Number
NBS	National Billing System

Abbreviation/Acronym	Description
NPI	National Provider Identifier
ORM	(HL7) Order Message
ORU	(HL7) Observational Report—Unsolicited
PDF	Portable Document Format
PMS	Patient Management System
PPMS	Physician Practice Management System
PSC	(Quest Diagnostics) Patient Service Center
QLS	Quest Lab Systems
SAML	Security Assertion Markup Language
SFTP	SSH File Transfer Protocol
SOAP	Simple Object Access Protocol Note: As of SOAP v1.2, referred to only as an acronym.
SSH	Secure Shell
SSL	Secure Sockets Layer
SSO	Single Sign-On
UDDI	Universal Description, Discovery, and Integration
UPIN	Universal Physician Identifier Number
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
VPN	Virtual Private Network
W3C	World Wide Web Consortium
WSDL	Web Services Definition Language
XML	eXtensible Markup Language

Related Documentation

In addition to this Programmer Reference, the following resources are also available for the individual components of Care360 Integration Services:

- **Care360 Hub Information Services Programmer Reference.** Provides information on creating client applications that interact with Care360 Hub Information Services. It is intended for programmers who write client applications to communicate with Care360 Hub Information Services via the Orders, Lab Results, and/or Prescription Web services. Primarily intended for applications that interact with Quest Diagnostics laboratories.
- **Care360 Hub Information Services Administrator Manual.** Provides information on using Hub Information Services—Administration to configure and manage Hub accounts, providers, vendors, and users. It is intended for Professional Services Group (PSG) personnel, or other designated administrative personnel, who are responsible for initial and ongoing Care360 Hub Information Services administration.
- **Care360 Labs & Meds User Manual.** Provides information on accessing and using the Care360 Labs & Meds application, which includes the integrated *Lab Orders* function. Intended for end users of the application, including physicians, clinicians, phlebotomists, clinical office staff, and administrative office staff.

Third-Party Internet Resources

The following is a list of third-party resources (available via the Internet) that you can access for more information on specific programming subjects.

Subject	Internet Resources	
Health Level 7 (HL7®)	Health Level Seven (HL7), Inc.	http://www.hl7.org/
SAML	Security Assertion Markup Language	http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=security
SSL Certificates	VeriSign® SSL Certificates	http://www.verisign.com/products-services/security-services/ssl/

Introduction

About This Section

This section provides an overview of Care360 Integration Services.

This section includes the following chapter(s):

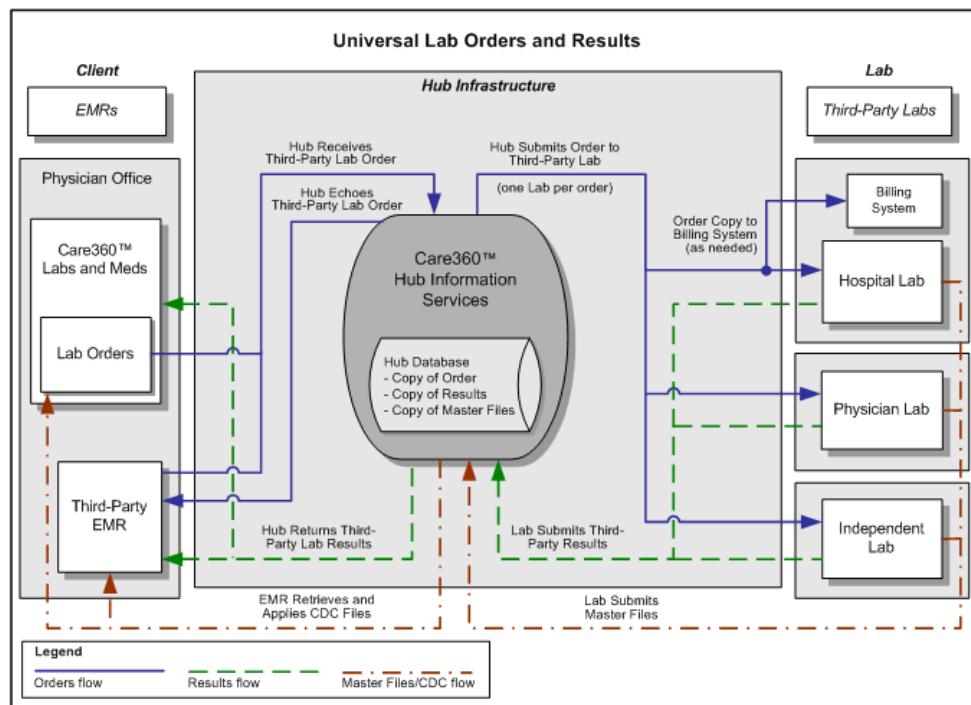
- [Chapter 1, “Universal Ordering and Resulting” on page 3.](#)



Chapter 1

Universal Ordering and Resulting

.....



In This Chapter:

- About Universal Ordering and Resulting 4
- About the Universal Ordering and Resulting Data Flow 5
- Universal Ordering and Resulting Connectivity 9

About Universal Ordering and Resulting

Care360 Integration Services provides a framework for a third-party service provider (laboratory) or EMR application to integrate with the Care360 Labs & Meds product suite. Integrating a third-party laboratory or EMR application into the Care360 Labs & Meds product suite enables end users of Care360 Labs & Meds or the third-party EMR application to place lab orders with a third-party laboratory, and to receive results from that laboratory.

This section provides an overview of Universal Ordering and Resulting, including a description of each of the primary components of the Care360 Labs & Meds product suite.

Universal Ordering and Resulting Components

The Universal Ordering and Resulting product suite consists of the following primary applications:

- **Care360 Labs & Meds.** Care360 Labs & Meds is an Internet-based application that provides electronic lab test ordering and online delivery and viewing of the associated lab results, in addition to a number of other important patient care features. It includes a *Lab Orders* function, used for placing lab orders with either a Quest Diagnostics Business Unit (BU), or a third-party service provider (laboratory).
- **Care360 Hub Information Services.** Care360 Hub Information Services provides a standards-based platform for the submission of lab orders, and for the request and delivery of lab results data. The Care360 Hub Information Services platform also provides a framework for hosting a number of additional centralized healthcare-related services.

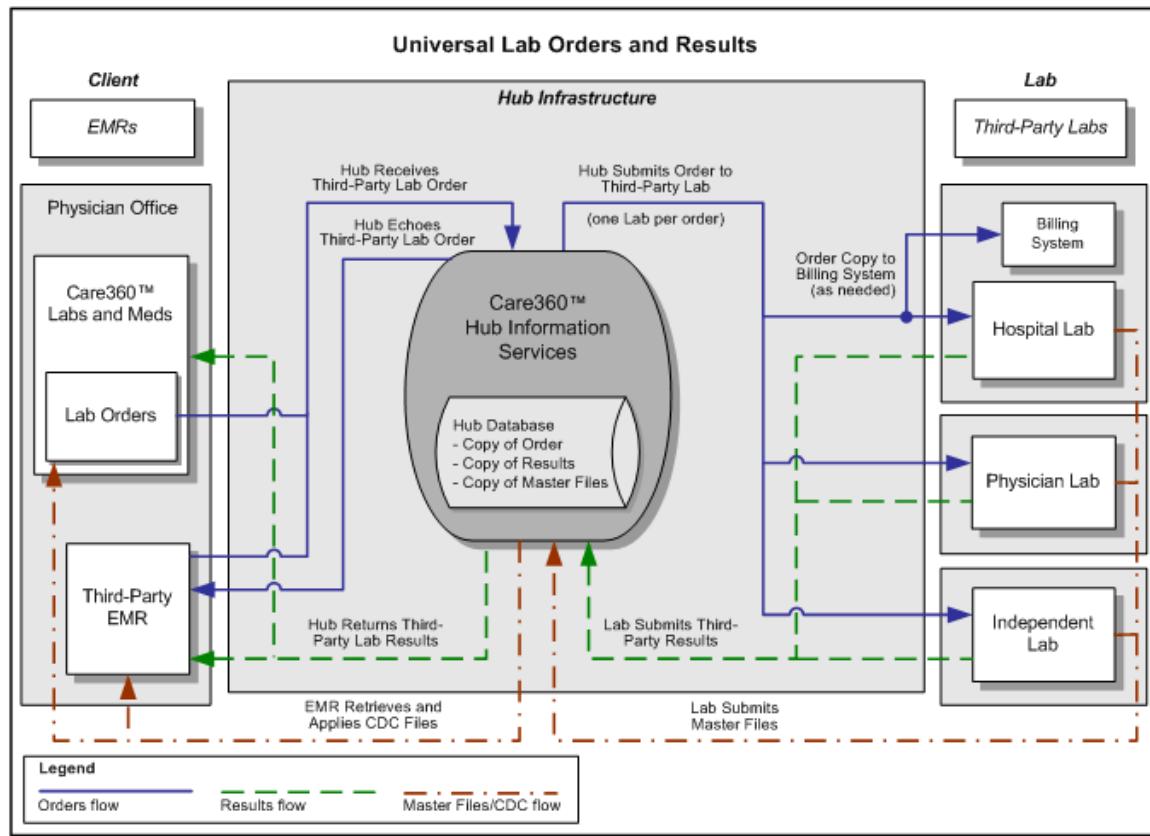
About the Universal Ordering and Resulting Data Flow

This section provides a high-level overview of the processes involved in sending orders to, and receiving results from, third-party (non-Quest Diagnostics) laboratories via Universal Ordering and Resulting.

A Care360 Labs & Meds or third-party EMR user can submit a lab order to a third-party laboratory by specifying the desired laboratory when placing the order. Valid third-party laboratories can include hospital labs, physician office labs, or independent labs.

Process Walkthrough: Universal Ordering and Resulting

The diagram below illustrates (at a high level) the flow of orders and results to third-party laboratories. Following the diagram is a step-by-step walkthrough of each of the three major processes (Master Files, orders, and results) illustrated in the diagram.



Updating Master Files

The following steps outline the procedure—and associated systems—involved in updating the Master File data used by *Lab Orders* when placing an order to a third-party laboratory.

- The third-party laboratory copies updated Master Files to its file system.

Note: Master Files submitted to the Hub must be formatted according to the specifications detailed in [Chapter 2, “Care360 Master File Specification”](#) on page 13.
- The Hub retrieves the Master Files from the laboratory file system, and verifies the file names of the Master Files.
- The Hub records the Master Files transaction, and stores a copy of the Master Files for a minimum of 90 days (or longer, as specified by the laboratory).
- The Hub copies the Master Files to the *Lab Orders* component of Care360 Labs & Meds, and *Lab Orders* stores a copy of the Master Files to its file system.
- Lab Orders* converts the Master Files to the Quest Diagnostics internal Clinical Data Compendium (CDC) format, and then copies the CDC files to its file system.
- The Hub retrieves the CDC files from the *Lab Orders* file system, and records the CDC file transaction.
- One of the following occurs:
 - If *Lab Orders* will be used for third-party lab orders, *Lab Orders* applies the updated CDC security and provisioning rules to the ordering process for the associated laboratory.
 - If an external EMR will be used for third-party lab orders, the EMR retrieves the CDC files from the Hub, and then applies the updated CDC security and provisioning rules to the ordering process for the associated laboratory.

Placing a Lab Order

The following steps outline the procedure—and associated systems—involved in placing an order with a third-party laboratory.

- A user logs in to Care360 Labs & Meds or a third-party EMR, and searches for the desired patient.
 - For Care360 Labs & Meds, the user can access the *Lab Orders* function either directly, or from within the context of a specific patient.
- The user creates an order, and selects the third-party laboratory (known in *Lab Orders* as the *Performing Lab*) to which the order will be submitted for processing.
- The user submits the order, and the order is created and stored in HL7 format.

Note: Orders submitted to the Hub must be formatted according to the specifications detailed in [Chapter 3, “Care360 Order HL7 Specification”](#) on page 55.

 - If necessary, the order can be printed and delivered manually to the third-party laboratory, rather than being submitted electronically.

- At a predefined time interval, the Hub retrieves the HL7 order, and verifies the format and content of the order.
- The Hub records the order transaction, and stores a copy of the discrete content of the order for a minimum of 90 days (or longer, as specified by the laboratory).
 - For orders placed using *Lab Orders*, the Hub can “echo” (return) a copy of the order to a partner application.
- The Hub submits the order to the specified third-party laboratory file system for processing.

Note: The order that is submitted to the laboratory is formatted according to the specifications detailed in [Chapter 3, “Care360 Order HL7 Specification” on page 55](#).

- If the third-party laboratory requires a separate billing feed, the Hub can deliver a copy of the order to the lab’s billing system.
- The third-party laboratory retrieves the order from its file system, and processes the order.

Receiving Lab Results

The following steps outline the procedure—and associated systems—involved in accessing and viewing results received from a third-party laboratory.

- After the third-party laboratory has processed the order, it copies the results to its file system.

Notes:

- Results submitted to the Hub must be formatted according to the specifications detailed in [Chapter 5, “Care360 Results HL7 Specification” on page 105](#).
- The results returned by the third-party laboratory must be submitted in XML format, encapsulating the HL7 file and zero or more “report of record” (PDF) files (if the laboratory is configured to do so). The XML file must be formatted according to the schema detailed in [“Receiving Third-Party Laboratory Results Files” on page 135](#).

- The Hub retrieves the results on a predefined schedule, and verifies the format and content of the results.
- The Hub records the results transaction, and stores a copy of the discrete content of the results for a minimum of 90 days (or longer, as specified by the laboratory).
- The Hub submits the results to either the *Lab Orders* function of Care360 Labs & Meds, or to the third-party EMR file system.

Note: If the third-party laboratory cannot provide a “report of record” (PDF version of the lab results), *Lab Orders* can generate a customized PDF from the HL7 file.

- The user logs in to Care360 Labs & Meds or the third-party EMR to view results. In Care360 Labs & Meds, the user can view results in one of the following ways:
 - To view new results received into Care360 Labs & Meds for *all* patients, the user accesses the *New Results* page.

- To view results for a specific patient, the user searches for the desired patient, and then accesses the *Recent Tests* area of the *Patient Summary*.

Note: All results are segregated—in the database, as well as in the Care360 Labs & Meds user interface—according to the performing laboratory from which they are received.
- Results received from a third-party laboratory are stored permanently in the patient's chart. Third-party lab results can be manipulated within Care360 Labs & Meds in the same manner as can Quest Diagnostics results (that is, they can be printed, attached to a user message, viewed in a graph or flowsheet, etc.).

Universal Ordering and Resulting Connectivity

The transfer of all data (Master Files, orders, and results) between Care360 Hub Information Services and a third-party laboratory will occur via one of the following encrypted data transfer protocols:

- **MLLP Socket over Virtual Private Network (VPN).** Permanent socket-based communication protocol that is used extensively in the healthcare industry for transporting HL7 messages.
- **FTP Over SSL.** Traditional port 21 FTP over an SSL-encrypted socket.

Additional connectivity solutions may be considered based upon cost, regulatory compliance, and the specific capabilities and needs of the laboratory.

Additional Connectivity Options

Care360 Integration Services also provides the option of submitting lab orders and receiving results from third-party laboratories via Web services. Web service communications would replace any direct file transfers (between the Hub and laboratory file systems), outlined in this section. The overall flow of information, as well as the order, result, and Master File specifications published in this Programmer Reference would still apply. For more information on the Web services, see the following:

- [Chapter 4, “Retrieve Order Services API Reference” on page 97](#)
- [Chapter 8, “Physician Query API Reference” on page 185](#)
- [Chapter 9, “Submit Clinical Content API Reference” on page 191](#)

Third-Party Laboratory Orders



About This Section

This section provides detailed information necessary for formatting laboratory test orders to be submitted to a third-party laboratory from Care360 Integration Services.

This section includes the following chapter(s):

- Chapter 2, “Care360 Master File Specification” on page 13.
- Chapter 3, “Care360 Order HL7 Specification” on page 55.
- Chapter 4, “Retrieve Order Services API Reference” on page 97.

Chapter 2

Care360 Master File Specification

.....

In This Chapter:

- [About the Care360 Master File Specification](#) 14
- [About the Master File Datasets](#) 15
- [Master File Dataset File Specifications](#) 17
- [Dataset File Details](#) 19
- [Sample Master File Dataset Files](#) 50
- [Submitting Third-Party Master Files](#) 53
- [About the Carrier Edit Patterns](#) 54

About the Care360 Master File Specification

This chapter provides an overview, as well as detailed specifications, of the Master Files that can be provided by a third-party laboratory. Master Files are a current collection of all reference data—for example, test codes, diagnostics codes, and Ask on Order Entry (AOE) questions—needed to create a complete and valid electronic order to be submitted to a third-party laboratory system for processing. Master Files help to improve overall patient care by avoiding potential testing delays and minimizing specimen recollection.

This chapter also specifies the interface requirements for loading reference data into the *Lab Orders* component of Care360 Labs & Meds. Third-party laboratory test orders are then created and submitted to the third-party laboratory for processing via Care360 Labs & Meds.

About the Master File Datasets

A separate set of Master File dataset files must be provided for each third-party laboratory. The dataset files that comprise a laboratory's Master Files should be updated on a regular basis, and can be automatically retrieved and stored by Care360 Hub Information Services. As the Hub retrieves and processes the latest data, the data is then integrated into the *Lab Orders* workflow within Care360 Labs & Meds.

Dataset File List

The dataset files that the Master Files provide are listed in the following table. For completeness, all of the dataset files are listed below. However, only those datasets that apply to third-party laboratory implementations are described in more detail in the sections that follow.

Dataset #	Dataset Name	Code	Table Name	Req'd ^a
1	Client	cf	TOPLAB_CLIENT	R
2	Client Bill-To	cb	CLIENT_BILL_TO_XREF	R
3	Bill-To	bt	BILL_TO	C
4	Bill-To Edit	be	BILLING_EDITS	O
5	Bill-To Edit List	bl	BILLING_EDIT_LISTS	O
6	Bill-To Eligibility	by	BILL_TO_ELIGIBILITY	NS
7	Order Code	oc	TEST_CODE_UNIT_CODE_XREF	R
8	Order Code AOE	oa	AOE	O
9	Order Code Component	op	PROFILE_COMPONENT_XREF	O
10	LCP/MN Service to CPT	lc	NBS_SERVICE_CPT_XREF	O
11	LCP/MN CPT to ICD9	li	MLCP_CPT_ICD9_XREF	O
12	DOS Billing Procedure Code	db	BILLING_PROCEDURE_CODE	O
13	DOS Container	dc	CONTAINER	O
14	DOS Methodology	dm	METHODOLOGY	O
15	DOS Minimum Volume	dv	MINIMUM_SPECIMEN_VOLUME	O
16	DOS Preferred Requirement	dp	PREFERRED_SPECIMEN_REQUIREMENT	O
17	DOS Reject Hemolysis	dh	SPECIMEN_REJECT_HEMOLYSIS	O
18	DOS Reject Lipemia	dl	SPECIMEN_REJECT_LIPEMIA	O
19	DOS Reject Thaw Other	dt	SPECIMEN_REJECT_THAW_OTHER	O

Dataset #	Dataset Name	Code	Table Name	Req'd^a
20	DOS Specimen Stability	ds	SPECIMEN_STABILITY	O
21	DOS Transport Temperature	dx	TRANSPORT_TEMPERATURE	O
22	Client-Specific Order Code	cp	CUSTOM_PANELS	O
23	Performing Site Code	ps	PERFORMING_SITE	O
24	Analyte Details	ac	ANALYTE_CODE_XREF	NS
25	Client UPIN	up	CLIENT_UPIN	C
26	Worklist Components	wc	WORKLIST_COMPONENT_XREF	NS
27	Order Code Alias	da	UNIT_CODE_ALIAS	O
28	Temperatures	te	TEMPERATURES	NS
29	Client-Specific Code XREF	cc	N/A	O
30	Alternate Specimen Data	dn	ALTERNATE_SPECIMEN_DATA	O
31	Clinical Significance Data	dg	CLINICAL_SIGNIFICANCE_DATA	O
32	DOS Performing Site	df	DOS_PERFORMING_SITE	O
33	Reference Ranges	dr	REFERENCE_RANGES	O
34	Setup Days	dd	SETUP_DAYS	O
35	Setup Times	de	SETUP_TIMES	O
36	Turnaround Times	do	TURNAROUND_TIMES	O
37	Hand Written Order	ht	HOTT	O
38	Client NPP #	np	NPP	O
39	Medical Manager Updates	mm	MED_MGR_UPDATES	NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

Master File Dataset File Specifications

Master Files are a current collection of all reference data needed to create a complete and valid electronic order for a third-party laboratory system via the *Lab Orders* component of Care360 Labs & Meds. This section summarizes the format and contents of the reference data that can be retrieved from the Hub for use in the vendor application.

Dataset files retrieved from the Master Files are caret-delimited (^) text files. Each file must be formatted according to the specifications described below.

Dataset Format Specifications

Incoming Master File dataset files must conform to the following conventions:

- Datasets must be provided as ASCII text files.
- Individual dataset files cannot exceed the maximum file size of 100 MB.
- Files must be named according to the following convention (all lowercase):

<dataset code>_<date>_<time>. <lab identifier>

where:

- *<dataset code>* is the two-digit code specified in the “[Dataset File List](#)” on page 15.
- *<date>* is the file creation date in yyyyymmdd format.
- *<time>* is the file creation time in hhmmss format.
- *<lab identifier>* is the lab identifier (provided by Quest Diagnostics).

File name example:

oc_20001022_181520.abc

In this example, the file is for the Order Code dataset (oc), the unique dataset file identifier is 20001022_181520, and the data file is being created by the ABC lab (abc).

It is expected that only one file per dataset will be provided, but in case multiple files are provided they must have unique file names.

- Files must have one entry (record) per line.

Data for every column should be provided on each line, except when column values are blank in which case the delimiter should be sent.

- Column values must be delimited with the caret character (^).
- There cannot be any “double quotes” in the data.
- Following are the formats of the values allowed for the data types listed in the specific dataset formats.

Data Type	Format
bit	One character: 0 = False, 1 = True.
char(length)	A sequence of up to <i>length</i> number of ASCII characters, excluding the column delimiter (^) and “double quotes.”
datetime	A date/time value in the format mm/dd/ccyy hh:mm:ss.
decimal(precision, scale)	A number with up to <i>precision</i> total number of digits with up to <i>scale</i> number of digits after the decimal point.

Data Type	Format
int	An integer without decimals (range is approximately -2 billion to 2 billion).
money	A number with two digits after the decimal point (range is approximately +/- 1 quadrillion).
numeric(precision, scale)	Same as data type decimal(precision, scale).
smallint	An integer without decimals in the range -32768 to 32767.
varchar(length)	Same as data type char(length).

Dataset File Details

This section provides the field-level details for each of the datasets listed in the “[Dataset File List](#)” on page 15. Datasets are listed numerically, and table name for each dataset is shown in the table heading.

Primary key columns are noted in the dataset structures, and usually only one or two keys are identified. “PK1” is noted for those dataset columns that are part of the first key, “PK2” is used for the second key, etc.

Dataset 1—Client

File Name: CLIENT.TXT

Description/Usage: Client file for *Lab Orders* order entry. Provides data about an ordering client. There is one entry per client per laboratory site.

Required? This dataset is *required* for third-party laboratory implementations.

Conditions: None.

TOPLAB_CLIENT						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: ‘A’, ‘C’, ‘D’.
2	Legal entity	LEGAL_ENTITY	PK1	R	char(4)	Lab identifier assigned in the National Billing System (NBS, also known as QBS for Quest Diagnostics Billing System) based on the client’s county and state designation.
3	Performing site	PERFORMING_TOPLAB	PK1	R	char(3)	
4	Client number	TOPLAB_CLIENT_NUMBER	PK1	R	char(15)	
5	Billing client number	NBS_CLIENT_NUMBER		R	char(15)	
6	Client mnemonic	CLIENT_MNEMONIC		R	char(26)	
7	Client name	CLIENT_NAME		R	char(30)	
8	Alpha name	ALPHA_NAME		R	char(25)	Client name, without spaces.
9	Address 1	ADDRESS_1		R	char(30)	
10	Address 2	ADDRESS_2		R	char(30)	
11	Address 3	ADDRESS_3		O	char(30)	
12	Address 4	ADDRESS_4		O	char(30)	
13	City	CITY		R	char(30)	
14	State	STATE		R	char(2)	

<i>TOPLAB_CLIENT</i>						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
15	Zip code	ZIP		R	char(10)	
16	Country name	COUNTRY		O	char(50)	
17	Latitude	LATITUDE		O	numeric(7,4)	Of post office.
18	Longitude	LONGITUDE		O	numeric(7,4)	Of post office.
19	Phone number	PHONE_NUMBER		O	char(20)	
20	After hours phone number	AFTER_HOURS		O	char(20)	
21	Contact name	CONTACT		O	char(25)	
22	Contact name 2	CONTACT2		O	char(25)	
23	Default physician	DEFAULT_PHYSICIAN		O	char(25)	
24	Fee schedule	FEE_SCHEDULE		O	char(10)	
25	Description	DESCRIPTION		O	char(10)	
26	Sales area	SALES_AREA		O	char(7)	
27	Master client	MASTER_CLIENT		O	char(15)	
28	PAP reminder reports	PAP_Reminders		O	char(2)	'N' = No, '6' = Every 6 months, '12' = Every 12 months.
29	Area route stop	AREA_ROUTE_STOP		O	char(7)	
30	Alternate route area stop	ALT_AREA_ROUTE_STOP		O	char(7)	
31	Autodial group	AUTODIAL_GROUP		O	char(10)	
32	Report-to client	REPORT_TO_CLIENT		O	char(10)	
33	Abnormals	ABNORMALS		O	char(1)	Valid values: 'Y', 'N'.
34	Partials	PARTIALS		O	char(1)	Valid values: 'Y', 'N'.
35	Re-report partials	RE_REPORT_PARTIALS		O	char(1)	Valid values: 'Y', 'N', 'F' = At final only, 'R' = List as "reported", 'A' = List as "reported" with comprehensive final.
36	Number of copies	OF_COPIES		O	char(1)	
37	Reporting routine	REPORT_ROUTINE		O	char(8)	
38	PAP summary report	PAP_SUMMARY_REPORT		O	char(1)	Valid values: 'Y', 'N'.
39	Default charge-to	DEFAULT_CHARGE_TO		O	char(8)	

<i>TOPLAB_CLIENT</i>						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
40	Requisition edit	REQUISITION_EDIT		O	char(255)	
41	Toxicology report	TOX_REPORT		O	char(1)	Valid values: 'Y', 'N'.
42	Confidential client results	CONFIDENTIAL_CLIENT		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
43	Registered patients	REGISTERED_PATIENTS		O	char(1)	Valid values: 'Y', 'N'.
44	Client type	CLIENT_TYPE		O	char(1)	Valid values: 'P' = Physician, 'H' = Hospital, 'I' = Industrial, 'V' = Veterinary.
45	Client activity report	CLIENT_ACTIVITY_REPORT		O	char(1)	Valid values: 'N', '1', '2', '3', '4', '5', '6'.
46	Billing sales location	NBS_SALES_LOCATION		O	char(3)	
47	NIDA flag	NIDA_FLAG		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
48	HMO flag	HMO_FLAG		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
49	National account code	NATIONAL_ACCOUNT_CODE		O	char(4)	
50	Epidemiology reports	EPIDEMIOLOGY_REPORTS		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
51	Report-only flag	REPORT_ONLY_FLAG		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
52	Fax group	FAX_GROUP		O	char(10)	
53	Govt agency city	GA_CITY		O	char(40)	
54	Govt agency county	GA_COUNTY		O	char(40)	
55	Govt agency zip	GA_ZIP_CODE		O	char(9)	
56	Client alert flag	CLIENT_ALERT_FLAG		O	char(1)	Valid values: 'R' = Regular, 'J' = Jeopardy, 'N' = New.
57	Require billing entry	REQUIRE_BILLING_ENTRY		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
58	HMO member number required	HMO_MEMBER_NUMBER_REQ		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
59	HMO physician required	HMO_PHYSICIAN_REQ		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
60	Copy-to required	COPY_TO_REQUIRED		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.

<i>TOPLAB_CLIENT</i>						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
61	Carbon send-out site	CARBON_SENDOUT_SITE		O	char(3)	
62	Report department ID	REPORT_DID		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
63	PAF signature	PAF_SIGNATURE		O	char(2)	Valid values: 'Y', 'N', 'U' = Unknown.
64	PAF date	PAF_DATE		O	datetime	
65	SelecTest enabled	SELECTTEST_ENABLED		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
66	SelecTest date	SELECTTEST_DATE		O	datetime	
67	SelecTest by whom	SELECTTEST_BY_WHOM		O	char(7)	
68	Display suffix table	DISPLAY_SUFFIX_TABLE		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
69	National billing mnemonic	NATIONAL_BILL_MNEMONIC		O	char(1)	Valid values: 'Y', 'N', 'U' = Unknown.
70	Valid charge-to	VALID_CHARGE_TO		O	char(255)	One or more, separated with commas: 'C', 'P', 'T', Bill mnemonic.

a. R = Required, O = Optional, C = Conditional.

Dataset 2—Client Bill-To

File Name: CLBTX.TXT

Description/Usage: Identifies what types of billing and what specific bill-to's are valid for an ordering client. There is one entry per valid bill-to per client per site.

Multiple billing IDs can be assigned to a client, but there must be a separate row for each in the file. For example, if the client allows billing Patient billing (P) and Third-party billing (T), there would be one row with the billing ID as P and one row with billing ID as T.

Required? This dataset is *required* for third-party laboratory implementations.

Conditions: There must be a parent entry in “[Dataset 1—Client](#)”.

CLIENT_BILL_TO_XREF						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Legal entity	LEGAL_ENTITY	PK1	R	char(4)	Lab identifier assigned in NBS based on the client's county and state designation.
3	Performing site	PERFORMING_TOPLAB	PK1	R	char(3)	
4	Client number	TOPLAB_CLIENT_NO	PK1	R	char(15)	
5	Bill-to ID	BILLING_ID	PK1	R	char(9)	Valid values: C = Client P = Patient T = Third party, Bill-to ID, Client number.
6	Client mnemonic	TOPLAB_CLIENT_MNEMONIC		R	char(8)	
7	Billing client number	NBS_CLIENT_NO		R	char(15)	

a. R = Required, O = Optional, C = Conditional.

Dataset 3—Bill-To

File Name: BILL_TO.TXT

Description/Usage: Provides data about insurance carriers/agencies.

This dataset applies to the entire performing site. There should be one entry for each third-party carrier in the BIS at the lab. (An exception might be Aetna, where there could be multiple lines in one file.)

Required? This dataset is *conditional* for third-party laboratory implementations; it is *required* for Third-party bill (that is, at least one client in “[Dataset 2—Client Bill-To](#)” has BILLING_ID = T), and *optional* for Client bill.

Conditions: None.

BILL_TO						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: ‘A’, ‘C’, ‘D’.
2	Legal entity	LEGAL_ENTITY	PK1	R	char(4)	Lab identifier assigned in NBS based on the client’s county and state designation.
3	Performing site	TOPLAB_PERFORMING_SITE	PK1	R	char(3)	
4	Bill-to ID	BILLING_ID	PK1	R	char(9)	A carrier/agency billing ID (mnemonic code) or billable client number representing a third-party insurance carrier such as MCO/HMO, Medicare, Medicaid, etc.
5	Billing client number	NBS_CLIENT_NO	PK1	C	char(15)	If client numbers are not allowed for third-party billing, then no value is necessary. Otherwise, this is the client number for billable clients.
6	Client mnemonic	TOPLAB_CLIENT_MNEMONIC		O	char(8)	Client mnemonic, for billable clients; otherwise blank.
7	Billing carrier ID	THIRD_PARTY_FORMS_CD	PK1	C	char(6)	Billing carrier ID for carriers/agencies. This is the same as BILLING_ID for decentralized labs (that is, labs not using TOPLAB). If you are not submitting Datasets 4, 10, 11, leave this field blank.
8	Name	NAME		C	char(50)	Required, except where BILLING_ID in “ Dataset 2—Client Bill-To ” is ‘C’, ‘P’, or ‘T’.

BILL_TO						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
9	Address 1	ADDR_LINE_1		C	char(30)	Required, except where BILLING_ID in “Dataset 2—Client Bill-To” is ‘C’, ‘P’, or ‘T’.
10	Address 2	ADDR_LINE_2		O	char(30)	
11	City	CITY		O	char(30)	
12	State	STATE		O	char(2)	
13	Zip code	ZIP_CD		O	char(10)	
14	Country name	COUNTRY		O	char(4)	
15	Phone number	PHONE_NO		O	char(16)	
16	Fax number	FAX_NO		O	char(16)	
17	HMO carrier flag	THIRD_PARTY_HMO_FLAG		O	char(1)	Valid values: ‘Y’, ‘N’.
18	Carrier type	BILLING_TYPE		C	char(1)	Required only for carriers/agencies. Valid values: ‘2’ = Patient, ‘3’ = MediCare, ‘4’ = MedicAid, ‘5’ = Med/Med, ‘6’ = Private.
19	Selectable flag	SELECTABLE_FLAG		R	char(1)	Valid values: ‘Y’ (for bill-to’s that are selectable on electronic interfaces), ‘N’.
20	Alternate bill-to ID	ORDER_BILLING_ID		O	char(9)	Bill-to, used for electronic orders; Cf. CCLink.
21	Alternate bill-to ID alias	ORDER_BILLING_ALIAS		O	char(3)	Bill-to alias, used for electronic orders; Cf. CCLink.

a. R = Required, O = Optional, C = Conditional.

Dataset 4—Bill-To Edit

File Name: BILLEDDIT.TXT

Description/Usage: Specifies the billing data requirements for insurance carriers. There is one entry per carrier (as identified by the Billing Information System (BIS)) that has such edits.

Required? This dataset is *optional* (not recommended) for third-party laboratory implementations.

Conditions: There must be a valid carrier-type entry in the Bill-to dataset. Pattern lists referenced must be defined in the Bill-to edit list dataset.

Note: See “[About the Carrier Edit Patterns](#)” on page 54 for further explanation and examples of datasets 4 and 5. Also, the last six entries are each provided 16 times.

BILLING_EDITS						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Legal entity	LEGAL_ENTITY	PK1	R	char(4)	Lab identifier assigned in NBS based on the client's county and state designation.
3	Billing carrier ID	THIRD_PARTY_FORMS_CD	PK1	R	char(6)	Must match “ Dataset 10—LCP/MN Service To CPT ”, field 3, and “ Dataset 11—LCP/MN CPT To ICD9 ”, field 3.
4	Age required	AGE_REQ		R	bit	Valid values: 'Y', 'N'.
5	Birthdate required	BIRTHDATE_REQ		R	bit	Valid values: 'Y', 'N'.
6	Age or birthdate required	AGEBIRTHDATE_REQ		R	bit	Valid values: 'Y', 'N'.
7	Sex required	SEX_REQ		R	bit	Valid values: 'Y', 'N'.
8	Relationship code required	RELATIONSHIP_CD_REQ		R	bit	Valid values: 'Y', 'N'.
9	Patient signature required	SIGNATURE_REQ		R	bit	Valid values: 'Y', 'N'.
10	Written diagnosis required	WRITTEN_DIAG_REQ		R	bit	Valid values: 'Y', 'N'.
11	Service required	SERVICE_REQ		R	bit	Valid values: 'Y', 'N'.
12	Patient name required	PATIENT_NM_REQ		R	bit	Valid values: 'Y', 'N'.
13	Patient address required	PATIENT_ADDR_REQ		R	bit	Valid values: 'Y', 'N'.

<u>BILLING_EDITS</u>						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
14	Subscriber name required	SUBSCRIBER_NM_REQ		R	bit	Valid values: 'Y', 'N'.
15	Bill type required	BILL_TYPE_REQ		R	bit	Valid values: 'Y', 'N'.
16	Bill type value	BILL_TYPE_VALUE		R	char(1)	Valid values: ‘2’ = Patient ‘3’ = MediCare ‘4’ = MedicAid ‘5’ = Med/Med ‘6’ = Private
17	Required	REQUIRED		R	bit	Valid values: 'Y', 'N'.
18	Diagnosis code required	DIAG_CD_REQ		R	bit	Valid values: 'Y', 'N'.
19	Commercial carrier name and address required	COMM_INS_NAME_ADDR		R	bit	Valid values: 'Y', 'N'.
20	Medicare explosion required	MEDICARE_EXPLOSION_REQ		R	bit	Valid values: 'Y', 'N'.
21	Workman's comp indicator	WORKMAN_COMP_IND		R	bit	Valid values: 'Y', 'N'.
22–37	Policy number pattern	CERT_NO_PATTERN_1..16		O	char(28)	See “ About the Carrier Edit Patterns ” on page 54.
38–53	Policy number list	CERT_NO_PATTERN_LIST_1..16		O	char(10)	See “ About the Carrier Edit Patterns ” on page 54.
54–69	Group number pattern	GROUP_NO_PATTERN_1..16		O	char(28)	See “ About the Carrier Edit Patterns ” on page 54.
70–85	Group number list	GROUP_NO_PATTERN_LIST_1..16		O	char(10)	See “ About the Carrier Edit Patterns ” on page 54.
86–101	Referring physician pattern	REFER_DOC_PATTERN_1..16		O	char(28)	See “ About the Carrier Edit Patterns ” on page 54.
102–117	Referring physician list	REFER_DOC_PATTERN_LIST_1..16		O	char(10)	See “ About the Carrier Edit Patterns ” on page 54.

a. R = Required, O = Optional, C = Conditional.

Dataset 5—Bill-To Edit List

File Name: EDITLIST.TXT

Description/Usage: Specifies bill-to edit lists, which are unsequenced collections of string values. There is one entry per list value per list.

Required? This dataset is *optional* (not recommended) for third-party laboratory implementations.

Conditions: None.

Note: See “About the Carrier Edit Patterns” on page 54 for further explanation and examples of datasets 4 and 5.

BILLING_EDIT_LISTS						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: ‘A’, ‘C’, ‘D’.
2	Laboratory Code	LABORATORY_CD	PK1	R	char(4)	Your performing site code.
3	List ID	LIST_ID	PK1	R	char(2)	Must be two-digit alphanumeric.
4	List value	LIST_VALUE	PK1	R	char(10)	

a. R = Required, O = Optional, C = Conditional.

Dataset 6—Bill-To Eligibility

This dataset is not supported for third-party laboratory implementations.

Dataset 7—Order Code

File Name: ORDCODE.TXT

Description/Usage: Provides data about orderable tests and codes (such as draw fees). There is one entry per orderable code per laboratory site.

Required? This dataset is *required* for third-party laboratory implementations.

Conditions: None.

Note: Sites that support SelecTest should provide either 'Y' or 'N' for column 12, and 'U' for column 18. Conversely, sites that support the conforming flag should provide either 'Y' or 'N' for column 18, and 'U' for column 12. One or the other of fields 12 and 18 should be supported.

TEST_CODE_UNIT_CODE_XREF						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Legal entity	LEGAL_ENTITY	PK1 PK2	R	char(4)	Lab identifier assigned in NBS based on the client's county and state designation.
3	Performing site	TOPLAB_PERFORMING_SITE	PK1 PK2	R	char(3)	
4	Order code	TEST_CD	PK1	R	char(16)	
5	Unit code	UNIT_CD	PK2	R	char(10)	LIS code.
6	Order code suffix	SUFFIX		O	char(8)	
7	Title	DESCRIPTION		R	varchar(175)	
8	Profile indicator	PROFILE_IND		R	char(1)	Valid values: 'Y' = Profile, 'N'.
9	Specimen type	SPECIMEN_TYPE		O	char(30)	
10	State/Specimen Condition	STATE		O	char(2)	Specimen condition of an order code. Example values: <ul style="list-style-type: none"> • FR/FZ/<u>F</u> = Frozen • RT/<u>A</u> = Room Temperature • RF/<u>R</u> = Refrigerated • S = Special • W = Wet Ice
11	Billing service code	NBS_SERVICE_CODE		R	char(10)	Must match " Dataset 10—LCP/MN Service To CPT ", field 4.
12	Select Test Indicator	SELECTTEST_IND		O	char(1)	Valid values: 'Y' = Meets Select Test requirements, 'N', 'U' = Unknown.

TEST_CODE_UNIT_CODE_XREF						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
13	Billing performing site	NBS_PERFORMING_SITE		O	char(4)	Where the test is performed. Must match “Dataset 23—Performing Site Code”, field 3.
14	Special test flag	TEST_FLAG		O	char(1)	Valid values: ‘P’ (if test is a PAP), ‘Q’ (if test has AOE), null.
15	No-bill indicator	NO_BILL_INDICATOR		O	char(1)	Valid values: ‘Y’ = This code is not billed, ‘N’, Null.
16	Bill-only indicator	BILL_ONLY_INDICATOR		O	char(1)	Valid values: ‘Y’ = This code billed but is not a test, ‘N’, Null.
17	Send-out reflex count	SEND_OUT_REFLEX_COUNT		O	int	
18	Conforming indicator	CONFORMING_IND		O	char(1)	Valid values: ‘Y’, ‘N’, ‘U’ = Unknown.
19	Selectable conditions	SELECTABLE_CONDITIONS		O	char(20)	Comma-delimited list of acceptable conditions. If present, the ordering user will be allowed to select from these multiple conditions prior to batching or requisition splitting, instead of the single entry in field 10. Only one single character temperature is allowed. Current codes in use are: <ul style="list-style-type: none">• ‘R’ = Refrigerated• ‘F’ = Frozen• ‘A’ = Ambient (room temp)• ‘S’ = Special• ‘W’ = Wet ice

a. R = Required, O = Optional, C = Conditional.

Dataset 8—Order Code AOE

File Name: AOE.TXT

Description/Usage: Provides data about ask-at-order-entry (AOE) questions on order codes. There is one entry per AOE question.

Required? This dataset is *optional* (highly recommended) for third-party laboratory implementations.

Conditions: There must be a parent entry in the Order code dataset.

AOE							
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes	
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.	
2	Legal entity	LEGAL_ENTITY	PK1 PK2	R	char(4)	Lab identifier assigned in NBS based on the client's county and state designation.	
3	Performing site	TOPLAB_PERFORMING_SITE	PK1 PK2	R	char(4)		
4	Order code	TEST_CD	PK1	R	char(16)		
5	Unit code	UNIT_CD		PK2	R	char(10)	LIS code.
6	Analyte code	ANALYTE_CD	PK1 PK2	R	char(11)		
7	Component	PROFILE_COMPONENT	PK1 PK2	O	char(15)	Can be order code, or units that make up the profile.	
8	AOE question	AOE_QUESTION		R	char(30)		
9	AOE question prompt	AOE_QUESTION_DESC		R	char(50)		
10	AOE question help	RESULT_FILTER		O	varchar(250)		
11	Order code suffix	SUFFIX		O	char(8)		
12	Order code with suffix	TEST_CD_MNEMONIC		R	char(16)	If suffix is not available, this will be the same as Order code.	
13	Special test flag	TEST_FLAG		R	char(1)	Valid values: 'P' = Test is a PAP, 'Q' = Test has AOE, Null.	

a. R = Required, O = Optional, C = Conditional.

Dataset 9—Order Code Component

File Name: PROFILE.TXT

Description/Usage: Identifies components of order codes that are profiles. There is one entry per profile component.

Required? This dataset is *optional* (recommended) for third-party laboratory implementations.

Conditions: Each order code must have a parent entry in the Order code dataset.

Note: Components do not need to be orderable; therefore, they do not need to be in the Order code dataset.

PROFILE_COMPONENT_XREF						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Legal entity	LEGAL_ENTITY	PK1	R	char(4)	Lab identifier assigned in NBS based on the client's county and state designation.
3	Performing site	TOPLAB_PERFORMING_SITE	PK1	R	char(3)	
4	Order code	TEST_CD	PK1	R	char(16)	
5	Unit code	UNIT_CD		R	char(10)	LIS code.
6	Order code suffix	SUFFIX		O	char(8)	
7	Component	COMPONENT_TEST_CD	PK1	R	char(16)	
8	Component unit code	COMPONENT_UNIT_CD	PK1	R	char(10)	
9	Component suffix	COMPONENT_SUFFIX		O	char(8)	
10	Component title	COMPONENT_DESCRIPTION		C	char(175)	Required, except for TOPLab (which sends this info separately in a reportable test code dataset).
11	Component specimen type	COMPONENT_SPECIMEN_TYPE		O	char(130)	
12	State/Specimen Condition of Component Unit Code	STATE		O	char(2)	Specimen condition of Component unit code (field #8). Example values: <ul style="list-style-type: none"> • FR/FZ/<u>F</u> = Frozen • RT/<u>A</u> = Room Temperature • RF/<u>R</u> = Refrigerated • S = Special • W = Wet Ice

a. R = Required, O = Optional, C = Conditional.

Dataset 10—LCP/MN Service To CPT

File Name: ORDERCPT.TXT

Description/Usage: Identifies CPT codes that are covered under Limited Coverage Policy/Medical Necessity or that are not FDA approved and the corresponding order codes. There is one entry per such CPT code per order code per carrier (as identified by the BIS).

Required? This dataset is required if you are billing Medicare and you want Care360 to generate the ABN. Otherwise, this dataset is *optional* for third-party laboratory implementations.

Conditions: There must be a parent entry in the Order code dataset.

NBS_SERVICE_CPT_XREF						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Legal entity	LEGAL_ENTITY	PK1	R	char(4)	Your performing site code.
3	Billing carrier ID	THIRD_PARTY_ID	PK1	R	char(8)	Must match " Dataset 4—Bill-To Edit ", field 3, and " Dataset 11—LCP/MN CPT To ICD9 ", field 3.
4	Billing service code	SERVICE_CD	PK1	R	char(10)	Must match " Dataset 7—Order Code ", field 11.
5	CPT code	CPT_CD	PK1	R	char(7)	
6	Type	MLCP_FDA		R	char(1)	Valid values: L = Limited coverage policy N = Non-FDA approved F = Frequency-limited B = Both frequency limitations and limited coverage
7	Policy effective date	EFFECTIVE_DTE		R	datetime	
8	Policy expiration date	EXPIRATION_DTE		R	datetime	

a. R = Required, O = Optional, C = Conditional.

Dataset 11—LCP/MN CPT To ICD9

File Name: CPTICD9.TXT

Description/Usage: Identifies the diagnosis codes that are acceptable for CPT codes covered under Limited Coverage Policy/Medical Necessity policies. There is one entry per diagnosis code per CPT code per carrier (as identified by the BIS).

Required? This dataset is required if you are billing Medicare and you want Care360 to generate the ABN. Otherwise, this dataset is *optional* for third-party laboratory implementations.

Conditions: None.

MLCP_CPT_ICD9_XREF						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Legal entity	LEGAL_ENTITY	PK1	R	char(4)	Your performing site code.
3	Billing carrier ID	CARRIER_CD	PK1	R	char(6)	Must match " Dataset 4—Bill-To Edit ", field 3, and " Dataset 10—LCP/MN Service To CPT ", field 3.
4	CPT code	CPT_CD	PK1	R	char(5)	
5	ICD9 code	ICD9_NO_PERIOD	PK1	R	char(6)	The code should not include a decimal point.
6	Policy effective date	EFFECTIVE_DTE		R	datetime	
7	Policy expiration date	EXPIRATION_DTE		R	datetime	

a. R = Required, O = Optional, C = Conditional.

Dataset 12—DOS Billing Procedure Code

File Name: CPTCODES.TXT

Description/Usage: Provides Directory of Service (DOS) information for what CPT codes are assigned to service codes. (The rows of data obtained from NBS are not unique.)

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

BILLING_PROCEDURE_CODE						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Legal entity	LEGAL_ENTITY	PK1	R	char(4)	Your performing site code.
3	Performing site	LABORATORY_CD	PK1	R	char(4)	
4	CPT schedule	CPT_SCHEDULE	PK1	R	char(8)	
5	Request date	REQUEST_DTE	PK1	R	datetime	
6	Billing service code	SERVICE_CD	PK1	R	char(7)	Must match " Dataset 7—Order Code ", field 11.
7	CPT code	CPT_CD	PK1	R	char(5)	
8	CPT code modifier	CPT_CD_MODIFIER	PK1	R	char(2)	
9	CPT service units count	CPT_SERVICE_UNITS_CNT		R	smallint	
10	CPT name	CPT_NM		R	char(80)	
11	Reimbursement amount	REIMBURSEMENT_AMT		O	money	
12	Allocation percent	LOCATION_PCT		O	decimal(7,4)	

a. R = Required, O = Optional, C = Conditional.

Dataset 13—DOS Container

File Name: CONTAINER.TXT

Description/Usage: Provides DOS information for specimen container requirements. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

CONTAINER						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Unit code	UNIT_CD	PK1	R	char(10)	LIS code.
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 14—DOS Methodology

File Name: METHODOLOGY.TXT

Description/Usage: Provides DOS information for testing methodology. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

METHODOLOGY						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Unit code	UNIT_CD	PK1	R	char(10)	LIS code.
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 15—DOS Minimum Volume

File Name: SPECIMENVOL.TXT

Description/Usage: Provides DOS information for the minimum volume of specimen required to perform the test once. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

MINIMUM_SPECIMEN_VOLUME						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Unit code	UNIT_CD	PK1	R	char(10)	LIS code.
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 16—DOS Preferred Requirement

File Name: SPECIMENREQ.TXT

Description/Usage: Provides DOS information for preferred specimen requirements. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

PREFERRED_SPECIMEN_REQUIREMENT						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Unit code	UNIT_CD	PK1	R	char(10)	LIS code.
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 17—DOS Reject Hemolysis

File Name: HEMOLYSIS.TXT

Description/Usage: Provides DOS information for rejection criteria for hemolized specimens. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

SPECIMEN_REJECT_HEMOLYSIS						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Unit code	UNIT_CD	PK1	R	char(10)	LIS code.
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 18—DOS Reject Lipemia

File Name: LIPEMIA.TXT

Description/Usage: Provides DOS information for rejection criteria for lipemic specimens. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

SPECIMEN_REJECT_LIPEMIA						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Unit code	UNIT_CD	PK1	R	char(10)	LIS code.
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 19—DOS Reject Thaw Other

File Name: THAWOTHER.TXT

Description/Usage: Provides DOS information for rejection for thaw cycles and other criteria. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

SPECIMEN_REJECT_THAW_OTHER						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Unit code	UNIT_CD	PK1	R	char(10)	LIS code.
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 20—DOS Specimen Stability

File Name: SPECIMENSTAB.TXT

Description/Usage: Provides DOS information for the length of time a specimen can remain at given temperatures and still produce accurate results. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

SPECIMEN_STABILITY						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Unit code	UNIT_CD	PK1	R	char(10)	LIS code.
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 21—DOS Transport Temperature

File Name: TRANSPORT.TXT

Description/Usage: Provides DOS information for the temperature requirements for specimen storage and transport. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

TRANSPORT_TEMPERATURE						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Unit code	UNIT_CD	PK1	R	char(10)	LIS code.
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 22—Client-Specific Order Code

File Name: CUSTOMP.TXT

Description/Usage: Defines client-specific order codes created for ordering convenience. (In TOPLab these are called custom panels.) There is one row per client per order code component.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: Client order codes can be in the Order code dataset. (The existence of a test code in this dataset makes it a custom profile.)

Notes:

- *Note 1:* Columns 10–13 are required, except for TOPLab feeds. (TOPLab sends this information separately.)
- *Note 2:* Components do not need to be orderable. That is, they do not have to be in the Order code dataset (but they can be).

CUSTOM_PANELS						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Legal entity	LEGAL_ENTITY	PK1 PK2	R	char(4)	Your performing site code.
3	Performing site	TOPLAB_PERFORMING_SITE	PK1 PK2	R	char(3)	Your performing site code.
4	Client order code	SCAN_ID	PK1	R	char(16)	

<i>CUSTOM_PANELS</i>						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
5	Title	CUSTOM_PANEL_NAME	PK2	R	char(175)	
6	Component	TEST_CD	PK1 PK2	R	char(16)	Order code—component.
7	Client number	TOPLAB_CLIENT_NO	PK1 PK2	R	char(15)	
8	Billing client number	NBS_CLIENT_NO		R	char(15)	
9	Group practice	GROUP_PRACTICE		O	char(15)	
10	Component title	TEST_CD_DESCRIPTION		C	char(175)	See note 1 above.
11	Component specimen type	TEST_CD_SPECIMEN_TYPE		C	char(60)	See note 1 above.
12	Component service code	TEST_CD_SERVICE_CODE		C	char(10)	See note 1 above.
13	Component unit code	TEST_CD_UNIT_CD		C	char(10)	See note 1 above. LIS code—component.
14	Unit Code	UNIT_CD	PK1	R	char(10)	LIS code.
15	State/Specimen Condition	STATE		O	char(2)	Specimen condition of a component code (field #13). Example values: <ul style="list-style-type: none">• FR/FZ/F = Frozen• RT/A = Room Temperature• RF/R = Refrigerated• W = Wet Ice• S = Special

a. R = Required, O = Optional, C = Conditional.

Dataset 23—Performing Site Code

File Name: SITES.TXT

Description/Usage: Defines service provider (laboratory) facilities and send-out testing site codes.

Required? This dataset is *optional* (highly recommended if using laboratory reporting) for third-party laboratory implementations.

Conditions: None.

PERFORMING_SITE						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Facility site code	FACILITY_CD	PK1	R	char(5)	Where the test is performed.
4	Country name	COUNTRY		O	char(4)	Valid values: 'US', blank.
5	Active Flag	ACTIVE_FLAG		R	char(1)	Valid values: '1' = Active, '0' = Inactive.
6	Inhouse Flag	INHOUSE_FLAG		R	char(1)	Valid values: '1' = Lab facility, '0' = Vendor facility.
7	Facility Name	FACILITY_NAME		R	char(50)	
8	Address 1	ADDR_LINE_1		R	char(50)	
9	Address 2	ADDR_LINE_2		R	char(50)	
10	City	CITY		R	char(30)	
11	State	STATE		R	char(2)	
12	Zip Code	ZIP_CD		R	char(10)	
13	Phone number	PHONE_NO		R	char(16)	
14	PC/MES Flag	PC_MES_FLAG		O	char(1)	
15	Specimen Grouping	SPECIMEN_GROUP		O	char(16)	
16	Requisition Label format	REQ_LABEL		O	char(20)	
17	Specimen Label format	SPECIMEN_LABEL		O	char(20)	
18	Send-In Label format	SEND_IN_LABEL		O	char(20)	
19	Send-Out Label format	SEND_OUT_LABEL		O	char(20)	
20	Combo Label format	COMBO_LABEL		O	char(20)	
21	Sortation Device	SORT_DEVICE		O	char(5)	
22	Aliquoter Label format	ALIQUOTER_LABEL		O	char(20)	

<i>PERFORMING_SITE</i>						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
23	Medical Director	MEDICAL_DIRECTOR		R	char(25)	

a. R = Required, O = Optional, C = Conditional.

Dataset 24—Analyte Details

This dataset is not supported for third-party laboratory implementations.

Dataset 25—Client UPIN

File Name: UPIN.TXT

Description/Usage: Provides UPIN and/or NPI numbers for clients. The information in this dataset populates the Care360 Labs & Meds *Lab Orders* order entry *Physician* drop-down list with the physicians that correspond to the selected client.

Required? This dataset is *conditional* for third-party laboratory implementations; *required* if billing Medicare.

Conditions: None.

<i>CLIENT_UPIN</i>						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Client number	CLIENT_NO	PK1	R	char(6)	Client number, for billable clients.
4	UPIN number	UPIN	PK1	R	char(6)	
5	Name	NAME		R	char(50)	

a. R = Required, O = Optional, C = Conditional.

Dataset 26—Worklist Components

This dataset is not supported for third-party laboratory implementations.

Dataset 27—Order Code Alias

File Name: ALIAS.TXT

Description/Usage: Provides various alias name by which an order code is recognized by clients. (If not provided, order codes will only be searchable by the *Title* field provided in “[Dataset 7—Order Code](#)”.)

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

<i>UNIT_CODE_ALIAS</i>						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: ‘A’, ‘C’, ‘D’.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	Your performing site code.
3	Order code	TEST_CD	PK1	R	char(16)	
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Alias Name	ALIAS_NAME		O	char(175)	

a. R = Required, O = Optional, C = Conditional.

Dataset 28—Temperatures

This dataset is not supported for third-party laboratory implementations.

Dataset 29—Client-Specific Code XREF

File Name: CUSTOMC.TXT

Description/Usage: Defines the list of clients allowed to order client-specific order codes created for ordering convenience. (In TOPLab these are called custom panels.) There is one row per client.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: Client order codes should be in “[Dataset 22—Client-Specific Order Code](#)”.

Note: The clients indicated for each order code in this optional file will be added to the list of clients indicated in “[Dataset 22—Client-Specific Order Code](#)”.

N/A						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: ‘A’, ‘C’, ‘D’.
2	Legal entity	LEGAL_ENTITY	PK1 PK2	R	char(4)	Your performing site code.
3	Performing site	TOPLAB_PERFORMING_SITE	PK1 PK2	R	char(3)	
4	Client order code	SCAN_ID	PK1	R	char(16)	
5	Billing client number	NBS_CLIENT_NO		R	char(15)	

a. R = Required, O = Optional, C = Conditional.

Dataset 30—Alternate Specimen Data

File Name: ALTSPEC.TXT

Description/Usage: Provides DOS alternate specimen data for each test. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

ALTERNATE_SPECIMEN_DATA						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: ‘A’, ‘C’, ‘D’.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	
3	Unit code	UNIT_CD	PK1	R	char(10)	
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 31—Clinical Significance Data

File Name: CLINSIG.TXT

Description/Usage: Provides DOS information for each test's clinical significance. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

CLINICAL_SIGNIFICANCE_DATA						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	
3	Unit code	UNIT_CD	PK1	R	char(10)	
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 32—DOS Performing Site

File Name: PERFLAB.TXT

Description/Usage: Provides DOS information for the test performing sites. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

DOS_PERFORMING_SITE						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	
3	Unit code	UNIT_CD	PK1	R	char(10)	
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 33—Reference Ranges

File Name: REFRANGES.TXT

Description/Usage: Provides DOS reference range data for the tests. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

REFERENCE_RANGES						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	
3	Unit code	UNIT_CD	PK1	R	char(10)	
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 34—Setup Days

File Name: SETUPDAYS.TXT

Description/Usage: Provides DOS setup days of the week for the tests. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

SETUP_DAYS						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	
3	Unit code	UNIT_CD	PK1	R	char(10)	
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 35—Setup Times

File Name: SETUPTIMES.TXT

Description/Usage: Provides DOS setup times for the tests. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

SETUP_TIMES						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	
3	Unit code	UNIT_CD	PK1	R	char(10)	
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 36—Turnaround Times

File Name: TAT.TXT

Description/Usage: Provides DOS turnaround times for the tests. There is one row per line of text per unit code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

TURNAROUND_TIMES						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	LABORATORY_CD	PK1	R	char(3)	
3	Unit code	UNIT_CD	PK1	R	char(10)	
4	Sequence number	SEQUENCE_NO	PK1	R	smallint	
5	Text	COMMENT_TXT		O	char(60)	

a. R = Required, O = Optional, C = Conditional.

Dataset 37—Hand Written Order

File Name: HOTT.TXT

Description/Usage: Provides DOS handwritten order data for the tests. There is one row per line of text per test code.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

HOTT						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	TOPLAB_PERFORMING_SITE	PK1	R	char(3)	National Standard DB (NSD).
3	Test code	TEST_CD	PK1	R	char(16)	
4	Handwritten text	HANDWRITTEN_TEXT		R	char(100)	
5	Comment text	COMMENT_TXT		O	char(200)	

a. R = Required, O = Optional, C = Conditional.

Dataset 38—Client NPP

File Name: CLIENTNPP.TXT

Description/Usage: Provides NPP numbers for clients.

Required? This dataset is *optional* for third-party laboratory implementations.

Conditions: None.

NPP						
#	Column Name	CDC Column Name	Key	Req'd ^a	Type(Length)	Valid Values/Notes
1	Operation			R	char(1)	Valid values: 'A', 'C', 'D'.
2	Performing site	TOPLAB_PERFORMING_SITE	PK1	R	char(3)	Your performing site code.
3	Client number	CLIENT_NO	PK1	R	char(10)	Client number, for billable clients.
4	NPP	NPP	PK1	R	char(10)	
5	Name	NAME		R	char(30)	

a. R = Required, O = Optional, C = Conditional.

Dataset 39—Medical Manager Updates

This dataset is not supported for third-party laboratory implementations.

Sample Master File Dataset Files

Following are several sample Master File dataset files. (Note that only the top portion of each file is shown, since the typical file is too large to include here in total.)

Sample One: Dataset 5—Bill-To Edit List (EDITLIST.TXT)

```
A^QTE^00^R
A^QTE^01^TPA
A^QTE^02^TPA
A^QTE^03^TPA
A^QTE^04^7
A^QTE^05^007
A^QTE^06^001
A^QTE^07^T
A^QTE^08^0
A^QTE^09^0000
A^QTE^0A^060000
A^QTE^0B^NYG
A^QTE^0C^CE
A^QTE^0D^NA
A^QTE^0E^NA
A^QTE^0F^NA
A^QTE^0G^NA
A^QTE^0H^C
A^QTE^0I^M
A^QTE^0J^YLA
A^QTE^0K^5
A^QTE^0L^2
A^QTE^0M^Y
A^QTE^0N^P
A^QTE^0O^N
A^QTE^0P^A
A^QTE^0Q^UL
A^QTE^0R^MID
A^QTE^0S^R
A^QTE^0T^GO
A^QTE^0U^F
A^QTE^0V^A
A^QTE^0W^999999
A^QTE^0X^0000
A^QTE^0Y^8
A^QTE^0Z^0000
A^QTE^10^0000
A^QTE^11^0000
A^QTE^12^0000
```

Sample Two: Dataset 27—Order Code Alias (ALIAS.TXT)

A^QTE^59T^1^Actinomyces, Genital, Cytology^
A^QTE^59T^2^Cervical Cytology Smear^
A^QTE^59T^3^Genital Cytology, Female^
A^QTE^59T^4^PAP Smear^
A^QTE^59T^5^Papanicolaou Smear, Genital, Female^
A^QTE^5538T^1^PAP^
A^QTE^5538T^2^CYTOLOGY^
A^QTE^5538T^3^THINPREP^
A^QTE^83337T^1^PAP^
A^QTE^83337T^2^CYTOLOGY^
A^QTE^83337T^3^THINPREP^
A^QTE^87122A^1^Breast Discharge^
A^QTE^87122A^2^Breast FNA or Nipple Discharge^
A^QTE^89953A^1^Cytology, Prostatic Smear^
A^QTE^89953A^2^Endometrial Smear, Cytology^
A^QTE^89953A^3^Fine Needle Aspiration, Cytology^
A^QTE^89953A^4^Prostatic Smear, Cytology^
A^QTE^105262E^1^Sputum Cytology^
A^QTE^110684R^1^Ascitic Fluid, Cytology^
A^QTE^110684R^2^Cytology, Gastrointestinal^
A^QTE^110684R^3^Cytology, Genital, Male^
A^QTE^110684R^4^Fluid, Cytology^
A^QTE^110684R^5^Pericardial Fluid, Cytology^
A^QTE^110684R^6^Peritoneal Fluid, Cytology^
A^QTE^110684R^7^Pleural Fluid, Cytology^
A^QTE^110684R^8^Spinal Fluid Cytology^
A^QTE^110684R^9^Spinal Fluid, Cytology^
A^QTE^110684R^10^Synovial Fluid, Cytology^
A^QTE^110684R^11^Thoracic Fluid, Cytology^
A^QTE^110700E^1^Urine, Cytology^
A^QTE^15003X^1^THINPREP WITH HPV HIGH RISK^
A^QTE^15003X^2^THINPREP AND HPV HIGH RISK^
A^QTE^125F^1^Cell Block and Smears^
A^QTE^125F^2^Bone Marrow Aspirate^
A^QTE^4861A^1^Pemphigoid, Tissue^
A^QTE^4812A^1^Immunohistochemistry^
A^QTE^4812A^2^Immunohistology^
A^QTE^4812A^3^Immunoperoxidase^
A^QTE^66472A^1^Pneumocystis Carinii Stain^
A^QTE^66472A^2^Silver methenamine Stain^
A^QTE^66472A^3^Special Stains, for Histopathology^
A^QTE^66472A^4^Stain, Special for Tissue Pathology^
A^QTE^P1568^1^ABO Rh and antibody screen^
A^QTE^P1568^2^Type and hold^
A^QTE^P1568^3^Type and screen^
A^QTE^P2261^1^987Z^
A^QTE^P2707^1^HYPOTHYROID PROF^
A^QTE^P2752^1^Celiac Panel^
A^QTE^935F^1^935F^
A^QTE^P6581^1^7017X^
A^QTE^7039W^1^4580^
A^QTE^7039W^2^BASO STIPPLING^

Sample Three: Dataset 34—Setup Days (SETUPDAYS.TXT)

A^QTE^10^1^Weekdays
A^QTE^12^1^Weekdays
A^QTE^14^1^Weekdays
A^QTE^16^1^Weekdays
A^QTE^17^1^Tuesday-Saturday
A^QTE^50^1^Weekdays
A^QTE^51^1^Weekdays
A^QTE^52^1^Weekdays
A^QTE^53^1^Weekdays
A^QTE^61^1^Weekdays
A^QTE^62^1^Weekdays
A^QTE^64^1^Weekdays
A^QTE^72^1^Weekdays
A^QTE^73^1^Weekdays
A^QTE^99^1^Weekdays
A^QTE^145^1^Weekdays
A^QTE^187^1^Monday and Thursday
A^QTE^199^1^Weekdays
A^QTE^239^1^Weekdays
A^QTE^282^1^Weekdays
A^QTE^7039^1^Monday - Saturday
A^QTE^7187^1^Monday - Saturday
A^QTE^7773^1^Monday - Saturday
A^QTE^7781^1^Monday - Saturday
A^QTE^10090^1^Monday to Sunday
A^QTE^15040^1^Days: Sunday
A^QTE^15040^2^Nights: Monday-Friday
A^QTE^15180^1^Monday-Saturday
A^QTE^15214^1^Days: Sunday
A^QTE^15214^2^Nights: Monday-Friday
A^QTE^15701^1^Monday-Saturday
A^QTE^17426^1^Monday-Saturday
A^QTE^17517^1^Monday-Saturday
A^QTE^17615^1^Mon - Fri
A^QTE^17617^1^Mon - Fri
A^QTE^17988^1^Monday - Saturday
A^QTE^18572^1^Tuesday-Saturday
A^QTE^18846^1^Sunday-Friday
A^QTE^19208^1^Monday-Saturday
A^QTE^19521^1^Days: Monday-Saturday
A^QTE^19687^1^Monday-Saturday
A^QTE^19752^1^Nights: Monday-Saturday or performed on a STAT basis.
A^QTE^19885^1^Sunday-Friday
A^QTE^19950^1^Tuesday-Saturday
A^QTE^20008^1^Days: Sunday
A^QTE^20008^2^Nights: Monday-Friday
A^QTE^20099^1^Monday-Saturday
A^QTE^20123^1^Monday-Saturday
A^QTE^20289^1^Monday-Saturday
A^QTE^20321^1^Nights: Monday-Friday OR can be performed on a STAT basis.
A^QTE^20396^1^Monday-Saturday
A^QTE^20644^1^Tuesday-Saturday
A^QTE^20750^1^Monday-Saturday
A^QTE^20867^1^Days: Sunday
A^QTE^20867^2^Nights: Monday-Friday
A^QTE^20867^3^Also stat
A^QTE^20908^1^Monday-Saturday

Submitting Third-Party Master Files

In order to ensure that the most current Master File data is available within the *Lab Orders* component of Care360 Labs & Meds, Care360 Hub Information Services initiates a secure connection to a third-party laboratory on a predefined schedule (for example, weekly) to retrieve and process the latest dataset files.

The secure transfer of Master File data between the Hub and a third-party laboratory can be accomplished by a number of different methods; for example, via SSH File Transfer Protocol (SFTP). For more information on possible connectivity methods, see “[Universal Ordering and Resulting Connectivity](#)” on page 9.

About the Carrier Edit Patterns

This section provides an explanation of the carrier edit patterns that are included in “Dataset 4—Bill-To Edit” and “Dataset 5—Bill-To Edit List”. Carrier edit patterns include the following:

- *Edit patterns*, which are a sequence of the characters ‘A’ for alpha, ‘N’ for numeric, ‘X’ for alphanumeric, ‘B’ for blank, ‘*’ for wildcard, and the digits ‘1’ through ‘5’. Digits positionally refer to the two-character edit pattern list in the corresponding list field.
- *Edit pattern lists*, which are a sequence of zero to five two-character alphanumeric identifiers.

Example 1:

Dataset 4, column 24, is NNNNNBBBBB

In this example, the guarantor’s insurance group number must be a five-digit numeric value. Additionally, the trailing blanks are optional in this example.

Example 2:

Dataset 4, column 22, is XNNNNNNNNNA*

In this example, the guarantor’s insurance policy number must be ten or eleven characters. Additionally, the first character must be a letter or a digit, characters two through nine must be digits, character ten must be a letter, and character eleven can be any character—alpha, numeric, blank (omitted), or other.

Example 3:

Dataset 4, column 22, is 111NNNNNNNN2

Dataset 4, column 23, is 08C4

Dataset 5 includes the following rows:

List ID	List Value
08	WDX
08	PRX
C4	1
C4	2
C4	3
C4	A

In this example, the guarantor’s insurance policy number must be eleven characters. The first three characters must be either “WDX” or “PRX”, characters four through ten must be digits, and character eleven must be either ‘1’, ‘2’, ‘3’, or ‘A’.

Chapter 3

Care360 Order HL7 Specification

.....

In This Chapter:

- About the Care360 Order HL7 Specification 56
- Care360 Order Message Format Requirements 57
- Care360 Order Message Segment Specifications 65
- Sample Care360 Order Messages 94

About the Care360 Order HL7 Specification

This chapter provides detailed format specifications for lab orders that are submitted via Care360 Labs & Meds to a third-party laboratory for processing. Orders will be formatted according to the HL7 2.3 Specification, with any exceptions noted in this chapter. Supported messages for orders produced by Care360 Labs & Meds include:

ORM^O01—General Order Message

This chapter includes the following sections:

- **Order message format requirements.** For information on the message format requirements, see “[Care360 Order Message Format Requirements](#)” on page 57.
- **Order message segment specifications.** Each order message submitted to the Hub must contain a number of standard sections. For requirements on the standard segments of an order message, see “[Care360 Order Message Segment Specifications](#)” on page 65.
- **Sample Order messages.** For samples of the various order message types, see “[Sample Care360 Order Messages](#)” on page 94.

Note: For a detailed specification of third-party lab results that can be received by Care360 Hub Information Services, see [Chapter 5, “Care360 Results HL7 Specification”](#) on page 105.

Care360 Order Message Format Requirements

In addition to the field-level validation detailed in “[Care360 Order Message Segment Specifications](#)”, each inbound ORM message is validated by the Hub to ensure compliance with the rules outlined in this section.

Message Segment Hierarchy

ORM messages must follow the message segment hierarchy, as specified below:

```
MSH      Message Header (Required)
        PID      Patient Identification (Required)
        [{NTE}]  Notes and Comments (Optional)
        [PV1]    Patient Visit Data (Optional)
        [{IN1
        [GT1]}]
        {
        ORC      Common Order (Required)
        [
        OBR      Observation request (Required)
        [{DG1}]
        OBX      Diagnosis (Optional)
        OBX      Observation/Result (Conditional)
        }
}
```

In the hierarchy shown above, braces ({{}}) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional and/or conditional.

Message Segment Requirements

The following table classifies the various ORM message segments based on their requirement status of *Required* (R), *Optional* (O), or *Conditional* (C) as defined below:

- **Required.** The segment must be present in the ORM message. If it is not present, the message is rejected by the Hub.
- **Optional.** The segment is not required. The ORM message is accepted by the Hub whether or not this segment is present. If the segment is present, the Hub validates the associated field requirements.
- **Conditional.** The segment may or may not be required, depending on certain conditions. Conditions are stipulated in the *Comments/Conditions* column of the table below. If the segment is present, the Hub validates the associated field requirements.

Note: This table is only meant to communicate segment requirements; that is, whether or not a segment in the ORM message must be present, and, if present, how many of these segments can occur. The requirements listed in the table are over and above the field requirements detailed in “[Care360 Order Message Segment Specifications](#)” on page 65. For example, if an ORM passes the segment level rules detailed in the following table, the message can still fail the field-level rules for any of the existing segments.

Segment	Required?^a	Comments/Conditions
MSH: Message Header	R	The Hub verifies that this segment is present in the ORM message.
PID: Patient Identifier	R	The Hub verifies the following: <ul style="list-style-type: none">• This segment is present in the ORM message.• There is only one PID in the ORM message.
PV1: Patient Visit Data	O	If present, the Hub passes the PV1 segments through, validating the field lengths only (not the field values).
IN1: Insurance	R	The Hub verifies the following: <ul style="list-style-type: none">• This segment is present in the ORM message.• No more than two IN1 segments exist in the ORM message.
GT1: Guarantor	C	The Hub verifies that this segment is present if required by the bill type, as outlined below: <ul style="list-style-type: none">• Patient Bill = Optional• Client Bill = Optional• Third-Party Bill = Required If present, the Hub also verifies that there is only one GT1 segment in the ORM message. Note: Bill type is established using IN1.47 .
ORC: Common Order	R	The Hub verifies the following: <ul style="list-style-type: none">• This segment is present in the ORM message.• There are no more than 35 ORC segments in an ORM message.• For each ORC segment, there is one—and only one—OBR segment in the ORM message.
OBR: Observation Request	R	The Hub verifies the following: <ul style="list-style-type: none">• This segment is present in the ORM message.• There are no more than 35 OBR segments in the ORM.• Each OBR segment is paired with an ORC segment.• Only <i>one</i> OBR is associated with an ORC segment. Note: The Hub does not check the content of the OBR to verify if the Order Codes are duplicated in the ORM message.
DG1: Diagnosis	O	Downstream clinical and administrative systems may not be able to successfully process the order if the content of this segment exceeds a total of 10 unique ICD-9 codes. Therefore, it is recommended that the sending system not exceed this limit. If present, the Hub verifies that all of the required data in this segment is present and in compliance with the format rules. Note: The Hub does not check the content of the fields, and does not perform business logic checks across multiple DG1 segments.
OBX: Observation Result Detail	C	AOEs associated with the Order are captured as one-to-many OBX segments. If present, the Hub passes the segment through, if the data in the segment complies with the field-level rules detailed in “Care360 Order Message Segment Specifications” on page 65.

Segment	Required?^a	Comments/Conditions
NTE: Notes and Comments	O	<p>If present, the rules for an ORM message include the following:</p> <ul style="list-style-type: none"> • Internal comments (NTE.02 is set to I). Internal comments are comments that provide additional information helpful in the proper testing or reporting of the patient's report. Internal comments will not appear on the report. For normal orders, the limit is five NTE segments of 60 characters each (NTE.03 field width). The Hub verifies that there are no more than five NTE segments in the ORM with NTE.02 set to I. For PSC Hold orders, only the first 60 characters will be read. • Report Comments (NTE.02 is set to R). Report comments are sent to the laboratory to be placed on the report. For normal orders, the limit is two NTE segments of 60 characters each (NTE.03 field width). The Hub verifies that there are no more than two NTE segments in the ORM with NTE.02 set to R. For PSC Hold orders, only the first 60 characters will be read. <p>The NTE segment can follow the PID segment in the order message. The Hub verifies that the rules stated above are complied with in the ORM message.</p> <p>Note: The Hub only checks the total number of the Internal (5 maximum) and Report (2 maximum) NTE segments. Internal and report comments can occur either after the PID or OBR segments.</p>

a. R = Required, O = Optional, C = Conditional.

Additional segment requirements include the following:

- Each ORM message sent can contain only one PID, and the associated sets of Order segments.
- OBR.18 and OBR.19 are used as “store and forward” fields by the Hub. The Hub extracts and stores the data sent in these fields, and verifies that the fields are blank when it passes them through.
 - The Hub matches the result to the corresponding Order message and inserts the extracted data into the result.
 - Internally, the Hub matches the result to the inbound order using the key fields of PID.02 + OBR.02 + MSH.06 in the ORU message to PID.02 + OBR.02 + MSH.04 of the ORM message.
 - If a result cannot be matched to an order using the method described above, the “store and forward” fields will be blank in the outbound result.
- The inbound order message can have five NTE internal comment segments of 60 characters each. NTE segments can follow PID and OBR segments.
- A maximum of 10 unique ICD-9 codes are permitted in an ORM message.
- A maximum of two IN1 segments are permitted an ORM message. While two are accepted, in the short-term only the first IN1 will be processed for billing; therefore the primary insurance information must be in the first IN1 segment. The Hub passes through two IN1 segments, if two are received. If only one IN1 is received, only one IN1 is passed through.

- ORC and OBR segments should be paired as follows. A maximum of 35 ORC-OBR pairs are permitted.
 - MSH
 - PID
 - ORC
 - OBR | 1 |
 - ORC
 - OBR | 1 |
 - ORC
 - OBR | 1 |

Newline Characters

Order HL7 messages must use the carriage return (CR) character (ASCII 0x0D) to indicate a segment delimiter. Order messages that contain a line feed (LF) character (ASCII 0x0A) to indicate a segment delimiter will be rejected.

Field Delimiters

A delimiter must separate each field. Even if a field contains no data, it must still be delimited. The delimiter for any given HL7 message is always defined in the MSH segment of the message, as the first character following the segment identifier (MSH.00). See the message segment descriptions for more detail. Standard HL7 delimiters are used.

Note: The standard HL7 delimiters (| ^ ~ \ &) are not accepted as valid data in any field, except MSH.02.

Field Specifications

The following table describes the parameters used to define the data fields within each message segment.

Parameter	Description
Type	For a description of the data types, see “ Data Type Specifications ” on page 62.
Length	The maximum allowed length for the field.
Required	<p>The fields within each segment are classified based on their requirement status of <i>Required</i> (R), <i>Optional</i> (O), <i>Conditional</i> (C), or <i>Not Supported</i> (NS) as defined below:</p> <ul style="list-style-type: none">• Required. If the corresponding segment is present, the field must also be present within the segment, and the Hub validates it against any stated requirements. If the field is not present, the message is rejected by the Hub.• Optional. The field is not required; the segment is accepted by the Hub whether or not this field is present. If the field is present, the Hub validates it against any stated requirements. (The contents of this field will not be reflected in the result.)• Conditional. The field may or may not be required, depending on certain conditions (stipulated in the <i>Comments</i> column of each segment table). If the stated conditions are not met, the message is rejected by the Hub. If the field is present, the Hub validates it against any stated requirements. (The contents of this field may or may not be reflected in the result.)• Not Supported. If a field is described as <i>Not Supported</i> by the Hub (the corresponding row appears grayed in the table), the content of the field is not used by the Hub, but it is validated for field type and length, as well as conformance to the specified HL7 table or user-defined table (as applicable). If all fields are successfully validated, the content is passed through; otherwise, the message is rejected by the Hub.

Data Type Specifications

The following table describes the data types that may appear in the message segments.

Note: Brackets ([]) indicate that the enclosed data is optional.

Data Type Category/ Data Type	Data Type Name	Notes/Format
<i>Alphanumeric</i>		
ST	String	Any ASCII printable characters (ASCII decimal values between 32 and 126) with the exception of the defined delimiter characters. Left justified with optional trailing spaces.
FT	Formatted text	String data with embedded formatting instructions.
<i>Numerical</i>		
CQ	Composite quantity with units	<quantity (NM)> ^ <units (CE)>
NM	Numeric	Any of the ASCII numeric characters with an optional leading sign (+ or -) and/or an optional decimal point.
SI	Sequence ID	A non-negative integer in the form of a NM data type.
<i>Identifier</i>		
ID	Coded values for HL7 tables	String data drawn from an HL7-defined table of legal values (see Appendix A of HL7 2.3).
IS	Coded values for user-defined tables	String data drawn from a site-defined table of legal values.
HD	Hierarchic designator	<nspce ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)> Used only as part of EI and other data types.
EI	Entity identifier	<entity identifier (ST)> ^ <nspce ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>
PL	Person location	<point of care (IS)> ^ <room (IS)> ^ <bed (IS)> ^ <facility (HD)> ^ <location status (IS)> ^ <person location type (IS)> ^ <building (IS)> ^ <floor (IS)> ^ <location description (ST)>
PT	Processing type	<processing ID (ID)> ^ <processing mode (ID)>
<i>Date/Time</i>		
DT	Date	YYYY [MM [DD]]
TM	Time	HH [MM [SS [.S [S[S[S]]]]]] [+/- ZZZZ]
TS	Time stamp	YYYY [MM [DD [HHMM [SS [.S [S[S[S]]]]]]]] [+/- ZZZZ] ^ <degree of precision>

Data Type Category/ Data Type	Data Type Name	Notes/Format
<i>Code Values</i>		
CE	Coded element	<identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) >
CWE	Coded with Exceptions	<identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) > ^ <coding system version ID (ST) > ^ alternate coding system version ID (ST) > ^ <original text (ST) >
CK	Composite ID with check digit	<ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) >
CX	Extended composite ID with check digit	<ID (ST) > ^ <check digit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility (HD) >
XCN	Extended composite ID number and name	In Version 2.3, replaces the CN data type. <ID number (ST) > ^ <family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (for example, JR or III) (ST) > ^ <prefix (for example, DR) (ST) > ^ <degree (for example, MD) (ST) > ^ <source table (IS) > ^ <assigning authority (HD) > ^ <name type code (ID) > ^ <identifier check digit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <identifier type code (IS) > ^ <assigning facility (HD) >
<i>Generic</i>		
CM	Composite	No new CMs are allowed after HL7 Version 2.2. Hence there are no new CMs in Version 2.3.

Data Type Category/ Data Type	Data Type Name	Notes/Format
<i>Demographics</i>		
XAD	Extended address	<p>In Version 2.3, replaces the AD data type.</p> <pre><street address (ST) > ^ <other designation (ST) > ^ <city (ST) > ^ <state or province (ST) > ^ <zip or postal code (ST) > ^ <country (ID) > ^ <address type (ID) > ^ <other geographic designation (ST) > ^ <county/parish code (IS) > ^ <census tract (IS) ></pre> <p>No more than 106 characters wide.</p> <pre>Add1 30 ^ add2 30 ^ city 25 ^ state 2 ^ Zip 10</pre> <p>A-Z 0-9 only in these fields.</p> <p>Alphanumeric data only. Valid Zip formats: NNNNN-NNNN, 5N, or 9N (no hyphen)</p>
XPN	Extended person name	<p>In Version 2.3, replaces the PN data type.</p> <pre><family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (for example, JR or III) (ST) > ^ <prefix (for example, DR) (ST) > ^ <degree (for example, MD) (ST) > ^ <name type code (ID) ></pre>
XON	Extended composite name and ID number for organizations	<pre><organization name (ST) > ^ <organization name type code (IS) > ^ <ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility ID (HD) ></pre>
XTN	Extended telecommunications number	<p>In Version 2.3, replaces the TN data type.</p> <pre>[NNN] [(999)] 999-9999 [X99999] [B99999] [C any text] ^ <telecommunication use code (ID) > ^ <telecommunication equipment type (ID) > ^ <email address (ST) > ^ <country code (NM) > ^ <area/city code (NM) > ^ <phone number (NM) > ^ <extension (NM) > ^ <any text (ST) ></pre>
<i>Time Series</i>		
TQ	Timing/quantity	<p>For timing/quantity specifications for orders, see Chapter 4 of the HL7 Standard, Section 4.4.</p> <pre><quantity (CQ) > ^ <interval (*) > ^ <duration (*) > ^ <start date/time (TS) > ^ <end date/time (TS) > ^ <priority (ID) > ^ <condition (ST) > ^ <text (TX) > ^ <conjunction (ID) > ^ <order sequencing (*) ></pre>

Care360 Order Message Segment Specifications

This section provides detailed specifications for each segment of an HL7 order message. Message segments include the following:

- “[MSH—Message Header Segment](#)” on page 65.
- “[PID—Patient Identifier Segment](#)” on page 67.
- “[PV1—Patient Visit Data Segment](#)” on page 70.
- “[IN1—Insurance Segment](#)” on page 73.
- “[GT1—Guarantor Segment](#)” on page 77.
- “[ORC—Common Order Segment](#)” on page 82.
- “[OBR—Observation Request Segment](#)” on page 85.
- “[OBX—Observation/Result Segment](#)” on page 91.
- “[DG1—Diagnosis Segment](#)” on page 90.
- “[NTE—Notes and Comments Segment](#)” on page 93.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7, and are the only values supported by the Hub.	R
MSH.03	Sending Application	EI	180	The name of the sending application. The Hub verifies that this field is populated.	O
MSH.04	Sending Facility	EI	180	The sending facility. This is the account number(s) defined for the placer. The Hub verifies that this field is populated.	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.05	Receiving Application	EI	180	The receiving application identifier. For Basic Lab Orders, the Hub verifies that this field is blank. For PSC Hold Orders, this field must be populated with PSC.	O
MSH.06	Receiving Facility	EI	180	The receiving facility. The three-letter ID of the facility that performs the test. The Hub verifies that this field is populated.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC). The Hub verifies that this field is populated, and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Acceptable values for this field: ORM^001(order messages). The Hub verifies that the field is populated with the accepted value (ORM^001).	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the lab system. If not provided, the Hub populates with a unique identifier (date/time stamp followed by a 4-digit random number).	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: <ul style="list-style-type: none"> • P = Production • T = Training • D = Debug (Development) The Hub verifies that the value in this field is P, T, or D.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3.	R
MSH.13	Sequence Number	NM	15	The Hub does no validations on this field.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.14	Continuation Pointer	ST	180		NS
MSH.15	Accept Acknowledgment Type	ID	2		NS
MSH.16	Application Acknowledgment Type	ID	2		NS
MSH.17	Country Code	ID	2		NS
MSH.18	Character Set	ID	6		NS
MSH.19	Principal Language of Message	CE	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 62.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identifier Segment

The Patient Identifier (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Note: PID.03 is a repeating field and is defined as a maximum length of 250 characters for each repeat of data.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O
PID.02	Patient ID (External ID)	CX	20	The placer's patient ID assigned to this order. If present, the Hub verifies that this field is at a maximum 20 characters wide. The Hub also verifies that no reserved characters (^~\&) are present.	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.03	Patient ID (Internal ID)	CX	250	<p>Components are as follows:</p> <p><ID Number (ST) > ^ <Check Digit (ST) > ^ <Check Digit Scheme (ID) > ^ <Assigning Authority (HD) > ^ <Identifier Type Code (ID) > ^ <Assigning Facility (HD) > ^ <Effective Date (DT) > ^ <Expiration Date (DT) > ^ <Assigning Jurisdiction (CWE) > ^ <Assigning Agency or Department (CWE) ></p> <p>ID Number=value. If present, this number is defined by the Assigning Authority. Valid values for Assigning Authority include:</p> <ul style="list-style-type: none"> • MRN=Medical Record Number • CID=Chart ID • QDPNUM=Quest Diagnostics Health ID • ACCN=Accession Number <p>If no Assigning Authority is present, the Hub assumes that the ID Number is an accession number.</p>	O
PID.04	Alternate Patient ID	CX	20	Used to "echo back" the lab reference number.	O
PID.05	Patient Name	XPN	24	<p>Must be no more than 24 characters wide, excluding any delimiters (for example, between last and first name). Must include at least one character for first and last name. A numeric value cannot be used as the first character of the last name.</p> <p>The Hub verifies that the value in this field complies with the above conditions, and that no reserved characters (~\&) are present.</p>	R
PID.06	Mother's Maiden Name	XPN	48		NS
PID.07	Date of Birth	TS	26	<p>Date of birth (DOB), in YYYYMMDD format.</p> <p>The Hub verifies that the DOB is in this format.</p>	R
PID.08	Sex	IS	1	<p>Valid values for this field include:</p> <ul style="list-style-type: none"> • M = Male • F = Female <p>The Hub verifies that one of these values is present in this field.</p>	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.09	Patient Alias	XPN	48		NS
PID.10	Race	IS	1		NS
PID.11	Patient Address	XAD	106		NS
PID.12	County Code	IS	4		NS
PID.13	Phone Number - Home	XTN	250	<p>PID.13 (and GT1.6) will use data type 250 XTN and be sub-delimited in pieces 6 and 7 (area code and phone number, respectively).</p> <p>The XTN data type reads as follows:</p> <p>Components:</p> <pre>[NNN] [(999)] 999-9999 [X99999] [B99999] [C any text] ^ <telecommunication use code (ID) > ^ <telecommunication equipment type (ID) > ^ <e-mail address (ST) > ^ <country code (NM) > ^ <area/city code (NM) > ^ <phone number (NM) > ^ <extension (NM) > ^ <any text (ST) ></pre> <p>For backward compatibility phone numbers sent in the 10 NM format: (for example, [3148721727] or any of the following variations for sending data in the XTN data format will also be accepted:</p> <pre> 3148727127^^^^^^^ or 3148727127^^^^^314^8727127^ ^ or ^^^^^314^8727127^^ or 3148727127 </pre> <p>The Hub verifies that the value complies with rules above.</p>	O
PID.14	Phone Number - Business	XTN	40		NS
PID.15	Language - Patient	CE	60		NS
PID.16	Marital Status	IS	1		NS
PID.17	Religion	IS	3		NS
PID.18	Patient Account Number	CX	20	Used in generic order echo. The Hub does no validations on this field.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.18.04					
PID.18.06					
PID.19	SSN Number - Patient	ST	9	Must contain 9 digits. Numeric only; no space or punctuation. If present, the Hub verifies that the value complies with rules above.	O
PID.20	Driver's Lic Num - Patient	DLN	25		NS
PID.21	Mother's Identifier	CX	20		NS
PID.22	Ethnic Group	IS	3		NS
PID.23	Birth Place	ST	60		NS
PID.24	Multiple Birth Indicator	ID	2		NS
PID.25	Birth Order	NM	2		NS
PID.26	Citizenship	IS	4		NS
PID.27	Veterans Military Status	CE	60		NS
PID.28	Nationality	CE	80		NS
PID.29	Patient Death Date & Time	TS	26		NS
PID.30	Patient Death Indicator	ID	1		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 62.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on a visit-specific basis. This segment can be used to send multiple-visit statistic records to the same patient account, or single-visit records to more than one account.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R
PV1.01	Set ID	SI	4	Will always be 1.	O
PV1.02	Patient Class	IS	1		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.03	Assigned Patient Location	PL	80	The patient's current location (inpatient or outpatient).	O
PV1.04	Admission Type	IS	2		NS
PV1.05	Preadmit Number	CX	20		NS
PV1.06	Prior Patient Location	PL	80		NS
PV1.07	Attending Doctor	XCN	60		NS
PV1.08	Referring Doctor	XCN	60		NS
PV1.09	Consulting Doctor	XCN	60		NS
PV1.10	Hospital Service	IS	3		NS
PV1.11	Temporary Location	PL	80		NS
PV1.12	Preadmit Test Indicator	IS	2		NS
PV1.13	Readmission Indicator	IS	2		NS
PV1.14	Admit Source	IS	3		NS
PV1.15	Ambulatory Status	IS	2		NS
PV1.16	VIP Indicator	IS	2		NS
PV1.17	Admitting Doctor	XCN	60		NS
PV1.18	Patient Type	IS	2		NS
PV1.19	Visit Number	CX	20		NS
PV1.20	Financial Class	FC	50		NS
PV1.21	Charge Price Indicator	IS	2		NS
PV1.22	Courtesy Code	IS	2		NS
PV1.23	Credit Rating	IS	2		NS
PV1.24	Contract Code	IS	2		NS
PV1.25	Contract Effective Date	DT	8		NS
PV1.26	Contract Amount	NM	12		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.27	Contract Period	NM	3		NS
PV1.28	Interest Code	IS	2		NS
PV1.29	Transfer to Bad Debt Code	IS	1		NS
PV1.30	Transfer to Bad Debt Date	DT	8		NS
PV1.31	Bad Debt Agency Code	IS	10		NS
PV1.32	Bad Debt Transfer Amount	NM	12		NS
PV1.33	Bad Debt Recovery Amount	NM	12		NS
PV1.34	Delete Account Indicator	IS	1		NS
PV1.35	Delete Account Date	DT	8		NS
PV1.36	Discharge Disposition	IS	3		NS
PV1.37	Discharged to Location	CM	25		NS
PV1.38	Diet Type	IS	2		NS
PV1.39	Servicing Facility	IS	2		NS
PV1.40	Bed Status	IS	1		NS
PV1.41	Account Status	IS	2		NS
PV1.42	Pending Location	PL	80		NS
PV1.43	Prior Temporary Location	PL	80		NS
PV1.44	Admit Date/Time	TS	26	Hospital admission date. Format = MM/DD/YYYY	O
PV1.45	Discharge Date/Time	TS	26		NS
PV1.46	Current Patient Balance	NM	12		NS
PV1.47	Total Charges	NM	12		NS
PV1.48	Total Adjustments	NM	12		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.49	Total Payments	NM	12		NS
PV1.50	Alternate Visit ID	CX	20		NS
PV1.51	Visit Indicator	IS	1		NS
PV1.52	Other Healthcare Provider	XCN	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 62.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

IN1—Insurance Segment

The Insurance (IN1) segment contains insurance policy coverage information necessary to produce properly pro-rated and patient and insurance bills. This segment is applicable only to the inbound order for insurance billing. The Hub verifies that all data fields are in uppercase.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.00	Segment Type ID	ST	4	Must be IN1.	R
IN1.01	Set ID	SI	4	IN1 message segments should be numbered sequentially from 1.	R
IN1.02	Insurance Plan ID	CD	60		NS
IN1.03	Insurance Company ID	CX	15	This is the QDI Bill mnemonic. Required only if IN1.47 = T (Third-Party Bill). The Hub verifies that this value is present, and passes the value through (with no validation).	C
IN1.04	Insurance Company Name	XON	25	For generic orders (orders that will be submitted to a non-Quest Diagnostics lab that is not in the Care360 system), this field is for the name of the generic carrier (insurance company). Generic carriers have no insurance company ID to populate IN1.03.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.05	Insurance Company Address	XAD	106	No more than 106 characters wide. Add1 30 ^ add2 30 ^ city 25 ^ state 2 ^ Zip 10 A-Z 0-9 only in these fields. Alphanumeric data only. Valid Zip formats: NNNNN-NNNN, 5N, or 9N (no hyphen). If present, the Hub verifies that the value complies with rules above.	O
IN1.06	Insurance Co. Contact Person	XPN	48		NS
IN1.07	Insurance Co Phone Number	XTN	40		NS
IN1.08	Group Number	ST	10	Characters permitted include: A-Z and 1-0.	O
IN1.09	Group Name	XON	130		NS
IN1.10	Insured's Group Emp ID	CX	12		NS
IN1.11	Insured's Group Emp Name	XON	18	If present, the Hub passes the value through (with no validation).	O
IN1.12	Plan Effective Date	DT	8		NS
IN1.13	Plan Expiration Date	DT	8		NS
IN1.14	Authorization Information	CM	55		NS
IN1.15	Plan Type	IS	3		NS
IN1.16	Name Of Insured	XPN	24	Should be at most 24 characters wide including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. The Hub verifies that the value complies with rules above. Required only if IN1.47 = T (Third-Party Bill).	C

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.17	Insured's Relationship To Patient	IS	2	Valid values for this field include: • 1 = Self • 2 = Spouse • 8 = Dependent The Hub verifies that this value is present. Required only if IN1.47 = T (Third-Party Bill).	C
IN1.18	Insured's Date Of Birth	TS	26		NS
IN1.19	Insured's Address	XAD	106	No more than 106 characters wide. Add1 30 ^ add2 30 ^ city 25 ^ state 2 ^ Zip 10 A-Z 0-9 only in these fields. Alphanumeric data only. Valid Zip formats: NNNNN-NNNN, 5N, or 9N (no hyphen). The Hub verifies that the value complies with rules above. Required only if IN1.47 = T (Third-Party Bill). Required for PSC Hold orders going to Care360.	C
IN1.20	Assignment Of Benefits	IS	2		NS
IN1.21	Coordination Of Benefits	IS	2		NS
IN1.22	Notice Of Admission Flag	ST	2		NS
IN1.23	Notice Of Admission Date	ID	2		NS
IN1.24	Report Of Eligibility Flag	DT	8		NS
IN1.25	Report Of Eligibility Date	ID	2		NS
IN1.26	Release Information Code	DT	8		NS
IN1.27	Pre-Admit Cert (PAC)	IS	2		NS
IN1.28	Verification Date/Time	TS	26		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.30	Verification By	XCN	60		NS
IN1.31	Type Of Agreement Code	IS	2		NS
IN1.32	Billing Status	IS	2		NS
IN1.33	Lifetime Reserve Days	NM	4		NS
IN1.34	Delay Before L.R. Day	NM	4		NS
IN1.35	Company Plan Code	IS	8	Further identifies an insurance plan.	O
IN1.36	Policy Number	ST	20	Individual policy number of the insured. Required for Medicare submissions. Required only if IN1.47 = T (Third-Party Bill).	C
IN1.37	Policy Deductible	CP	12		NS
IN1.38	Policy Limit - Amount	CP	12		NS
IN1.39	Policy Limit - Days	NM	4		NS
IN1.40	Room Rate - Semi-Private	CP	12		NS
IN1.41	Room Rate - Private	CP	12		NS
IN1.42	Insured's Employment Status	CE	60		NS
IN1.43	Insured's Sex	IS	1		NS
IN1.44	Insured's Employer Address	XAD	106		NS
IN1.45	Verification Status	ST	2		NS
IN1.46	Prior Insurance Plan ID	IS	8		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.47	Coverage Type	IS	3	<p>Rules for requirement of the IN1/GT1 segment are addressed in “Care360 Order Message Format Requirements” on page 57. Valid values include:</p> <ul style="list-style-type: none"> • T = Third-party bill • P = Patient bill • C = Client bill <p>If this segment is present, the Hub verifies that this field is populated with one of these values.</p> <p>Note: If IN1.47 = T, the GT1 segment is required along with multiple fields (IN1.03, IN1.16, IN1.17, IN1.19, IN1.36, and, if the order is for a Quest Diagnostics lab, ORC.12 and OBR.16).</p>	R
IN1.48	Handicap	IS	2		NS
IN1.49	Insured's ID Number	CX	12		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 62.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

GT1—Guarantor Segment

The Guarantor (GT1) segment contains guarantor (for example, the person or the organization with financial responsibility for payment of a patient account) data for patient and insurance billing applications. This segment is applicable only to the inbound order for patient and insurance billing. The Hub verifies that all data fields are in uppercase.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.00	Segment Type ID	ST	4	Must be GT1 .	R
GT1.01	Set ID	SI	4	GT1 message segments should be numbered sequentially from 1.	R
GT1.02	Guarantor Number	CX	59		NS
GT1.03	Guarantor Name	XPN	24	<p>No more than 24 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name.</p> <p>The Hub verifies that the value complies with rules above.</p>	R
GT1.04	Guarantor Spouse Name	XPN	48		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.05	Guarantor Address	XAD	97	No more than 97 characters wide. Add1 30 ^ add2 30 ^ city 25 ^ state 2 ^ Zip 10 A-Z 0-9 only in these fields. Alphanumeric data only. Valid Zip formats: NNNNN-NNNN, 5N, or 9N (no hyphen). The Hub verifies that the value complies with rules above.	R
GT1.06	Guarantor Ph Num-Home	XTN	250	GT1.6 (and PID.13) will use data type 250 XTN and be sub-delimited in pieces 6 and 7 (area code and phone number, respectively). The XTN data type reads as follows: Components: [NNN] [(999)] 999-9999 [X99999] [B99999] [C any text] ^ <telecommunication use code (ID)> ^ <telecommunication equipment type (ID)> ^ <e-mail address (ST)> ^ <country code (NM)> ^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)> For backward compatibility phone numbers sent in the 10 NM format: (e.g., 3148721727 or any of the following variations for sending data in the XTN data format will also be accepted: 3148727127^^^^^^ or 3148727127^^^^^314^8727127^^ or ^^^^^314^8727127^^ or 3148727127 The Hub verifies that the value complies with rules above.	O
GT1.07	Guarantor Ph Num-Business	XTN	40		NS
GT1.08	Guarantor Date/Time Of Birth	TS	26	The date and time of the guarantor's birth. Format: YYYYMMDDHHMMSS The Hub verifies that the date/time is in this format.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.09	Guarantor Sex	IS	1	Valid values for this field include: • M = Male • F = Female The Hub verifies that one of these values is present in this field.	O
GT1.10	Guarantor Type	IS	2		NS
GT1.11	Guarantor Relationship	IS	2		NS
GT1.12	Guarantor SSN	ST	11		NS
GT1.13	Guarantor Date - Begin	DT	8		NS
GT1.14	Guarantor Date - End	DT	8		NS
GT1.15	Guarantor Priority	NM	2		NS
GT1.16	Guarantor Employer Name	XPN	130		NS
GT1.17	Guarantor Employer Address	XAD	106		NS
GT1.18	Guarantor Employer Phone Number	XTN	40		NS
GT1.19	Guarantor Employee ID Number	CX	20		NS
GT1.20	Guarantor Employment Status	IS	2		NS
GT1.21	Guarantor Organization Name	XON	130		NS
GT1.22	Guarantor Billing Hold Flag	ID	1		NS
GT1.23	Guarantor Credit Rating Code	CE	80		NS
GT1.24	Guarantor Death Date And Time	TS	26		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.25	Guarantor Death Flag	ID	1		NS
GT1.26	Guarantor Charge Adjustment Code	CE	80		NS
GT1.27	Guarantor Household Annual Income	CP	10		NS
GT1.28	Guarantor Household Size	NM	3		NS
GT1.29	Guarantor Employer ID Number	CX	20		NS
GT1.30	Guarantor Marital Status Code	IS	1		NS
GT1.31	Guarantor Hire Effective Date	DT	8		NS
GT1.32	Employment Stop Date	DT	8		NS
GT1.33	Living Dependency	IS	2		NS
GT1.34	Ambulatory Status	IS	2		NS
GT1.35	Citizenship	IS	4		NS
GT1.36	Primary Language	CE	60		NS
GT1.37	Living Arrangement	IS	2		NS
GT1.38	Publicity Indicator	CE	80		NS
GT1.39	Protection Indicator	ID	1		NS
GT1.40	Student Indicator	IS	2		NS
GT1.41	Religion	CE	80		NS
GT1.42	Mother's Maiden Name	XPN	48		NS
GT1.43	Nationality	CE	80		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.44	Ethnic Group	IS	3		NS
GT1.45	Contact Person's Name	XPN	48		NS
GT1.46	Contact Person's Telephone Number	XTN	40		NS
GT1.47	Contact Reason	CE	80		NS
GT1.48	Contact Relationship	IS	2		NS
GT1.49	Job Title	ST	20		NS
GT1.50	Job Code/Class	JCC	20		NS
GT1.51	Guarantor Employer's Organ. Name	XON	130		NS
GT1.52	Handicap	IS	2		NS
GT1.53	Job Status	IS	2		NS
GT1.54	Guarantor Financial Class	FC	50		NS
GT1.55	Guarantor Race	IS	1		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 62.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

ORC—Common Order Segment

The Common Order (ORC) segment is used to transmit fields that are common to all orders (all types of services that are requested). The ORC segment is required in the ORM message.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
ORC.00	Segment Type ID	ST	4	Must be ORC .	R
ORC.01	Order Control	ID	2	<p>The Hub does no validations on this field.</p> <p>The HL7 order control table values supported by Care360 Labs & Meds are listed below:</p> <ul style="list-style-type: none"> • New/add orders: NW = New order/service HD = Hold order request • Cancel orders: CA = Cancel order/service request OC = Order/service canceled XO = Change order/service request • Change orders: RO = Replacement order RP = Order service replace request <p>ORM messages with an NW control code should originate at the ordering facility.</p>	R
ORC.02	Placer Order Number	EI	20	<p>The placer application's order number (same as OBR.02). All OBRs in the ORM must contain the same value.</p> <p>The Hub verifies that this field is present. The Hub also verifies that the values for this field in all ORC segments are identical.</p> <p>Note: The Hub does not require unique order numbers. The service provider is responsible for handling any duplicate order numbers that are received.</p>	R
ORC.03	Filler Order Number	EI	22		NS
ORC.04	Placer Group Number	EI	22		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
ORC.05	Order Status	ID	2	<p>Valid values include:</p> <ul style="list-style-type: none"> • HD = Order is on hold • SC = In process, scheduled • RP = Order has been replaced • IP = In process, unspecified • DC = Order was discontinued • CM = Order is completed • A = Some, but not all, results available • ER = Error, order not found • CA = Order was canceled 	O
ORC.06	Response Flag	ID	1		NS
ORC.07	Quantity/Timing	TQ	200	<p>For timing/quantity specifications for orders, see Chapter 4 of the HL7 Standard, Section 4.4.</p> <p><quantity (CQ) > ^ <interval (CM) > ^ <duration (ST) > ^ <start date/time (TS) > ^ <end date/time (TS) > ^ <priority (ST) > ^ <condition (ST) > ^ <text (TX) > ^ <conjunction (ST) > ^ <order sequencing (CM) > ^ <occurrence duration (CE) > ^ <total occurrences (NM) ></p>	O
ORC.08	Parent	CM	200		NS
ORC.09	Date/Time of Transaction	TS	26		NS
ORC.10	Entered By	XCN	120		NS
ORC.11 11.1 11.2	Verified By NPP ID NPP Name	XCN	250	<p>Identifies the person who verified the accuracy of the entered request.</p> <p>Format: NPP ID^NPP Name</p>	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
ORC.12	Ordering Provider	XCN	120	<p>Identifies the provider who ordered the test (same as OBR.16).</p> <ul style="list-style-type: none"> Format for UPIN Only: <i>UPIN Number^LastName^FirstName^Middle~~~~~UPIN</i> Format for NPI Only: <i>NPI Number^LastName^FirstName^Middle~~~~~NPI</i> Format for UPIN and NPI: <i>UPIN Number^LastName^FirstName^Middle~~~~~UPIN~NPI Number^LastName^FirstName^Middle~~~~~NPI</i> <p>If present, the Hub passes the value through (with no validation).</p>	C
ORC.13	Enterer's Location	PL	80		NS
ORC.14	Call Back Phone Number	XTN	40		NS
ORC.15	Order Effective Date/Time	TS	26		NS
ORC.16	Order Control Code Reason	CE	200		NS
ORC.17	Entering Organization	CE	60		NS
ORC.18	Entering Device	CE	60		NS
ORC.19	Action By	XCN	120		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 62.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

OBR—Observation Request Segment

One OBR segment must be transmitted for each Order Code associated with any PID segment. This segment is mandatory in ORM messages.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.00	Segment Type ID	ST	4	Must be OBR .	R
OBR.01	Set ID	SI	4	OBR segments are paired with an ORC segment.	R
OBR.02	Placer Order Number	EI	20	The placer application's order number (same as ORC.02). All OBRs in the ORM must contain the same value. The Hub verifies that this field is present. Note: The Hub does not require unique order numbers. The service provider is responsible for handling any duplicate order numbers that are received.	R
OBR.03	Filler Order Number	EI	22		NS
OBR.04	Universal Service ID	CE	200	Identification code for the ordered test. One order code per OBR segment. Format: ^^^Local Order Code^ Description Note: Preserve Incoming Order Data for subsequent inclusion in matching result messages. Constraints/Rules: For each unique occurrence of OBR.4, preserve that OBR.4 value and the corresponding set of OBR.18 and OBR.19 values that are received in an order message. The Hub verifies that this value is present, and that it contains data only in the 4th and 5th sub-fields. The 4th sub-field must also be unique within the ORM.	R
OBR.05	Priority (OBR.27)	ID	2		NS
OBR.06	Requested Date/time	TS	26		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.07	Observation Date/Time	TS	26	The specimen collection date and time. This field is required on ORM messages originating at the ordering facility. Format: YYYYMMDDHHMM The Hub verifies that the data complies with this format, and passes the value through. Note: For PSC Hold orders, client must be able to add a Future Collection Date.	R
OBR.08	Observation End Date/Time	TS	26		NS
OBR.09	Collection Volume	CQ	20		NS
OBR.10	Collector Identifier	XCN	60		NS
OBR.11	Specimen Action Code	ID	1	The action to be taken with respect to the specimens that accompany or precede this order.	O
OBR.12	Danger Code	CE	60		NS
OBR.13	Relevant Clinical Info.	ST	300		NS
OBR.14	Specimen Received Date/Time	TS	26		NS
OBR.15	Specimen Source	CM	300		NS
OBR.16	Ordering Provider	XCN	120	Identifies the provider who ordered the test (same as ORC.12). <ul style="list-style-type: none"> • Format for UPIN Only: <i>UPIN Number^LastName^FirstName^Middle^^^^^UPIN</i> • Format for NPI Only: <i>NPI Number^LastName^FirstName^Middle^^^^^NPI</i> • Format for UPIN and NPI: <i>UPIN Number^LastName^FirstName^Middle^^^^^UPIN~NPI Number^LastName^FirstName^Middle^^^^^NPI</i> If present, the Hub passes the value through (with no validation).	C
OBR.17	Order Callback Phone Number	XTN	40		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.18	Placer field 1	ST	60	If present, the Hub stores this information and returns it (as received) with the associated results. Notes: <ul style="list-style-type: none">• For each unique occurrence of OBR.4, the OBR.4 value is to be preserved as is the corresponding set of OBR.18 and OBR.19 values that are received in the order message.• Outgoing orders from the HUB to IMPACT or QDIB are to exclude values in OBR.18 and OBR.19.• This field is not supported by the ELINCS HL7 R1 results interface.	O
OBR.19	Placer field 2	ST	60	If present, the Hub stores this information and returns it (as received) with the associated results. Notes: <ul style="list-style-type: none">• For each unique occurrence of OBR.4, the OBR.4 value is to be preserved as is the corresponding set of OBR.18 and OBR.19 values that are received in the order message.• Outgoing orders from the HUB to IMPACT or QDIB are to exclude values in OBR.18 and OBR.19.• This field is not supported by the ELINCS HL7 R1 results interface.	O
OBR.20	Filler Field 1	ST	60		NS
OBR.21	Filler Field 2	ST	60		NS
OBR.22	Results Rpt/Status Chng - Date/Time	TS	26		NS
OBR.23	Charge to Practice	CM	40		NS
OBR.24	Diagnostic Serv Sect ID	ID	10		NS
OBR.25	Result Status	ID	1		NS
OBR.26	Parent Result	CM	400		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.27	Quantity/Timing	TQ	200		O
OBR.27.7	Quantity/Timing Condition	ST		This field may be a code that indicates the selected transport temperature of the specimen to be tested. Typical codes are listed below, but other codes can be defined for a lab as needed: <ul style="list-style-type: none">• F for Frozen• R for Refrigerated• A for Ambient	O
OBR.28	Result Copies To	XCN	150		O
OBR.29	Parent	CM	150		NS
OBR.30	Transportation Mode	ID	20		NS
OBR.31	Reason for Study	CE	300		NS
OBR.32	Principal Result Interpreter	CM	200		NS
OBR.33	Assistant Result Interpreter	CM	200		NS
OBR.34	Technician	CM	200		NS
OBR.35	Transcriptionist	CM	200		NS
OBR.36	Scheduled Date/Time	TS	26		NS
OBR.37	Number of Sample Containers	NM	4		NS
OBR.38	Transport Logistics of Collected Sample	CD	60		NS
OBR.39	Collector's Comment	CE	200		NS
OBR.40	Transport Arrangement Responsibility	CE	60		NS
OBR.41	Transport Arranged	ID	30		NS
OBR.42	Escort Required	ID	1		NS
OBR.43	Planned Patient Transport Comment	CE	200		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.44	Procedure Code	CE	80	This is a repeating field.	NS
OBR.45	Procedure Code Modifier	CE	80	This is a repeating field.	NS
OBR.46	Placer Supplemental Service Information	CWE	705	This is a repeating field.	NS
OBR.47	Filler Supplemental Service Information	CWE	705	This is a repeating field.	NS
OBR.48	Medically Necessary Duplicate Procedure Reason	CWE	705	This is a repeating field.	NS
OBR.49	Result Handling	IS	2	This is a repeating field.	NS
OBR.50	Parent Universal Service Identifier	CWE	705	This is a repeating field.	NS
OBR.51	Copy to Address	XAD	250	This is a repeating field.	O
OBR.52	Copy to Fax	XPN	250	This field is populated only if the data was sent from the order entry system.	O
OBR.53	Copy to Lab Account Number	CWE	250		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 62.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

DG1—Diagnosis Segment

The Diagnosis (DG1) segment contains patient diagnosis information.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
DG1.00	Segment Type ID	ST	4	Must be DG1 .	R
DG1.01	Set ID	SI	4	Allows identification of multiple diagnosis segments grouped beneath a single OBR segment. Usually a sequential number beginning with 1.	R
DG1.02	Diagnosis Coding Method	ID	3	Literal “ICD”. The Hub verifies that this value is populated with the ICD.	O
DG1.03	Diagnosis Code	CE	60	Contains the diagnosis code and diagnosis description. This is an ICD-9 diagnostic code.	R
DG1.04	Diagnosis Description	ST	140	Diagnosis name and description.	O
DG1.05	Diagnosis Date/Time	TS	26		NS
DG1.06	Diagnosis Type	IS	2		NS
DG1.07	Major Diagnostic Category	CE	60		NS
DG1.08	Diagnostic Related Group	CE	60		NS
DG1.09	DRG Approval Indicator	ID	2		NS
DG1.10	DRG Grouper Review Code	IS	2		NS
DG1.11	Outlier Type	CE	60		NS
DG1.12	Outlier Days	NM	3		NS
DG1.13	Outlier Cost	CP	12		NS
DG1.14	GrouperVersion and Type	ST	4		NS
DG1.15	Diagnosis Priority	NM	2		NS
DG1.16	Diagnosing Clinician	XCN	60		NS
DG1.17	Diagnosis Classification	IS	3		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
DG1.18	Confidential Indicator	ID	1		NS
DG1.19	Attestation Date/Time	TS	26		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 62.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

OBX—Observation/Result Segment

This segment is optional. AOEs in the order are typically captured as OBX segments.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBX.00	Segment Type ID	ST	10	Must be OBX .	R
OBX.01	Set ID	SI	10	Sequence number for OBX segments grouped beneath the same OBR segment.	R
OBX.02	Value Type	ID	2	Defines the structure of the observation value (OBX.05). Valid values include: • ST = String data • NM = Numeric data • CE = Coding elements • TX = Text data If this segment is present, the Hub verifies that this field is populated with one of the above values.	O
OBX.03	Observation Identifier	CE	590	Contains a value that reports the results for an AOE. Required if this segment is present in the ORM. Data layout: ^^^Local Code^ description^ If this segment is present, the Hub verifies that this field is present.	R
OBX.03.05		CE	590	Used for generic orders AOE.	O
OBX.04	Observation Sub-ID	ST	20		NS
OBX.05	Observation Value	ID	72	Contains an answer to an AOE question.	R
OBX.06	Units	CE	60		NS
OBX.07	References Range	ST	10		NS
OBX.08	Abnormal Flags	ID	5		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBX.09	Probability	NM	5		NS
OBX.10	Nature of Abnormal Test	ID	2		NS
OBX.11	Observ Result Status	ID	1		NS
OBX.12	Date Last Obs Normal Values	TS	26		NS
OBX.13	User Defined Access Checks	ST	20		NS
OBX.14	Date/Time of the Observation	TS	26		NS
OBX.15	Producer's ID	CE	60		NS
OBX.16	Responsible Observer	XCN	80		NS
OBX.17	Observation Method	CE	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 62.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

NTE—Notes and Comments Segment

The Notes and Comments (NTE) segment contains notes and comments for ORM messages, and is optional.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
NTE.00	Segment Type ID	ST	4	Must be NTE.	R
NTE.01	Set ID	SI	4	May be used to group multiple NTE segments in a message.	R
NTE.02	Source of Comment	ID	1	Valid values include: <ul style="list-style-type: none"> • I = Implies the data in NTE.03 will be considered internal comments and not returned with the results. (For normal orders, limit is 5 lines of 60 characters each. For PSC Hold orders, only the first 60 characters will be read.) • R = Implies report comments will be returned with results. (For normal orders, limit is 2 lines of 60 characters each. For PSC Hold orders, only the first 60 characters will be read.) • L = Ancillary (filler) department is source of comment. • P = Orderer (placer) is source of comment. This is required for generic orders using the generic order echo feature. • O = Other system is source of comment. 	R
NTE.03	Comment	ST	60	Comments must not have embedded control characters. Each new line must be defined in a unique NTE segment.	R

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 62.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

Sample Care360 Order Messages

Following are sample ORM messages, formatted according to the “[Care360 Order Message Format Requirements](#)” on page 57 and “[Care360 Order Message Segment Specifications](#)” on page 65.

Sample Order Message

```
MSH|^~\&|HUBWS|46355||DAL|200808281132||ORM^O01|MZ54932|P|2.3|
PID|1||CHART^^^CID~MEDICAL ^^^MRN|5513904|ZEE^ZEE^||19750825|M|||71
SUN^^^BUFFALO^NY^14207||^716^5685235|||||17606|117117117|||
NTE|1|I|internal comment|
NTE|1|R|report comment|
IN1|1||UHMTH|United Health Care - PHCS|PO Box 30555^^Salt Lake
City^UT^84130|||12345678||||||TEST^TC24C|1||4771 Regent
Blvd^^Irving^TX^75063|||||||||00000000|||||||||T|
GT1|1||TEST^TC24C||4771 Regent Blvd^^Irving^TX^675063|||||
ORC|NW|54932-6|||||1234567893^Ranger^Lone^^^^^NPI|||||||
OBR|1|54932-6||^30294^Maternal Quad Screen
CAPACITY|||20080828094434|||||||1234567893^Ranger^Lone^^^^^NPI|||||||
|||||
DG1|1|ICD|2859 |Anemia unspecified|||
OBX|1||^55210420^EDD||08/21/1985
OBX|2||^55210440^GEST CALC||L
OBX|3||^55210460^WGT||157|
OBX|4||^55210480^RACE||C
```

Sample Generic Lab Echoed Order Message

This message contains a report, internal comments, general comments, and a generic AOE.

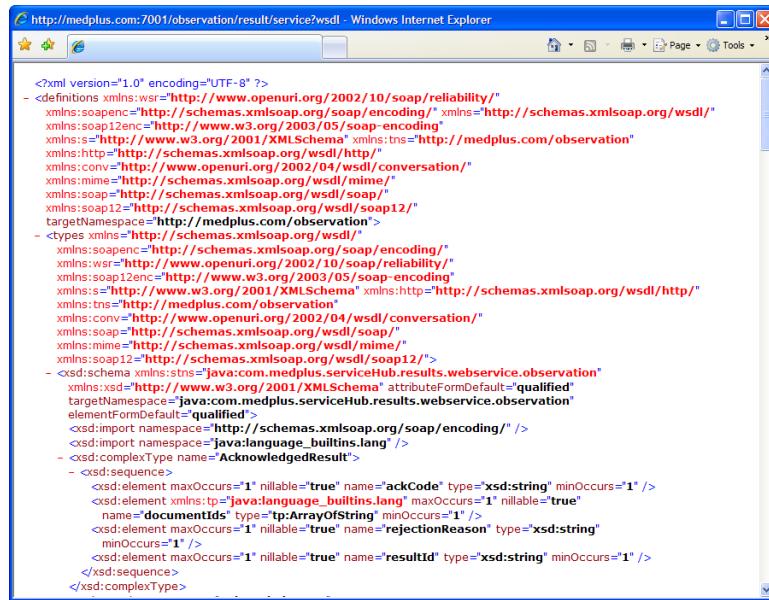
```
MSH|^~\&|C360|17606|WEBCL|QTE|20100223120037||ORM^O01||T|2.3|||
PID|1|TPP156156156|CHART
ID^^^CID~ABC123^^^MRN|5513824|PATIENT^TEST^P||19800929|M|||123 MAIN
ST.^MASON^OH^45040||^610^5551212|||||17606^^^LabName^A12345|1561561
56|||
NTE|1|R|REPORT COMMENTS|
NTE|2|I|INTERNAL COMMENTS|
NTE|3|I|FAX: 201-555-1212|
NTE|4|P|PATIENT HAS DIFFICULTY WITH NEEDLES AND HAS REQUESTED TO BE
ANESTHESITIZED BEFORE DRAWING BLOOD|
IN1|1||5360||^0|||||SPOUSELAST^SPOUSEFIRST^A|2|19800801|123
FIRST ST.^NEW YORK^NY^12001|||||||||885511|||||||T|
GT1|1||SPOUSELAST^SPOUSEFIRST^A||123 FIRST ST.^NEW
YORK^NY^12001|^212^5551212||19800801|F|||199000011|||||
PV1|1||123^RIGHT^22TH
FL|||||||||||||||||||||||20090616|||
ORC|NW|5513824|12345678||CM||||TESTNP^VERIFIEDBYFIRST^VERIFIEDBYLAST^|L
AS001^FIRS^LAS^UPIN|FDW|||0|
OBR|1|5513824||^K8051^KERATITIS
PROFILE||20100223||||||LAS001^FIRSTNAME^LASTNAME^UPIN||LAB REF
ID|||||||^
OBX|1|TX|^5801E_60200077|||
OBX|2|TX|^6098W_60200079|||
OBR|2|5513824||^K80526^GENETIC DISEASE SCREEN
NY|||20100223||||||LAS001^FIRSTNAME^LASTNAME^UPIN||LAB REF
ID|||||||^
```

OBX|1|TX|^~^General Information||Please process as a STAT|
OBX|2|TX|^~^Culture Source||FOOT|
DG1|1|ICD|E8304||
DG1|2|ICD|E8374||

Chapter 4

Retrieve Order Services API Reference

.....



The screenshot shows a Windows Internet Explorer window displaying the WSDL (Web Services Description Language) interface for the 'observation' service. The URL in the address bar is <http://medplus.com:7001/observation/result/service?wsdl>. The page content is a large block of XML code representing the WSDL definition, which includes definitions, types, and operations for the service.

In This Chapter:

- About the Retrieve Order Services API Reference 98
- Retrieve Order Services API 99
- About the WSDL Interface Document 102

About the Retrieve Order Services API Reference

This section provides details about the Retrieve Order Services API calls provided by Care360 Hub Information Services. The Retrieve Order Services API provides operations for retrieving lab orders by a non-Quest Diagnostics service provider (laboratory). For details about the Retrieve Order Services API, refer to “[Retrieve Order Services API](#)” on page 99.

An authorized user name and password are required for accessing this Web service.

For More Information

- For detailed specifications on the formatting of HL7 Order Message (ORM) messages that are retrieved from Care360 Hub Information Services for processing, see [Chapter 3, “Care360 Order HL7 Specification”](#) on page 55.
- For information about accessing the WSDL documents for Care360 Hub Information Services, see “[About the WSDL Interface Document](#)” on page 102.

Retrieve Order Services API

This section provides details on the methods and objects provided by each service within the Retrieve Order Services API. The Retrieve Order Services API enables a non-Quest Diagnostics service provider to retrieve lab orders from Care360 Hub Information Services for processing.

Notes:

- Orders are queued for retrieval using this Web service only when the parent provider is set to *FirstMile* in Hub Information Services—Administration.
- The receiving system may specify a batch size, and it must explicitly ACK/NAK each order it receives, which removes the corresponding order queue entry from Care360 Hub Information Services.

Retrieve Order Methods

The following is a brief overview of each method provided by the Retrieve Order Services Web service. (Usage details for each method are provided in the following section, “[Order Method Details](#)”.)

- **getOrders.** Retrieves a set of lab orders (in HL7 format) from Care360 Hub Information Services.
- **ackOrders.** Removes the corresponding order queue entry and records that the order was Acked.

Order Method Details

The following table provides details about each of the methods listed above.

Method	Description
getOrders	<p>Summary</p> <p>Retrieves a lab order (in HL7 format) from Care360 Hub Information Services.</p> <p>Usage</p> <p>The OrderRequest contains the batch size, which is an optional component. The batch size is the maximum number of orders that can be retrieved during the call. The maximum number is 100. If the batch size is not specified or if a zero (0) or a number larger than 100 is listed, then it defaults to 100.</p> <p>Note: For detailed specifications on lab order messages that are sent to Care360 Hub Information Services for processing, see Chapter 3, “Care360 Order HL7 Specification” on page 55.</p> <p>Preconditions</p> <p>The Orders service is configured properly in Hub Information Services—Administration.</p> <p>Method Signature</p> <p>OrderResponse getOrders(OrderRequest req) throws SOAPException</p>

Method	Description
ackOrders	<p>Summary Removes the corresponding order queue entry from Care360 Hub Information Services, marks it as Acked, and returns the number of Ack orders.</p> <p>Usage You must supply the requestID and array of objects that describe the order Ack. This method should be called for orders that were retrieved and not Acked.</p> <p>Preconditions The Orders service is configured properly in Hub Information Services—Administration.</p> <p>Method Signature <code>ackOrders(String requestId, OrderAck[] acks)</code> throws SOAP exception</p>

Order Objects

The Retrieve Order Services API provides the objects described in the following table.

Object	Description/Attributes	Data Type	Req'd? ^a
OrderRequest	<p>Determines the batch size, which is the maximum number of orders that can be received during the call.</p> <p>batchSize – The maximum number of orders that can be retrieved during the call. The maximum number is 100. If the batch size is not specified or if a zero (0) or a number larger than 100 is listed, then it defaults to 100.</p>	Integer	O
OrderResponse	<p>The array of order objects. Every order object contains order HL7 messages encoded in base64 format and the order ID.</p> <p>Responses contain:</p> <p>requestID – Unique identifier representing the request, which is generated by the Hub.</p> <p>hasMore – If true, there are additional orders to be retrieved.</p> <p>OrderMessage – The array of order messages. Each message contains order ID and orderHL7. orderHL7 is an ORM message encoded in base64 format.</p> <p>errorMessage – Error messages why the query failed.</p>	String	R
OrderMessage	<p>Contains the inbound ORM.</p> <p>Note: For detailed specifications on formatting lab orders that are sent to Care360 Hub Information Services for processing, see Chapter 3, “Care360 Order HL7 Specification” on page 55.</p> <p>Attributes that can be set for this object include:</p> <p>orderHL7 – The HL7 Order message content.</p> <p>orderId – The internal order ID generated by the Hub.</p>	String[]	R
OrderAck	<p>Contains the requestID.</p> <p>ackCode – Acknowledgement that the order was received by the requesting system.</p> <p>Valid codes are:</p> <ul style="list-style-type: none"> • ACK – The orders was successfully retrieved and removed from the queue. • NAK – The order was rejected by the retrieving system, but is still removed from the queue. <p>orderId – The internal order ID generated by the Hub.</p>	Integer	R

a. R = Required, O = Optional, C = Conditional.

About the WSDL Interface Document

In order to utilize a Web service, you must develop a Web service client application. A client application created for accessing the Retrieve Order Services is referred to as a *static* Web service client, because the client knows where the Web service is located without looking up the service in a Universal Description, Discovery, and Integration (UDDI) registry. The client calls the Web services via a known service URL to obtain the WSDL file that describes the Web services.

A WSDL interface document describes all of the information that is needed by a Web service client to interact with the associated Web service. The WSDL document includes the URL to locate the associated Web services. Once you have located the Web service, or after you have obtained the WSDL, you can build a Web service client application that uses the Web service to perform the desired functions.

The following section describes the process for obtaining the WSDL documents for Retrieve Order Services.

Note: You must have a valid user name and password (issued by MedPlus) in order to access the WSDL interface documents. For the Production Hub environment, a user name and password will be issued once your application has been developed, tested, and certified.

Accessing the Retrieve Order Services WSDL Document

To access the WSDL service description for the Retrieve Order Services, use your browser to access the corresponding URL shown below. Using the WSDL that you obtain, you can build a client application to access the Web service.

Staging Environment

To access the Retrieve Order Services in the Staging Hub environment, used to develop, test, and certify your Web service application, access the following link:

<https://shubservices.questemr.com/orders/retrieval/service?wsdl>

Production Environment

Once you have developed, tested, and certified your Web service client application in the Staging Hub environment, you can then update the application to work in the Hub Production environment. Connecting a Web service client to the Production Hub environment is similar to connecting to the Staging environment (the exposed interfaces are equivalent).

Note: Client applications developed against the Staging environment WSDL documents can also be used to access the Production Hub environment, and vice versa; the WSDL content is identical in both environments.

To access the Retrieve Order Services in the Production environment, access the following link:

<https://hubservices.medplus.com/orders/retrieval/service?wsdl>

Third-Party Laboratory Results



About This Section

This section provides detailed information necessary for formatting laboratory test results to be retrieved from a third-party laboratory by Care360 Integration Services.

This section includes the following chapter(s):

- [Chapter 5, “Care360 Results HL7 Specification” on page 105.](#)
- [Chapter 6, “Care360 ELINCS HL7 R1 Result Specification” on page 139.](#)
- [Chapter 7, “Care360 Textual Results HL7 Specification” on page 163.](#)
- [Chapter 8, “Physician Query API Reference” on page 185.](#)
- [Chapter 9, “Submit Clinical Content API Reference” on page 191.](#)
- [Chapter 10, “Care360 Transcribed Document HL7 Specification” on page 197.](#)

Chapter 5

Care360 Results HL7 Specification

.....

In This Chapter:

- [About the Care360 Results HL7 Specification](#) 106
- [Care360 Result Message Format Requirements](#) 107
- [Care360 Result Message Segment Specifications](#) 112
- [Sample Care360 Result Messages](#) 132
- [Receiving Third-Party Laboratory Results Files](#) 135

About the Care360 Results HL7 Specification

This chapter provides detailed format specifications for laboratory results that are received by Care360 Hub Information Services from a Quest Diagnostics BU, or from a third-party laboratory. Supported messages for results include:

ORU^R01—Observational Report—Unsolicited Message

This chapter includes the following sections:

- **Result message format requirements.** For information on the message format requirements, see “[Care360 Result Message Format Requirements](#)” on page 107.
- **Result message segment specifications.** Each result message received by the Hub contains a number of standard sections. For requirements on the standard segments of a result message, see “[Care360 Result Message Segment Specifications](#)” on page 112.
- **Sample Result messages.** For samples of the various result messages, see “[Sample Care360 Result Messages](#)” on page 132.
- **Receiving third-party results files.** For information about transferring results data between the Hub and a third-party laboratory, see “[Receiving Third-Party Laboratory Results Files](#)” on page 135.

Care360 Result Message Format Requirements

In addition to the field-level validation detailed in “[Care360 Result Message Segment Specifications](#)”, each Observational Report—Unsolicited (ORU) message is validated by the Hub to ensure compliance with rules outlined in this section.

Note: For a detailed specification of lab orders that are sent to Care360 Hub Information Services for processing, see [Chapter 3, “Care360 Order HL7 Specification”](#) on page 55.

Message Segment Hierarchy

ORU messages must follow the message segment hierarchy, as specified below:

```
MSH          Message Header  
  PID          Patient Identification  
    { [NTE] }  Notes and Comments  
    [PV1]        Patient Visit Data (Optional)  
    ORC          Common Order  
    {  
      OBR          Observation Request  
        { [  
          OBX          Observation Result  
          { [NTE] }  Notes and Comments  
        ] }  
    }  
  }{          Added for embedded PDF (Optional)  
    OBR          Added for embedded PDF (Optional—One per PDF document)  
    OBX          Added for embedded PDF (Optional—One per PDF document, contains document file)  
  }]
```

In the hierarchy shown above, braces ({}) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional.

Newline Characters

Result HL7 messages must use the carriage return (CR) character (ASCII 0x0D) to indicate a segment delimiter. Result messages that contain a line feed (LF) character (ASCII 0x0A) to indicate a segment delimiter will be rejected.

Field Delimiters

A delimiter must separate each field. Even if a field contains no data, it must still be delimited. The delimiter for any given HL7 message is always defined in the MSH segment of the message, as the first character following the segment identifier (MSH.00). See the message segment descriptions for more detail. Standard HL7 delimiters are used.

Field Specifications

The following table describes the parameters used to define the data fields within each message segment.

Parameter	Description
Type	For a description of the data types, see “ Data Type Specifications ” on page 108.
Length	The maximum allowed length for the field.
Required	<p>The fields within each segment are classified based on their support status of <i>Always</i> (A), <i>Conditional</i> (C), <i>Never</i> (N), or <i>Pass Through</i> (PT) as defined below:</p> <ul style="list-style-type: none">• Always. If the corresponding segment is present, the field will also be present within the segment.• Conditional. The field may or may not be present, depending on certain conditions (stipulated in the <i>Comments</i> column of each segment table). If the field is present, the Hub validates it against any stated requirements.• Pass Through. The information in the field is passed through from the original inbound order (ORM) message.• Never. The field is not supported in result (ORU) messages. If a field is described as <i>Never</i> by the Hub (the corresponding row appears grayed in the table), the field must not be present within the segment. If the field is present, the message is rejected by the Hub.

Data Type Specifications

The following table describes the data types that may appear in the message segments.

Note: Brackets ([]) indicate that the enclosed data is optional.

Data Type/ Category	Data Type Name	Notes/Format
<i>Alphanumeric</i>		
ST	String	Any ASCII printable characters (ASCII decimal values between 32 and 126) with the exception of the defined delimiter characters. Left justified with optional trailing spaces.
FT	Formatted text	String data with embedded formatting instructions.
<i>Numerical</i>		
CQ	Composite quantity with units	<quantity (NM)> ^ <units (CE)>
NM	Numeric	Any of the ASCII numeric characters with an optional leading sign (+ or -) and/or an optional decimal point.
SI	Sequence ID	A non-negative integer in the form of a NM data type.

Data Type/ Category	Data Type Name	Notes/Format
<i>Identifier</i>		
ID	Coded values for HL7 tables	String data drawn from an HL7-defined table of legal values (see Appendix A of HL7 2.3).
IS	Coded values for user-defined tables	String data drawn from a site-defined table of legal values.
HD	Hierarchic designator	<namespace ID (IS) > ^ <universal ID (ST) > ^ <universal ID type (ID) > Used only as part of EI and other data types.
EI	Entity identifier	<entity identifier (ST) > ^ <namespace ID (IS) > ^ <universal ID (ST) > ^ <universal ID type (ID) >
PL	Person location	<point of care (IS) > ^ <room (IS) > ^ <bed (IS) > ^ <facility (HD) > ^ <location status (IS) > ^ <person location type (IS) > ^ <building (IS) > ^ <floor (IS) > ^ <location description (ST) >
PT	Processing type	<processing ID (ID) > ^ <processing mode (ID) >
<i>Date/Time</i>		
DT	Date	YYYY [MM [DD]]
TM	Time	HH [MM [SS [.S [S [S [S]]]]]] [+/- ZZZZ]
TS	Time stamp	YYYY [MM [DD [HHMM [SS [.S [S [S [S]]]]]]]] [+/- ZZZZ] ^ <degree of precision>
<i>Code Values</i>		
CE	Coded element	<identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) >
CWE	Coded with Exceptions	<identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) > ^ <coding system version ID (ST) > ^ <alternate coding system version ID (ST) > ^ <original text (ST) >
CK	Composite ID with check digit	<ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) >
CX	Extended composite ID with check digit	<ID (ST) > ^ <check digit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility (HD) >

Data Type/ Category	Data Type Name	Notes/Format
XCN	Extended composite ID number and name	In Version 2.3, replaces the CN data type. <ID number (ST) > ^ <family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (for example, JR or III) (ST) > ^ <prefix (for example, DR) (ST) > ^ <degree (for example, MD) (ST) > ^ <source table (IS) > ^ <assigning authority (HD) > ^ <name type code (ID) > ^ <identifier check digit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <identifier type code (IS) > ^ <assigning facility (HD) >
<i>Generic</i>		
CM	Composite	No new CMs are allowed after HL7 Version 2.2. Hence there are no new CMs in Version 2.3.
<i>Demographics</i>		
XAD	Extended address	In Version 2.3, replaces the AD data type. <street address (ST) > ^ <other designation (ST) > ^ <city (ST) > ^ <state or province (ST) > ^ <zip or postal code (ST) > ^ <country (ID) > ^ <address type (ID) > ^ <other geographic designation (ST) > ^ <county/parish code (IS) > ^ <census tract (IS) >
XPN	Extended person name	In Version 2.3, replaces the PN data type. <family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (for example, JR or III) (ST) > ^ <prefix (for example, DR) (ST) > ^ <degree (for example, MD) (ST) > ^ <name type code (ID) >
XON	Extended composite name and ID number for organizations	<organization name (ST) > ^ <organization name type code (IS) > ^ <ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility ID (HD) >
XTN	Extended telecommunications number	In Version 2.3, replaces the TN data type. [NNN] [(999)] 999-9999 [X99999] [B99999] [C any text] ^ <telecommunication use code (ID) > ^ <telecommunication equipment type (ID) > ^ <email address (ST) > ^ <country code (NM) > ^ <area/city code (NM) > ^ <phone number (NM) > ^ <extension (NM) > ^ <any text (ST) >

Data Type/ Category	Data Type Name	Notes/Format
<i>Time Series</i>		
TQ	Timing/quantity	<p>For timing/quantity specifications for orders, see Chapter 4 of the HL7 Standard, Section 4.4.</p> <pre><quantity (CQ)> ^ <interval (*)> ^ <duration (*)> ^ <start date/time (TS)> ^ <end date/time (TS)> ^ <priority (ID)> ^ <condition (ST)> ^ <text (TX)> ^ <conjunction (ID)> ^ <order sequencing (*)></pre>

Care360 Result Message Segment Specifications

This section provides detailed specifications for each segment of an HL7 result message. Message segments include the following:

- “[MSH—Message Header Segment](#)” on page 112.
- “[PID—Patient Identifier Segment](#)” on page 114.
- “[PV1—Patient Visit Data Segment](#)” on page 117.
- “[ORC—Common Order Segment](#)” on page 120.
- “[OBR—Observation Request Segment](#)” on page 122.
- “[OBX—Observation/Result Segment](#)” on page 127.
- “[NTE—Notes and Comments Segment](#)” on page 131.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Segment ID	Element Name	Type ^a	Length	Comments	Supported ^b
MSH.00	Segment Type ID	ST	4	Must be MSH .	A
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	A
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7, and are the only values supported by the Hub.	A
MSH.03	Sending Application	EI	180	The outbound result feed. This field is populated with LAB . Note: While HL7 allows for a length of 180, this is currently populated only with LAB .	A
MSH.04	Sending Facility	EI	180	The performing facility. The three-letter ID of the facility that performed the test. Note: While HL7 allows for a length of 180, this is currently populated only with the three-letter ID.	A

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
MSH.05	Receiving Application	HD	180		N
MSH.06	Receiving Facility	EI	180	The receiving facility. The account number defined for the placer (same as MSH.04 in the ORM).	A
MSH.07	Date/Time of Message	TS	14	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS	A
MSH.08	Security	ST	40		N
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Outbound value for this field: ORU^R01 (results messages).	A
MSH.10	Message Control ID	ST	20	Populated by the Sending Facility with a unique message identifier. The Hub checks for the presence of this segment, but does not perform any validation on the value.	A
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: • P = Production • T = Training • D = Debug (Development) Live messages are populated with P.	A
MSH.12	Version ID	ID	8	Possible values: • 2 . 3.	A
MSH.13	Sequence Number	NM	15		N
MSH.14	Continuation Pointer	ST	180		N
MSH.15	Accept Acknowledgment Type	ID	2		N

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
MSH.16	Application Acknowledgment Type	ID	2		N
MSH.17	Country Code	ID	2		N
MSH.18	Character Set	ID	6		N
MSH.19	Principal Language of Message	CE	60		N

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 108.

b. A = Always, C = Conditional, PT = Pass Through, N = Never.

PID—Patient Identifier Segment

The Patient Identifier (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Note: PID.03 is a repeating field and is defined as a maximum length of 250 characters for each repeat of data.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O
PID.02	Patient ID (External ID)	CX	20	The placer's patient ID assigned to this order. If present, the Hub verifies that this field is at a maximum 20 characters wide. The Hub also verifies that no reserved characters (^~\&) are present.	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.03	Patient ID (Internal ID)	CX	250	<p>Components are as follows:</p> <p><ID Number (ST) > ^ <Check Digit (ST) > ^ <Check Digit Scheme (ID) > ^ <Assigning Authority (HD) > ^ <Identifier Type Code (ID) > ^ <Assigning Facility (HD) > ^ <Effective Date (DT) > ^ <Expiration Date (DT) > ^ <Assigning Jurisdiction (CWE) > ^ <Assigning Agency or Department (CWE) ></p> <p>ID Number=value. If present, this number is defined by the Assigning Authority. Valid values for Assigning Authority include:</p> <ul style="list-style-type: none"> • MRN=Medical Record Number • CID=Chart ID • QDPNUM=Quest Diagnostics Health ID • ACCN=Accession Number <p>If no Assigning Authority is present, the Hub assumes that the ID Number is an accession number.</p>	O
PID.04	Alternate Patient ID	CX	20	The Lab reference number. Same as ORC.02 and OBR.02.	PT
PID.05	Patient Name	XPN	24	<p>Must be no more than 24 characters wide, excluding any delimiters (for example, between last and first name). Must include at least one character for first and last name.</p> <p>The Hub verifies that the value in this field complies with the above conditions, and that no reserved characters (~\&) are present.</p>	R
PID.06	Mother's Maiden Name	XPN	48		NS
PID.07	Date of Birth	TS	26	<p>Date of birth (DOB), in YYYYMMDD format.</p> <p>The Hub verifies that the DOB is in this format.</p>	R
	Sex	IS	1	<p>Valid values for this field include:</p> <ul style="list-style-type: none"> • M = Male • F = Female <p>The Hub verifies that one of these values is present in this field.</p>	R
PID.09	Patient Alias	XPN	48		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.10	Race	IS	1		NS
PID.11	Patient Address	XAD	106		NS
PID.12	County Code	IS	4		NS
PID.13	Phone Number-Home	XTN	250	<p>PID.13 (and GT1.6) will use data type 250 XTN and be sub-delimited in pieces 6 and 7 (area code and phone number, respectively).</p> <p>The XTN data type reads as follows:</p> <p>Components:</p> <pre>[NNN] [(999)]999-9999 [X99999] [B99999] [C any text] ^ <telecommunication use code (ID) > ^ <telecommunication equipment type (ID) > ^ <e-mail address (ST) > ^ <country code (NM) > ^ <area/city code (NM) > ^ <phone number (NM) > ^ <extension (NM) > ^ <any text (ST) ></pre> <p>For backward compatibility phone numbers sent in the 10 NM format: (e.g., 3148721727 or any of the following variations for sending data in the XTN data format will also be accepted:</p> <p> 3148727127^^^^^ or 3148727127^^^^^314^8727127^ ^ or ^^^^^314^8727127^^ or 3148727127 </p> <p>The Hub verifies that the value complies with rules above.</p>	O
PID.14	Phone Number-Business	XTN	40		NS
PID.15	Language - Patient	CE	60		NS
PID.16	Marital Status	IS	1		NS
PID.17	Religion	IS	3		NS
PID.18	Patient Account Number	CX	20		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.19	SSN Number - Patient	ST	9	Must contain 9 digits. Numeric only; no space or punctuation. If present, the Hub verifies that the value complies with rules above.	O
PID.20	Driver's Lic Num - Patient	DLN	25		NS
PID.21	Mother's Identifier	CX	20		NS
PID.22	Ethnic Group	IS	3		NS
PID.23	Birth Place	ST	60		NS
PID.24	Multiple Birth Indicator	ID	2		NS
PID.25	Birth Order	NM	2		NS
PID.26	Citizenship	IS	4		NS
PID.27	Veterans Military Status	CE	60		NS
PID.28	Nationality	CE	80		NS
PID.29	Patient Death Date & Time	TS	26		NS
PID.30	Patient Death Indicator	ID	1		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 108.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on a visit-specific basis. This segment can be used to send multiple-visit statistic records to the same patient account, or single-visit records to more than one account.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R
PV1.01	Set ID	SI	4	Will always be 1.	R
PV1.02	Patient Class	IS	1		NS
PV1.03	Assigned Patient Location	PL	80		NS
PV1.03	Assigned Patient Location	PL	80	The patient's current location (inpatient or outpatient).	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.04	Admission Type	IS	2		NS
PV1.05	Preadmit Number	CX	20		NS
PV1.06	Prior Patient Location	PL	80		NS
PV1.07	Attending Doctor	XCN	60		NS
PV1.08	Referring Doctor	XCN	60		NS
PV1.09	Consulting Doctor	XCN	60		NS
PV1.10	Hospital Service	IS	3		NS
PV1.11	Temporary Location	PL	80		NS
PV1.12	Preadmit Test Indicator	IS	2		NS
PV1.13	Readmission Indicator	IS	2		NS
PV1.14	Admit Source	IS	3		NS
PV1.15	Ambulatory Status	IS	2		NS
PV1.16	VIP Indicator	IS	2		NS
PV1.17	Admitting Doctor	XCN	60		NS
PV1.18	Patient Type	IS	2		NS
PV1.19	Visit Number	CX	20		NS
PV1.20	Financial Class	FC	50		NS
PV1.21	Charge Price Indicator	IS	2		NS
PV1.22	Courtesy Code	IS	2		NS
PV1.23	Credit Rating	IS	2		NS
PV1.24	Contract Code	IS	2		NS
PV1.25	Contract Effective Date	DT	8		NS
PV1.26	Contract Amount	NM	12		NS
PV1.27	Contract Period	NM	3		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.28	Interest Code	IS	2		NS
PV1.29	Transfer to Bad Debt Code	IS	1		NS
PV1.30	Transfer to Bad Debt Date	DT	8		NS
PV1.31	Bad Debt Agency Code	IS	10		NS
PV1.32	Bad Debt Transfer Amount	NM	12		NS
PV1.33	Bad Debt Recovery Amount	NM	12		NS
PV1.34	Delete Account Indicator	IS	1		NS
PV1.35	Delete Account Date	DT	8		NS
PV1.36	Discharge Disposition	IS	3		NS
PV1.37	Discharged to Location	CM	25		NS
PV1.38	Diet Type	IS	2		NS
PV1.39	Servicing Facility	IS	2		NS
PV1.40	Bed Status	IS	1		NS
PV1.41	Account Status	IS	2		NS
PV1.42	Pending Location	PL	80		NS
PV1.43	Prior Temporary Location	PL	80		NS
PV1.44	Admit Date/Time	TS	26	Hospital admission date. Format = MM/DD/YYYY	O
PV1.45	Discharge Date/Time	TS	26		NS
PV1.46	Current Patient Balance	NM	12		NS
PV1.47	Total Charges	NM	12		NS
PV1.48	Total Adjustments	NM	12		NS
PV1.49	Total Payments	NM	12		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.50	Alternate Visit ID	CX	20		NS
PV1.51	Visit Indicator	IS	1		NS
PV1.52	Other Healthcare Provider	XCN	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 108.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

ORC—Common Order Segment

The Common Order (ORC) segment is used to transmit fields that are common to all orders (all types of services that are requested). The ORC segment is required in the ORM message.

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
ORC.00	Segment Type ID	ST	4	Must be ORC .	A
ORC.01	Order Control	ID	2	Valid value for this field is RE (Results).	A
ORC.02	Placer Order Number	EI	20	Always contains the placer application’s order number. Should be the same as OBR.02. This value is passed through from the inbound order to the LIS to the result.	PT
ORC.03	Filler Order Number	EI	22	The order number associated with the filler’s application. The same as OBR.03. The lab accession number, populated by the LIS after receipt of the order.	A
ORC.04	Placer Group Number	EI	22		N
ORC.05	Order Status	ID	2	Indicates whether the result is partial or final. Valid values for this field include: <ul style="list-style-type: none">• CM = Order complete• IP = Order incomplete, or contains pending items	A
ORC.06	Response Flag	ID	1		N
ORC.07	Quantity/Timing	TQ	200		N
ORC.08	Parent	CM	200		N

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
ORC.09	Date/Time of Transaction	TS	26		N
ORC.10	Entered By	XCN	120		N
ORC.11	Verify By	XCN	120		N
ORC.12	Ordering Provider	XCN	120	<p>Identifies the provider that ordered the test. If present in the inbound order, the result echoes this value.</p> <ul style="list-style-type: none"> Format for UPIN Only: $UPIN\ Number^LastName^FirstName^Middle^{5}UPIN$ Format for NPI Only: $NPI\ Number^LastName^FirstName^Middle^{5}NPI$ Format for UPIN and NPI: $UPIN\ Number^LastName^FirstName^Middle^{5}UPIN-NPINumber^LastName^Middle^{5}NPI$ <p>If the <i>Send Provider Identifier</i> option for a Hub account is set to either <i>UPIN</i> or <i>NPI</i>, the Hub removes the opposing identifier (if present). For example, if <i>UPIN</i> is selected, the Hub will remove the <i>NPI</i> if it is returned.</p> <p>If the option is set to <i>Both</i>, then the Hub passes it through with no modification.</p>	C
ORC.13	Enterer's Location	PL	80		N
ORC.14	Call Back Phone Number	XTN	40		N
ORC.15	Order Effective Date/Time	TS	26		N
ORC.16	Order Control Code Reason	CE	200	<p>ORC.16 valid data for a reprinted report.</p> <p>$Id^text^assigning authority^alterId^text^{5}'null' when original report R^REPRINT$</p>	A
ORC.17	Entering Organization	CE	60		N

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
ORC.18	Entering Device	CE	60		N
ORC.19	Action By	XCN	120		N

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 108.

b. A = Always, C = Conditional, PT = Pass Through, N = Never.

OBR—Observation Request Segment

One OBR segment must be transmitted for each Order Code associated with any PID segment. This segment is mandatory in ORU messages.

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
OBR.00	Segment Type ID	ST	4	Must be OBR .	A
OBR.01	Set ID	SI	4	OBR segments grouped under a PID are numbered sequentially beginning with 1.	A
OBR.02	Placer Order Number	EI	22	The placer application’s order number. Same as ORM. If different values are present in the ORM in ORC.02 and OBR.02, then all values are rolled into a single value.	PT
OBR.03	Filler Order Number	EI	22	The order number associated with the filler’s application. Same as ORC.03.	A
OBR.04	Universal Service ID	CE	200	<p>Identification code for the ordered test. One order code per OBR segment.</p> <p>Format:</p> <p>Local Order Code^ Description ^^Local Order Code^ Description</p> <p>Note: Content other than that noted might appear in these fields if NMS Mapping has been imposed.</p> <p>Some lab systems add a suffix to the lab order code in the result messages; for example: 10165SB=, where SB= is added by the lab system.</p> <p>Order code will always be present, but description may not be included in some cases.</p>	A

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
04.1	Universal Service Identifier/ Identifier			<p>Report Label</p> <ul style="list-style-type: none"> For standard report: ‘ClinicalPDFReport’+pdf file sequence number For enhanced report: ‘EnhancedPDFReport+pdf file sequence number. 	
04.2	Universal Service Identifier/Text			<p>Report Description</p> <ul style="list-style-type: none"> For standard report: ‘Clinical PDF Report’+ORC2.1+-+pdf file sequence number For enhanced report: ‘Enhanced PDF Report’+ORC2.1+-+pdf file sequence number 	
04.4	Universal Service Identifier/ Alternate Identifier			<p>Report Label</p> <ul style="list-style-type: none"> For standard report: ‘ClinicalPDFReport’+pdf file sequence number For enhanced report: ‘EnhancedPDFReport+pdf file sequence number 	
04.5	Universal Service Identifier/ Alternate Text			<p>Report Description</p> <ul style="list-style-type: none"> For standard report: ‘Clinical PDF Report’+ORC2.1+-+pdf file sequence number For enhanced report: ‘Enhanced PDF Report’+ORC2.1+-+pdf file sequence number 	
OBR.05	Priority (OBR.27)	ID	2		N
OBR.06	Requested Date/time	TS	26		N
OBR.07	Observation Date/Time	TS	26	The specimen collection date and time. If present in the inbound order, the result echoes this value. Format: YYYYMMDDHHMMSS Seconds are always 00.	PT
OBR.08	Observation End Date/Time	TS	26		N
OBR.09	Collection Volume	CQ	20		N
OBR.10	Collector Identifier	XCN	60		N

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
OBR.11	Specimen Action Code	ID	1		O
OBR.12	Danger Code	CE	60		N
OBR.13	Relevant Clinical Info.	ST	300		N
OBR.14	Specimen Received Date/Time	TS	26	<p>OBR.14 must contain a valid date and time in the following format:</p> <p>YYYYMMDDHHMMSS</p> <p>where time is in 24-hour format. Valid hours are from 0 – 23 with 0 = 12:00 AM and 12 = 12:00 PM. Seconds are always 00.</p> <p>Example: September 13, 2010 at 4:30 PM would be submitted as:</p> <p>20100913163000</p> <p>For observations requiring a specimen, this is the actual login time at the diagnostic service.</p>	R
OBR.15	Specimen Source	CM	300		N
OBR.16	Ordering Provider	XCN	120	<p>Identifies the provider that ordered the test. If present in the inbound order, the result echoes this value.</p> <ul style="list-style-type: none"> Format for UPIN Only: <code>UPIN Number^LastName^FirstName^Middle^^^^^UPIN</code> Format for NPI Only: <code>NPI Number^LastName^FirstName^Middle^^^^^NPI</code> Format for UPIN and NPI: <code>UPIN Number^LastName^FirstName^Middle^^^^^UPIN-NPINumber^LastName^Middle^^^^^NPI</code> <p>If the <i>Send Provider Identifier</i> option for a Hub account is set to either <i>UPIN</i> or <i>NPI</i>, the Hub removes the opposing identifier (if present). For example, if <i>UPIN</i> is selected, the Hub will remove the <i>NPI</i> if it is returned.</p> <p>If the option is set to <i>Both</i>, then the Hub passes it through with no modification.</p>	C

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
16.9	Ordering Provider/ Assigning Authority			ORC.12.9	
OBR.17	Order Callback Phone Number	XTN	40		N
OBR.18	Placer field 1	ST	60	Used as a “store and forward” field. Not supported for results-only interfaces.	PT
OBR.19	Placer field 2	ST	60	Used as a “store and forward” field. Not supported for results-only interfaces.	PT
OBR.20	Filler Field 1	ST	60	The component code, for profiles only. Includes the component order code in sub-field 4, and the component order name in sub-field 5. Format: Component Code (without Suffix) ^ Description ^^ Component Code (with Suffix (if sent)) ^ Description Note: Content other than that noted might appear in these fields if NMS Mapping has been imposed.	C
OBR.21	Filler Field 2	ST	200	Site ID as defined in the database. Format: SiteID^Lab Name^Lab Address^City^State^Zip Note: OBR.21 is a repeating field.	A
OBR.22	Results Rpt/Status Chng - Date/Time	TS	26	The date and time that the observation was reported. Communicates when the result file was created in the lab system. Format: YYYYMMDDHHMMSS Seconds are always 00.	A
OBR.23	Charge to Practice	CM	40		N
OBR.24	Diagnostic Serv Sect ID	ID	10		O

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
OBR.25	Result Status	ID	1	Valid values for this field include: <ul style="list-style-type: none"> • C = Correction to results • F = Final results • P = Preliminary results • X = Test canceled Data also passed in OBX.11 Note: A status of X indicates that all observations for the test identified have been canceled.	A ^c
OBR.26	Parent Result	CM	400		O
OBR.27	Quantity/ Timing	TQ	200		N
OBR.28	Result Copies To	XCN	150		N
OBR.29	Parent	CM	150		N
OBR.30	Transportation Mode	ID	20		N
OBR.31	Reason for Study	CE	300		N
OBR.32	Principal Result Interpreter	CM	200		N
OBR.33	Assistant Result Interpreter	CM	200		N
OBR.34	Technician	CM	200		N
OBR.35	Transcriptionist	CM	200		N
OBR.36	Scheduled Date/Time	TS	26		N
OBR.37	Number of Sample Containers	NM	4		N
OBR.38	Transport Logistics of Collected Sample	CE	60		N
OBR.39	Collector's Comment	CE	200		N
OBR.40	Transport Arrangement Responsibility	CE	60		N
OBR.41	Transport Arranged	ID	30		N

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
OBR.42	Escort Required	ID	1		N
OBR.43	Planned Patient Transport Comment	CE	200		N

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 108.

b. A = Always, C = Conditional, PT = Pass Through, N = Never.

c. Check the status of each OBR in the HL7 file in this order of priority:

1. If any are a C then the PDF report would be a C (Corrected).
2. If any are a P and none are a C, then the PDF report would be a P (Preliminary).
3. If all are an F or a combination of F's and X's, then the PDF report would be an F (Final).
4. If all are an X then the PDF report would be an X (Cancelled).

OBX—Observation/Result Segment

This segment is optional. AOEs in the order are typically captured as OBX segments.

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
OBX.00	Segment Type ID	ST	10	Must be OBX .	A
OBX.01	Set ID	SI	10	Sequence number for OBX segments grouped beneath the same OBR segment. Note: Only one OBX per OBR.	A
OBX.02	Value Type	ID	2	Defines the structure of the observation value (OBX.05). Valid values include: <ul style="list-style-type: none">• ST = String data• NM = Numeric data• CE = Coding element• TX = Text data• ED = Embedded data	A

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
OBX.03	Observation Identifier	CE	590	<p>Contains the analyte number and analyte name. Data layout: Local Code^Description ^Coding System</p> <p>The Local Code (03.4) must always be present, but all other sub-fields are optional.</p> <p>If the <i>Send LOINC Data</i> option is selected for a Hub account, or if it is <i>not</i> selected and 03.1 = 03.4, the Hub passes all sub-fields through.</p> <p>If it is <i>not</i> selected and 03.1 does not equal 03.4, the Hub performs the following transformations:</p> <ul style="list-style-type: none"> • Sets 03.1 to value of 03.4 • Sets 03.2 to value of 03.5 • Sets 03.3 to value of NULL <p>(The Hub passes 03.4, 03.5, and 03.6 through unchanged.)</p>	A
03.1	Universal Service Identifier/ Identifier			<p>Report Label</p> <ul style="list-style-type: none"> • For standard report: ‘ClinicalPDFReport’+pdf file sequence number • For enhanced report: ‘EnhancedPDFReport+pdf file sequence number 	
03.2	Universal Service Identifier/Text			<p>Report Description</p> <ul style="list-style-type: none"> • For standard report: ‘Clinical PDF Report’+ORC2.1+’.’+pdf file sequence number • For enhanced report: ‘Enhanced PDF Report’+ORC2.1+’.’+pdf file sequence number 	O
03.3	Coding System Name				
03.4	Universal Service Identifier/ Alternate Identifier			<p>Report Label</p> <ul style="list-style-type: none"> • For standard report: ‘ClinicalPDFReport’+pdf file sequence number • For enhanced report: ‘EnhancedPDFReport+pdf file sequence number 	

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
03.5	Universal Service Identifier/ Alternate Text			<p>Report Description</p> <ul style="list-style-type: none"> For standard report: 'Clinical PDF Report'+ORC2.1+'+pdf file sequence number For enhanced report: 'Enhanced PDF Report'+ORC2.1+'+pdf file sequence number 	
03.6	Coding System Name				O
OBX.04	Observation Sub-ID	ST	20		N
OBX.05	Observation Value	ID	72	This field either contains the result, or the field is blank and accompanying NT segments contain the result.	A
05.1	Application ID			MSH.04 field for sending facility (the 3-character code for a Quest Diagnostics Laboratory)	
05.2	Object Type			'Image'	
05.3	Format			'PDF'	
05.4	Encoding Type			'Base64'	
05.5	Observation Value			Encoded PDF File	
OBX.06	Units	CE	15	Units of measure in which the result is reported.	C

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
OBX.07	References Range	ST	24	The range in which a reported result would be considered as normal for the age and sex of the patient. May be expressed as a numeric value, such as: <ul style="list-style-type: none">• Range 3.5–4.5• Lower Limit > 10• Upper Limit < 15 May also be expressed as an alpha value, such as: <ul style="list-style-type: none">• Negative• Non-reactive	C
OBX.08	Abnormal Flags	ID	5	Contains the normalcy status of the result being reported. Valid values include: <ul style="list-style-type: none">• L = Below low normal• H = Above high normal• A = Alpha abnormal• N = Normal• Blank = No comment	C
OBX.09	Probability	NM	5		N
OBX.10	Nature of Abnormal Test	ID	2		N
OBX.11	Observ Result Status	ID	1	Valid values include: <ul style="list-style-type: none">• F = Final• P = Preliminary• C = Correction to a previously reported final result• X = Result cannot be obtained Data also passed in OBR.25.	A ^c
OBX.12	Date Last Obs Normal Values	TS	26		N
OBX.13	User Defined Access Checks	ST	20		N
OBX.14	Date/Time of the Observation	TS	26	The date and time that the observation was reported. Format: YYYYMMDDHHMMSS Seconds are always 00.	C

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
OBX.15	Producer's ID	CE	60	The unique identifier of the responsible filler. Format: AT^^L This field is passed through the Hub with no validations or transformations.	C
OBX.16	Responsible Observer	XCN	80		N
OBX.17	Observation Method	CE	60		N

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 108.

b. A = Always, C = Conditional, PT = Pass Through, N = Never.

c. Check the status of each OBR in the HL7 file in this order of priority:

1. If any are a C then the PDF report would be a C (Corrected).
2. If any are a P and none are a C, then the PDF report would be a P (Preliminary).
3. If all are an F or a combination of F's and X's, then the PDF report would be an F (Final).
4. If all are an X then the PDF report would be an X (Cancelled).

NTE—Notes and Comments Segment

The Notes and Comments (NTE) segment contains notes and comments for ORU messages, and is optional.

Segment ID	Element Name	Type^a	Length	Comments	Supported^b
NTE.00	Segment Type ID	ST	4	Must be NTE .	A
NTE.01	Set ID	SI	4	May be used to group multiple NTE segments in a message.	C
NTE.02	Source of Comment	ID	2	This field is conditional.	C
NTE.03	Comment	ST	72	Each new line is sent in a new NTE segment. Blank lines and leading spaces are retained for correct data representation. Note: Although 100 characters per line are accepted, adherence to the published maximum length of 72 characters per line is recommended to ensure proper line breaks. If sites need to send line lengths longer than 72 characters, the custom reporting for that site can be modified to handle the line breaks.	A

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 108.

b. A = Always, C = Conditional, PT = Pass Through, N = Never.

Sample Care360 Result Messages

Following are several sample Observational Report—Unsolicited (ORU) messages, formatted according to the “[Care360 Result Message Format Requirements](#)” on page 107 and “[Care360 Result Message Segment Specifications](#)” on page 112.

Sample 1—Result Message

```
MSH|^~\&|LAB|DAL||HUBARTEST|20030802230021||ORU^R01|20040908144133784500|
P|2.3|||||||
PID|1||CHART^^^CID~MEDICAL ^^^MRN|5513904|ZEE^ZEE^||19750825|M|||71
SUN^^^BUFFALO^NY^14207||^^^^716^5685235|||||17606|117117117|||
NTE|1||TX|THINPREP|
ORC|RE|9646179|WD376535M||CM|||||||C91458^Novak^James|||||||
OBR|1|9646179|WD376535M|35455YUIP=^CYTOLOGY, THINPREP
PAP^^35455YUIP=^CYTOLOGY, THINPREP
PAP|||20030730101400|||||||20030730105500||JAP^^^|||||UIP^UNILAB
INSTITUTE OF PATHOLOGY^18700 OXNARD
STREET^TARZANA^CA^91356|20030731192600|||F|||||||||||||||||
OBX|1|TX|60000000^CYTOPATHOLOGY NUMBER:^^60000000^CYTOPATHOLOGY
NUMBER:^||||||F|||20030731192600|UIP^^L|||
NTE|1||ZP03030749|
OBX|2|ST|60000100^SOURCE:^^60000100^SOURCE:^||VAGINAL|||||F|||2003073119
2600|UIP^^L|||
OBX|3|TX|60000200^SPECIMEN ADEQUACY:^^60000200^SPECIMEN
ADEQUACY:^||||||F|||20030731192600|UIP^^L|||
NTE|1||SATISFACTORY FOR EVALUATION,|
NTE|2||ENDOCERVICAL/TRANSFORMATION ZONE|
NTE|3||COMPONENT ABSENT.|
NTE|4|||
OBX|4|TX|60000300^GENERAL CATEGORY:^^60000300^GENERAL
CATEGORY:^||||||F|||20030731192600|UIP^^L|||
NTE|1||NEGATIVE FOR INTRAEPITHELIAL LESION|
NTE|2||OR MALIGNANCY.|
OBX|5|TX|60000400^NARRATIVE DESCRIPTION:^^60000400^NARRATIVE
DESCRIPTION:^||||||F|||20030731192600|UIP^^L|||
NTE|1||NEGATIVE FOR INTRAEPITHELIAL LESION|
NTE|2||OR MALIGNANCY.|
OBX|6|ST|60000500^ADDITIONAL FINDINGS:^^60000500^ADDITIONAL
FINDINGS:^||DNR|||||X|||20030731192600|UIP^^L|||
OBX|7|ST|60001100^COMMENTS:^^60001100^COMMENTS:^||DNR|||||X|||2003073119
2600|UIP^^L|||
OBX|8|ST|60001200^RECOMMENDATIONS:^^60001200^RECOMMENDATIONS:^||DNR|||||
X|||20030731192600|UIP^^L|||
OBX|9|ST|60001300^CYTOTECHNOLOGIST:^^60001300^CYTOTECHNOLOGIST:^||CTUAYY
|||||F|||20030731192600|UIP^^L|||
OBX|10|ST|60001400^REV CYTOTECHNOLOGIST:^^60001400^REV
CYTOTECHNOLOGIST:^||DNR|||||X|||20030731192600|UIP^^L|||
OBX|11|ST|60001500^PATHOLOGIST:^^60001500^PATHOLOGIST:^||DNR|||||X|||200
30731192600|UIP^^L|||
OBX|12|ST|60001600^PERFORMING SITE:^^60001600^PERFORMING
SITE:^||DNR|||||X|||20030731192600|UIP^^L|||
OBX|13|TX|10000043^ ^10000043^ ^||||||F|||20030731192600|UIP^^L|||
NTE|1||GYNECOLOGICAL CYTOLOGY IS A SCREENING PROCEDURE|
NTE|2||SUBJECT TO BOTH FALSE NEGATIVE AND FALSE POSITIVE|
NTE|3||RESULTS. IT IS MOST RELIABLE WHEN A SATISFACTORY|
NTE|4||SAMPLE IS OBTAINED ON A REGULAR REPETITIVE BASIS.||
```

NTE|5||RESULTS MUST BE INTERPRETED IN THE CONTEXT OF|
NTE|6||HISTORIC AND CURRENT CLINICAL INFORMATION.|

Sample 2—Result Message

MSH|^~\&|LAB|TMP||98015|20030603151327||ORU^R01|20030603692073360000|P|2.
3|||||||
PID|1||CHART^^^CID~MEDICAL ^^^MRN|5513904|ZEE^ZEE^||19750825|M||71
SUN^^BUFFALO^NY^14207||^^^^716^5685235||||17606|117117117||
ORC|RE|3812197|TP362228T||CM|||||||C91458^Doe^James|||||||
OBR|1|3812197|TP362228T|10165SB=^BASIC METABOLIC PANEL^^10165SB=^BASIC
METABOLIC PANEL|||||||20030523105800||^|||TP^QUEST DIAGNOSTICS-
TAMPA^4225 E. FOWLER
AVE^TAMPA^FL^33617|20030523110900||||F|||||||||||||||||
OBX|1|NM|25000000^GLUCOSE^^25000000^GLUCOSE^||105|MG/DL|65-
109|N|||F|||20030523110900|TP^L|||
NTE|1|||FASTING REFERENCE INTERVAL|
OBX|2|NM|25000100^UREA NITROGEN (BUN)^^25000100^UREA NITROGEN
(BUN)^||15|MG/DL|7-25|N|||F|||20030523110900|TP^L|||
OBX|3|NM|25000200^CREATININE^^25000200^CREATININE^||1.6|MG/DL|0.5-
1.4|H|||F|||20030523110900|TP^L|||
OBX|4|NM|25000300^BUN/CREATININE RATIO^^25000300^BUN/CREATININE
RATIO^||9|(CALC)|6-25|N|||F|||20030523110900|TP^L|||
OBX|5|NM|25000400^SODIUM^^25000400^SODIUM^||150|MMOL/L|135-
146|H|||F|||20030523110900|TP^L|||
OBX|6|NM|25000500^POTASSIUM^^25000500^POTASSIUM^||5.1|MMOL/L|3.5-
5.3|N|||F|||20030523110900|TP^L|||
OBX|7|NM|25000600^CHLORIDE^^25000600^CHLORIDE^||102|MMOL/L|98-
110|N|||F|||20030523110900|TP^L|||
OBX|8|NM|25000700^CARBON DIOXIDE^^25000700^CARBON DIOXIDE^||24|MMOL/L|21-
33|N|||F|||20030523110900|TP^L|||
OBX|9|NM|25001000^CALCIUM^^25001000^CALCIUM^||9.8|MG/DL|8.5-
10.4|N|||F|||20030523110900|TP^L|||
OBR|2|3812197|TP362228T|8847SB=^PROTHROMBIN TIME WITH
INR^8847SB=^PROTHROMBIN TIME WITH
INR|||||||20030523105800||^|||TP^QUEST DIAGNOSTICS-TAMPA^4225 E.
FOWLER AVE^TAMPA^FL^33617|20030523110900||||F|||||||||||||
OBX|1|NM|30040200^INTERNATIONAL NORMALIZED RATIO
(INR)^30040200^INTERNATIONAL NORMALIZED RATIO
(INR)^||1.5|||N|||F|||20030523110900|TP^L|||
NTE|1|||INR REFERENCE INTERVAL APPLIES TO PATIENTS|
NTE|2|||NOT ON ANTICOAGULANT THERAPY: 0.9- 1.1|
NTE|3|||
NTE|4|||SUGGESTED INR THERAPEUTIC RANGE FOR ORAL|
NTE|5|||ANTICOAGULANT THERAPY (STABLY ANTICOAGULATED|
NTE|6|||PATIENTS)|
NTE|7|||
NTE|8|||ROUTINE THERAPY: 2.0- 3.0|
NTE|9|||
NTE|10|||RECURRENT MYOCARDIAL INFARCTION|
NTE|11|||OR MECHANICAL PROSTHETIC VALVES: 2.5- 3.5|
NTE|12|||
NTE|13|||
OBX|2|NM|30039900^PROTHROMBIN TIME^^30039900^PROTHROMBIN
TIME^||14.6|SECONDS|9.0-11.5|H|||F|||20030523110900|TP^L|||
OBR|3|3812197|TP362228T|861SB=^T-3 UPTAKE^^861SB=^T-3
UPTAKE|||||||20030523105800||^|||TP^QUEST DIAGNOSTICS-TAMPA^4225
E. FOWLER AVE^TAMPA^FL^33617|20030523110900|||F|||||||||||||

```

OBX|1|NM|55075100^T-3 UPTAKE^^55075100^T-3 UPTAKE^||45|%|22-
35|H||F||20030523110900|TP^^L|||
OBR|4|3812197|TP362228T|867SB=^T-4 (THYROXINE), TOTAL^^867SB=^T-4
(THYROXINE), TOTAL|||||||20030523105800||^^| |||TP^QUEST DIAGNOSTICS-
TAMPA^4225 E. FOWLER
AVE^TAMPA^FL^33617|20030523110900|||F|||||||||||||||
OBX|1|NM|55075200^T-4 (THYROXINE), TOTAL^^55075200^T-4 (THYROXINE),
TOTAL^||15.2|MCG/DL|4.5-12.5|H||F|||20030523110900|TP^^L|||
OBX|2|NM|55075300^FREE T4 INDEX (T7)^^55075300^FREE T4 INDEX
(T7)^||6.8||1.4-3.8|H||F|||20030523110900|TP^^L|||
OBR|5|3812197|TP362228T|899SB=^TSH^^899SB=^TSH|||||||20030523105800||^
^^| |||TP^QUEST DIAGNOSTICS-TAMPA^4225 E. FOWLER
AVE^TAMPA^FL^33617|20030523110900|||F|||||||||||||||
OBX|1|NM|55080400^TSH^^55080400^TSH^||5|MIU/L|0.40-
5.50|N|||F|||20030523110900|TP^^L|||

```

Receiving Third-Party Laboratory Results Files

Two methods are available for the Hub to receive third-party laboratory results:

- Care360 Hub Information Services initiates a secure connection to the laboratory's file server on a predefined schedule (for example, every 3–5 minutes) to retrieve and process the available results files.
- The secure transfer of results data between the Hub and a third-party laboratory can be accomplished by a number of different methods; for example, via SSH File Transfer Protocol (SFTP). For more information on possible connectivity methods, see “[Universal Ordering and Resulting Connectivity](#)” on page 9.
- The third-party laboratory submits the lab result, textual result, or transcribed document via the Submit Clinical Content Web service to the Hub for delivery to the appropriate recipients (such as Care360 Labs & Meds and/or third-party EMRs).

Results Formatting Requirements

Results files that are retrieved by Care360 Hub Information Services from a third-party laboratory or that are submitted by a third-party laboratory via the Submit Clinical Content Web service must meet the following requirements:

- The provider and/or provider accounts referenced in the HL7 result message must be valid and active in the Hub.
- The result (HL7) file, and any associated “report of record” (PDF) files, must be submitted as a single XML file.
- The incoming result XML file must conform to the Hub XML schema (see “[Hub XML Schema](#)”, below).
- The result HL7 content must conform to the Care360 Labs & Meds Results HL7 Specification as outlined in “[Care360 Result Message Format Requirements](#)” on page 107 and “[Care360 Result Message Segment Specifications](#)” on page 112.
- If the provider is configured to send a report of record (PDF) file together with the HL7 message, then a primary report (PDF file) must be present. Additionally, one or more secondary reports can be provided as needed. If the provider is configured to **not** send a PDF file, then the report of record will be generated automatically for the provider (and the provider *cannot* include a PDF file with the HL7 message).

Hub XML Schema

The third-party laboratory must provide individual results as XML files on a file server, with each XML file containing one HL7, and one or more reports (PDF documents). The laboratory may also optionally include result discrete data. The XML file created by the laboratory for each result must conform to the following format:

```
<?xml version="1.0" encoding="UTF-8" ?>
<schema targetNamespace="http://hub.Care360.com/5.0/result"
       xmlns:tns="http://hub.Care360.com/5.0/result"
       xmlns="http://www.w3.org/2001/XMLSchema">
  <element name="result">
    <complexType>
      <sequence>
        <element name="resultDate" type="string" nillable="true" />
```

```

<element name="sendingFacility" type="string"
    nillable="true" />
<element name="receivingFacility" type="string"
    nillable="true" />
<element name="accessionNumber" type="string"
    nillable="true" />
<element name="messageControlId" type="string"
    nillable="true" />
<element name="h17" type="base64Binary" />
<element name="primaryReport" type="base64Binary"
    nillable="true" />
<element name="additionalReports">
    <complexType>
        <sequence>
            <element name="report" type="base64Binary"
                nillable="true" minOccurs="0"
                maxOccurs="unbounded" />
        </sequence>
    </complexType>
</element>
</sequence>
</complexType>
</element>
</schema>

```

All discrete fields are optional, where *sendingFacility* is the provider, and *receivingFacility* is the provider account as defined in the Hub. These discrete fields are optional because the Hub obtains them directly from the HL7 message content. (The optional discrete fields may be helpful for troubleshooting purposes, however, as the HL7 message fields are encoded.)

Sample XML Result Files

Following are several sample third-party result (XML) messages, formatted according to the “[Results Formatting Requirements](#)” on page 135.

Note: The `<h17>`, `<primaryReport>`, and `<additionalReports>` segments in the following samples are truncated for the sake of brevity.

Sample 1—HL7 Message with No Primary Report

```

<?xml version="1.0" encoding="UTF-8" ?>
<tns:result xmlns:tns="http://hub.Care360.com/5.0/result"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <resultDate>20070209101449</resultDate>
    <sendingFacility>ORDR_PVDR</sendingFacility>
    <receivingFacility>ORDR_PVDR_ACCT</receivingFacility>
    <accessionNumber>1570043</accessionNumber>
    <messageControlId>8565093</messageControlId>
    <h17>TVNlFF5+XCZ8TEFCfE9SRFJfUFZEUnxURVNUSUR8T1JEU19QVkRSX0FDQ1R
        MDE0NDI8fE9SVV5SMDF8ODU2NTA5M3xQfDIuMyANUE1EfDF8MTIzNDU2g5MTI
        V8MTU3MDA0M3x8QWJjZGVmXkdoaWprbG1ub3BeQXx8MjAwNDAxMzF8TX...</h17>
    <primaryReport />
    <additionalReports />
</tns:result>

```

Sample 2—HL7 Message with a Primary (Only) Report File

```
<?xml version="1.0" encoding="UTF-8" ?>
<tns:result xmlns:tns="http://hub.Care360.com/5.0/result"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <resultDate>20070209101449</resultDate>
  <sendingFacility>NOR</sendingFacility>
  <receivingFacility>1746</receivingFacility>
  <accessionNumber>2523807</accessionNumber>
  <messageControlId>5674841</messageControlId>
  <h17>TVNIfF5+XCZ8TEFCfE5PUnxURVNUSUR8MTc0NnwyMDA3MDIwOTEwMTQ0OXX
    JVXlIwMXw1Nj c0ODQxfFB8Mi4zIA1QSUR8MXwxMjM0NTY3ODkxMjM0NXwyNTI
    3fHxBYmNkZWZeR2hpamt sbW5vcF5BfHwyMDA0MDEzMXxNfHx8fHx8fHx...</h17>
  <primaryReport>JVBeri0xLjMNJeLj z9MNMSAwIG9iago8PAovUGFnZUxheW91d
    AvU2luZ2x1UGFnZQovUGFnZU1vZGUGL1VzZU5vbmUKL1BhZ2VzIDigMCBSCi9
    1IC9DYXRhbG9nCj4+CmVuZG9iag01IDAgb2JqCjw8Cj9CY...</primaryReport>
  <additionalReports />
</tns:result>
```

Sample 3—HL7 Message with Primary and Secondary Report Files

```
<?xml version="1.0" encoding="UTF-8" ?>
<tns:result xmlns:tns="http://hub.Care360.com/5.0/result"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <resultDate>20070209101449</resultDate>
  <sendingFacility>NOR</sendingFacility>
  <receivingFacility>1746</receivingFacility>
  <accessionNumber>2523807</accessionNumber>
  <messageControlId>5674841</messageControlId>
  <h17>TVNIfF5+XCZ8TEFCfE5PUnxURVNUSUR8MTc0NnwyMDA3MDIwOTEwMTQ0OXX
    JVXlIwMXw1Nj c0ODQxfFB8Mi4zIA1QSUR8MXwxMjM0NTY3ODkxMjM0NXwyNTI
    3fHxBYmNkZWZeR2hpamt sbW5vcF5BfHwyMDA0MDEzMXxNfHx8fHx8fHx...</h17>
  <primaryReport>JVBeri0xLjMNJeLj z9MNMSAwIG9iago8PAovUGFnZUxheW91d
    AvU2luZ2x1UGFnZQovUGFnZU1vZGUGL1VzZU5vbmUKL1BhZ2VzIDigMCBSCi9
    1IC9DYXRhbG9nCj4+CmVuZG9iag01IDAgb2JqCjw8Cj9CY...</primaryReport>
  <additionalReports>
    <report>JVBeri0xLjMKJf///8KCjEgMCBvYmoKPDwKL1BhZ2VMYX1vdXQgL1Np
      bmdsZVBhZ2UKL1BhZ2VNb2R1IC9Vc2VOb251Ci9QYWdlcyAyIDAqUgovVHlwZ
      Q2F0YWxvZwo+PgplbmRvYmoKCjIgMCBvYmoKPDwKL0NvdW50IDEKL...</report>
    <report>JVBeri0xLjMKJf///8KCjEgMCBvYmoKPDwKL1BhZ2VMYX1vdXQgL1Np
      bmdsZVBhZ2UKL1BhZ2VNb2R1IC9Vc2VOb251Ci9QYWdlcyAyIDAqUgovVHlwZ
      Q2F0YWxvZwo+PgplbmRvYmoKCjIgMCBvYmoKPDwKL0NvdW50IDEKL...</report>
  </additionalReports>
</tns:result>
```


Chapter 6

Care360 ELINCS HL7 R1 Result Specification

.....

In This Chapter:

- About the Care360 ELINCS HL7 R1 Result Specification 140
- Care360 ELINCS HL7 R1 Result Message Format Requirements .. 141
- Care360 ELINCS HL7 R1 Result Message Segment Specifications . 146
- Sample Care360 ELINCS HL7 R1 Result Message 160

About the Care360 ELINCS HL7 R1 Result Specification

This chapter provides detailed format specifications for laboratory results that are received by Care360 Hub Information Services from a Quest Diagnostics BU, or from a third-party laboratory using the EHR-Laboratory Interoperability and Connectivity Specification (ELINCS) Results HL7 R1 specification.

The ELINCS specification standardizes the transmission of electronic results from a laboratory information system (LIS) to electronic medical record (EMR) systems in the ambulatory setting.

This specification is based on the HL7 version 2.5.1 messaging standard subset with custom changes. It is **not** HL7 version 2.5 compliant. It also references the Logical Observation Identifiers Names and Codes (LOINC) coding standard. The specification defines message profiles for relevant HL7 message types and it mandates the use of LOINC codes for identifying certain tests.

A message profile is an unambiguous specification of an HL7 message type intended for a particular use case, as defined in Section 2.12 of the HL7 v2.5.1 standard.

A message profile defines both the dynamic aspects of information interchange (i.e., the systems that participate in such interchanges and the real-world events that trigger messaging) as well as the static aspects of messaging (i.e., the structure and contents of the electronic messages that are exchanged).

Supported messages for results include:

- MT-ORU-1—Result Status Message
- MT-ORU-2—Result Available Message
- MT-ORU-2—Result Correction Message

This chapter includes the following sections:

- **Result message format requirements.** For information on the message format requirements, see “[Care360 ELINCS HL7 R1 Result Message Format Requirements](#)” on page 141.
- **Result message segment specifications.** Each result message received by the Hub contains a number of standard sections. For requirements on the standard segments of a result message, see “[Care360 ELINCS HL7 R1 Result Message Segment Specifications](#)” on page 146.
- **Sample Result messages.** For samples of the result message, see “[Sample Care360 ELINCS HL7 R1 Result Message](#)” on page 160.

Care360 ELINCS HL7 R1 Result Message Format Requirements

In addition to the field-level validation detailed in “[Care360 ELINCS HL7 R1 Result Message Segment Specifications](#)”, each message is validated by the Hub to ensure compliance with rules outlined in this section.

Message Segment Hierarchy

The two message types used for result reporting in this specification are all based on the HL7 v2.5.1 ORU message. This message represents laboratory results as a three-level hierarchy, with the Patient Identification segment (PID) at the upper level, an observation report segment (OBR) at the next level and one or more observation segments (OBX) at the lowest level.

The hierarchical structure of the shared message type, which is a subset of the standard HL7 ORU message structure, is specified below:

```
MSH
[ {SFT} ]
{
  [
    PID
    [PD1]
    [{NTE}]
    [{NK1}]
    [
      PV1
      [PV2]
    ]
  ]
  [
    [ORC]
    OBR
    [{NTE}]
    [
      TQ1
      [{TQ2}]
    ]
    [CTD]
    [
      OBX
      { [NTE] }
    ]
    [{FT1}]
    [{CT1}]
  ]
  [
    SPM
    [{OBX}]
  ]
}
Message Header (Required)
Software Segment (Not Supported)
--PATIENT_RESULT begin (Required)
--PATIENT begin (Required)
Patient Identification (Required)
Additional Demographics (Not Supported)
Notes and Comments (Not Supported)
Next of Kin/Associated Parties (Not Supported)
--VISIT begin (Not Supported)
Patient Visit (Not Supported)
Patient Visit - Additional Info (Not Supported)
--VISIT end (Not Supported)
--PATIENT end
--ORDER_OBSERVATION begin (Required)
Common Order (Required)
Observation Request (Required)
Notes and Comments (Required - may be left empty)
--TIMING_QTY begin (Required - may be left empty)
Timing/Quantity (Required)
Timing/Quantity Order Sequence (Required - may be left empty)
--TIMING/QTY end
Contact Date (Not Supported)
--OBSERVATION begin (Conditional)
Observation Related to OBR (Required)
Notes and Comments (Required - may be left empty)
--OBSERVATION end
Financial Transaction (Not Supported)
Clinical Trial Identification (Not Supported)
--SPECIMEN begin (Required - may be left empty)
Specimen (Required)
Observation Related to Specimen (Not Supported)
--SPECIMEN end
--ORDER_OBSERVATION end
--PATIENT_RESULT end
```

In the hierarchy shown above, braces ({}) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional.

Note that multiple Order Observation segment groups may be sent beneath each PID segment, with multiple Test Result Observation segment groups beneath each OBR segment. One or more note segments (NTEs) may be inserted after an OBR or OBX segment, if there exists relevant comment or note information to communicate (hence, the “RE” usage for NTE segments). Each set of NTE segments corresponds to the OBR or OBX segment that immediately precedes it.

Note that the Timing/Quantity segment and the Specimen segment, although designated as “Required,” need not appear in every Ambulatory Care Lab Result message. This is because the segment groups in which they are nested (“— TIMING_QTY begin” and “— SPECIMEN begin”, respectively) are not required. Also, note that there may multiple SPM segments listed after the OBX segments. The specimen segment group may be excluded from the message structure, but may repeat an unspecified number of times if an observation is associated with multiple specimens.

Newline Characters

Result HL7 messages must use the carriage return (CR) character (ASCII 0x0D) to indicate a segment delimiter. Result messages that contain a line feed (LF) character (ASCII 0x0A) to indicate a segment delimiter will be rejected.

Field Delimiters

A delimiter must separate each field. Even if a field contains no data, it must still be delimited. The delimiter for any given HL7 message is always defined in the MSH segment of the message, as the first character following the segment identifier (MSH.00). See the message segment descriptions for more detail. Standard HL7 delimiters are used.

Field Specifications

The following table describes the parameters used to define the data fields within each message segment.

Parameter	Description
Type	For a description of the data types, see “ Data Type Specifications ” on page 143.
Length	The maximum allowed length for the field.

Parameter	Description
Required	<p>The fields within each segment are classified based on their support status of <i>Required</i> (R), <i>Required may be empty</i> (RE), <i>Not supported</i> (X), <i>Conditional</i> (C), or <i>Optional</i> (O) as defined below:</p> <ul style="list-style-type: none"> • Required. Any element designated as required in a standard HL7 message definition shall also be required in all HL7 message profiles based on that standard message. • Required may be empty. The element may be missing from the message, but shall be sent by the sending application if there is relevant data to report. Receiving applications will be expected to process (save/print/archive/etc.) or ignore data contained in the element, but shall be able to successfully process the message if the element is omitted (no error message should be generated because the element is missing). • Not supported. The element shall not be sent. Receiving applications shall ignore the element if it is sent. However, the receiving application will not raise an application error if it receives the element. • Conditional. The field may or may not be present, depending on certain conditions (stipulated in the <i>Comments</i> column of each segment table). If the field is present, the Hub validates it against any stated requirements. • Optional. Sending applications may populate this element, but they are not required to do so per this specification. If the sending application populates the element, the value shall conform to all specifications for the element in the HL7 v2.5.1 standard. Sending applications should not expect conformant receiving applications to process data sent in this element.

Data Type Specifications

The following table describes the data types that may appear in the message segments.

Note: Brackets ([]) indicate that the enclosed data is optional.

Data Type/ Category	Data Type Name	Notes/Format
<i>Alphanumeric</i>		
ST	String	Any ASCII printable characters (ASCII decimal values between 32 and 126) with the exception of the defined delimiter characters. Left justified with optional trailing spaces.
FT	Formatted text	String data with embedded formatting instructions.
<i>Numerical</i>		
CQ	Composite quantity with units	<quantity (NM)> ^ <units (CE)>
NM	Numeric	Any of the ASCII numeric characters with an optional leading sign (+ or -) and/or an optional decimal point.
SI	Sequence ID	A non-negative integer in the form of a NM data type.

Data Type/ Category	Data Type Name	Notes/Format
<i>Identifier</i>		
ID	Coded values for HL7 tables	String data drawn from an HL7-defined table of legal values.
IS	Coded values for user-defined tables	String data drawn from a site-defined table of legal values.
HD	Hierarchic designator	<namespace ID (IS) > ^ <universal ID (ST) > ^ <universal ID type (ID) > Used only as part of EI and other data types.
EI	Entity identifier	<entity identifier (ST) > ^ <namespace ID (IS) > ^ <universal ID (ST) > ^ <universal ID type (ID) >
PL	Person location	<point of care (IS) > ^ <room (IS) > ^ <bed (IS) > ^ <facility (HD) > ^ <location status (IS) > ^ <person location type (IS) > ^ <building (IS) > ^ <floor (IS) > ^ <location description (ST) >
PT	Processing type	<processing ID (ID) > ^ <processing mode (ID) >
<i>Date/Time</i>		
DT	Date	YYYY [MM [DD]]
TM	Time	HH [MM [SS [. S [S [S [S]]]]]] [+/- ZZZZ]
TS	Time stamp	YYYY [MM [DD [HHMM [SS [. S [S [S [S]]]]]]]] [+/- ZZZZ] ^ <degree of precision>
<i>Code Values</i>		
CE	Coded element	<identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) >
CK	Composite ID with check digit	<ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) >
CX	Extended composite ID with check digit	<ID (ST) > ^ <check digit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility (HD) >
MSG	Message	<message type (ID) > ^ <trigger event (ID) > ^ <message structure (ID) >

Data Type/ Category	Data Type Name	Notes/Format
XCN	Extended composite ID number and name	<p>Replaces the CN data type.</p> <pre><ID number (ST) > ^ <family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (for example, JR or III) (ST) > ^ <prefix (for example, DR) (ST) > ^ <degree (for example, MD) (ST) > ^ <source table (IS) > ^ <assigning authority (HD) > ^ <name type code (ID) > ^ <identifier check digit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <identifier type code (IS) > ^ <assigning facility (HD) ></pre>
<i>Generic</i>		
CM	Composite	No new CMs are allowed after HL7 Version 2.2. Hence there are no new CMs in Version 2.5.1.
<i>Demographics</i>		
XAD	Extended address	<pre><street address (ST) > ^ <other designation (ST) > ^ <city (ST) > ^ <state or province (ST) > ^ <zip or postal code (ST) > ^ <country (ID) > ^ <address type (ID) > ^ <other geographic designation (ST) > ^ <county/parish code (IS) > ^ <census tract (IS) ></pre>
XPN	Extended person name	<pre><family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (for example, JR or III) (ST) > ^ <prefix (for example, DR) (ST) > ^ <degree (for example, MD) (ST) > ^ <name type code (ID) ></pre>
XON	Extended composite name and ID number for organizations	<pre><organization name (ST) > ^ <organization name type code (IS) > ^ <ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility ID (HD) ></pre>
XTN	Extended telecommunications number	<pre>[NNN] [(999)]999-9999 [X99999] [B99999] [C any text]^<telecommunication use code (ID) > ^ <telecommunication equipment type (ID) > ^ <email address (ST) > ^ <country code (NM) > ^ <area/city code (NM) > ^ <phone number (NM) > ^ <extension (NM) > ^ <any text (ST) ></pre>
<i>Time Series</i>		
TQ	Timing/quantity	<pre><quantity (CQ) > ^ <interval (*) > ^ <duration (*) > ^ <start date/time (TS) > ^ <end date/time (TS) > ^ <priority (ID) > ^ <condition (ST) > ^ <text (TX) > ^ <conjunction (ID) > ^ <order sequencing (*) ></pre>

Care360 ELINCS HL7 R1 Result Message Segment Specifications

This section provides specifications for each segment of an ELINCS HL7 R1 result message.

For a detailed description of each message segment, refer to the EHR-Laboratory Interoperability and Connectivity Specification (ELINCS) HL7 Version - Release 1, available from www.elincs.org. In the event that Quest Diagnostics requirements differ from the ELINCS specification, or if there is additional information that must be contained in the segment, that information will appear in the Additional Information field in the table(s) below.

Note: You must be an HL7 member and signed in as a member to access this document.

Message segments include the following:

- “MSH—Message Header Segment” on page 146.
- “PID—Patient Identifier Segment” on page 148.
- “ORC—Common Order Segment” on page 150.
- “NTE—Notes and Additional Information Segment” on page 155.
- “OBX—Observation/Result Segment” on page 155.
- “SPM—Specimen Segment” on page 157.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Segment ID	Element Name	Additional Information	Req'd ^a
MSH.00	Segment Type ID	Must be MSH .	R
MSH.01	Field Separator		R
MSH.02	Encoding Characters		R
MSH.03	Sending Application	Will contain the Quest Diagnostics 3-character reporting lab ID.	O
MSH.04	Sending Facility	Will contain the reporting site CLIA # Example: ^05D0608832^CLIA	R
MSH.05	Receiving Application	Will be left blank.	O
MSH.06	Receiving Facility	The receiving facility. This element is optional in the MSH segment of MT-ORU-1 and MT-ORU-2 messages. If populated, its content should conform to the HD data type. Will include the Quest Diagnostics Client Account Number.	RE

Segment ID	Element Name	Additional Information	Req'd^a
MSH.07	Date/Time of Message		R
MSH.08	Security		X
MSH.09	Message Type		R
MSH.10	Message Control ID	Unique within MSH.06.	R
MSH.11	Processing ID		R (Processing ID) O (Processing Mode)
MSH.12	Version ID	The value for this field is 2 . 5 . 1.	R
MSH.13	Sequence Number		X
MSH.14	Continuation Pointer		X
MSH.15	Accept Acknowledgment Type		R
MSH.16	Application Acknowledgment Type		X
MSH.17	Country Code		X
MSH.18	Character Set		X
MSH.19	Principal Language of Message		X
MSH.20	Alternate Character Set Handling Scheme		X
MSH.21	Message Profile Identifier	For those messages that do not meet the ELINCS HL7 R1 Requirement due to limitations of the Quest Diagnostics LIS, will contain Non_Compliant_ELINCS_R1.	R

a. R = Required, RE = Required may be empty, X = Not supported, C = Conditional, O = Optional.

PID—Patient Identifier Segment

The Patient Identifier (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Note that in version 2.5.1 of the HL7 standard, the elements “Patient ID,” “Alternate Patient ID,” and “SSN Number – Patient” have been deprecated in favor of the Patient Identifier List element. Hence, any and all patient identifiers transmitted in the PID segment shall be placed in the Patient Identifier List element (this is a repeating element that can contain multiple identifiers for a single patient).

Segment ID	Element Name	Additional Information	Req'd^a
PID.00	Segment Type ID	Must be PID .	R
PID.01	Set ID	Will always be 1. ELINCS HL7 R1 only allows 1 PID per message.	O
PID.02	Patient ID		X
PID.03	Patient Identifier List	Quest Diagnostics only supports a single patient ID and PID.03.05 will always be “PT.” ELINCS HL7 R1 only requires the reporting LIS to report 1 Patient ID.	R
PID.04	Alternate Patient ID-PID		X
PID.05	Patient Name	Quest Diagnostics does not support two patient names; only a single name will be reported.	R
PID.06	Mother's Maiden Name		X
PID.07	Date/Time of Birth	Quest Diagnostics LIS does not support Time of Birth.	RE
PID.08	Administrative Sex		R
PID.09	Patient Alias		X
PID.10	Race		X
PID.11	Patient Address	Quest Diagnostics LIS does not return this optional data element.	O
PID.12	Country Code		X
PID.13	Phone Number - Home	Quest Diagnostics LIS does not return this optional data element.	O
PID.14	Phone Number - Business		X
PID.15	Primary Language		X

Segment ID	Element Name	Additional Information	Req'd^a
PID.16	Marital Status		X
PID.17	Religion		X
PID.18	Patient Account Number		X
PID.19	SSN Number - Patient		X
PID.20	Driver's Lic Nub - Patient		X
PID.21	Mother's Identifier		X
PID.22	Ethnic Group		X
PID.23	Birth Place		X
PID.24	Multiple Birth Indicator		X
PID.25	Birth Order		X
PID.26	Citizenship		X
PID.27	Veterans Military Status		X
PID.28	Nationality		X
PID.29	Patient Death Date & Time		X
PID.30	Patient Death Indicator		X
PID.31	Identity Unknown Indicator		X
PID.32	Identity Reliability Code		X
PID.33	Last Update Date/Time		X
PID.34	Last Update Facility		X
PID.35	Species Code		X
PID.36	Breed Code		X
PID.37	Strain		X

Segment ID	Element Name	Additional Information	Req'd^a
PID.38	Production Class Code		X
PID.39	Tribal Citizenship		X

a. R = Required, RE = Required may be empty, X = Not supported, C = Conditional, O = Optional.

ORC—Common Order Segment

The Common Order segment (ORC) is used to transmit elements that are common to all of the tests ordered in a single lab requisition. Although the ORC segment is more commonly used to communicate information in the course of ordering tests, it may also be used in messages that report test results (such as ORU messages).

Segment ID	Element Name	Additional Information	Req'd^a
ORC.00	Segment Type ID	Must be ORC .	R
ORC.01	Order Control		R
ORC.02	Placer Order Number		X
ORC.03	Filler Order Number		X
ORC.04	Placer Group Number	Customer's requisition level unique identifier.	R
ORC.05	Order Status		X
ORC.06	Response Flag		X
ORC.07	Quantity/ Timing		X
ORC.08	Parent		X
ORC.09	Date/Time of Transaction		X
ORC.10	Entered By		X
ORC.11	Verify By		X
ORC.12	Ordering Provider		X
ORC.13	Enterer's Location		X
ORC.14	Call Back Phone Number		X
ORC.15	Order Effective Date/Time		X

Segment ID	Element Name	Additional Information	Req'd^a
ORC.16	Order Control Code Reason		X
ORC.17	Entering Organization		X
ORC.18	Entering Device		X
ORC.19	Action By		X
ORC.20	Advanced Beneficiary Code		X
ORC.21	Ordering Facility Name		X
ORC.22	Ordering Facility Address		X
ORC.23	Ordering Facility Phone Number		X
ORC.24	Ordering Provider Address		X
ORC.25	Order Status Modifier		X
ORC.26	Advance Beneficiary Override Reason		X
ORC.27	Filler's Expected Availability Date/Time		X
ORC.28	Confidentiality Code		X
ORC.29	Order Type		X
ORC.30	Enterer Authorization Mode		X

a. R = Required, RE = Required may be empty, X = Not supported, C = Conditional,
O = Optional.

OBR—Observation Request Segment

The OBR segment serves as the report header for the set of observations (analytes) related to a laboratory test. The details of each individual observation appear in corresponding OBX segments.

Segment ID	Element Name	Additional Information	Req'd^a
OBR.00	Segment Type ID	Must be OBR .	R
OBR.01	Set ID-OBR		O
OBR.02	Placer Order Number		R
OBR.03	Filler Order Number	Quest Diagnostics LIS does not support test-specific Order IDs. The combination OBR.03, OBR.04.01,03 is unique within an accession.	R
OBR.04	Universal Service Identifier	Quest Diagnostics requires clients to order using the Quest Diagnostics Order Codes. For Original Orders OBR.02.01, OBR.02.02, and OBR.02.03 will match OBR.02.04, OBR.02.05, and OBR.02.06. For Reflex Orders OBR.02.04, OBR.02.05, and OBR.02.06 will be blank. EMR Order Codes will not be sent in this field.	R
OBR.05	Priority - OBR		X
OBR.06	Requested Date/time		X
OBR.07	Observation Date/Time	Quest Diagnostics time zone offset will be based on the reporting lab's time zone, not the collection site's timezone.	R
OBR.08	Observation End Date/Time	Not supported by Quest Diagnostics. This Required but Empty field will always be empty.	RE
OBR.09	Collection Volume		X
OBR.10	Collector Identifier		X
OBR.11	Specimen Action Code		R
OBR.12	Danger Code		X
OBR.13	Relevant Clinical Info.		X
OBR.14	Specimen Received Date/Time		X
OBR.15	Specimen Source		X

Segment ID	Element Name	Additional Information	Req'd^a
OBR.16	Ordering Provider	Quest Diagnostics requires the Physician ID to be either an NPI or a UPIN. Other IDs are not authorized. If no Physician ID is received, or Physician ID is other than NPI or UPIN, this will be left blank and OBR.16.13 will be populated with NPI.	R
OBR.17	Order Callback Phone Number		X
OBR.18	Placer Field 1		X
OBR.19	Placer Field 2		X
OBR.20	Test Identification Type	Quest Diagnostics only supports Requisition Only identifiers. This value will always be "RO."	R
OBR.21	Intended Recipient of Result		RE
OBR.22	Results Rpt/Status Chng - Date/Time		R
OBR.23	Charge to Practice		X
OBR.24	Diagnostic Serv Sect ID		X
OBR.25	Result Status	Quest Diagnostics does not support the "Specimen received in laboratory" status for MT-ORU-1 messages.	O
OBR.26	Parent Result		C
OBR.27	Quantity/ Timing		X
OBR.28	Result Copies To	Quest Diagnostics LIS does not support this. Therefore, if OBR.21 is populated, the following values apply: OBR.28.1 = NA OBR.28.2 = NA OBR.28.3 = NA OBR.28.11 = NPI MSH.21 = Non_Compliant_ELINCS_R1	C
OBR.29	Parent		C
OBR.30	Transportation Mode		X
OBR.31	Reason for Study		X

Segment ID	Element Name	Additional Information	Req'd^a
OBR.32	Principal Result Interpreter		X
OBR.33	Assistant Result Interpreter		X
OBR.34	Technician		X
OBR.35	Transcriptionist		X
OBR.36	Scheduled Date/Time		X
OBR.37	Number of Sample Containers		X
OBR.38	Transport Logistics of Collected Sample		X
OBR.39	Collector's Comment		X
OBR.40	Transport Arrangement Responsibility		X
OBR.41	Transport Arranged		X
OBR.42	Escort Required		X
OBR.43	Planned Patient Transport Comment		X
OBR.44	Procedure Code		X
OBR.45	Procedure Code Modifier		X
OBR.46	Placer Supplemental Service Information		X
OBR.47	Filler Supplemental Service Information		X
OBR.48	Medically Necessary Duplicate Procedure Reason		X

Segment ID	Element Name	Additional Information	Req'd^a
OBR.49	Result Handling		X
OBR.50	Parent Universal Service Identifier		C

a. R = Required, RE = Required may be empty, X = Not supported, C = Conditional, O = Optional.

NTE—Notes and Additional Information Segment

The Notes and Comments (NTE) segment is commonly used for sending notes and comments that accompany test-result data. Depending on its position in the ORU message, this segment may be associated with an OBR segment or with an OBX segment.

Note: Report level comments are not supported by the ELINCS HL7 R1 specification. Any report level comments will be reported after each OBR. in the message.

Segment ID	Element Name	Additional Information	Req'd^a
NTE.00	Segment Type ID	Must be NTE.	R
NTE.01	Set ID - NTE		O
NTE.02	Source of Comment		X
NTE.03	Comment	Quest Diagnostics will place result values as well as units of measure and normal ranges in NTEs if this data is received from a reference lab as an NTE.	RE
NTE.04	Comment Type		O

a. R = Required, RE = Required may be empty, X = Not supported, C = Conditional, O = Optional.

OBX—Observation/Result Segment

The OBX segment is used to transmit a single lab-result value. It represents the smallest indivisible unit of a laboratory report. When the results of laboratory panels are reported, the ordered panel is typically reported in the OBR segment, and the results of each test performed in the panel are reported as individual OBX segments “nested” beneath the OBR segment. When the results of individually ordered tests are reported, there is a single OBX segment for each OBR segment.

Segment ID	Element Name	Additional Information	Req'd^a
OBX.00	Segment Type ID	Must be OBX.	R
OBX.01	Set ID - OBX		O

Segment ID	Element Name	Additional Information	Req'd^a
OBX.02	Value Type	“ST” will be added in the OBX.02 position and “See Note” in the OBX.05 position if an OBX has an empty OBX.02, an empty OBX.05, an OBX.11 of F or P, and a following NTE segment.	C
OBX.03	Observation Identifier	Quest Diagnostics will populate the first 3 subpieces with Quest Diagnostics database information. The second 3 subpieces will be populated with LOINC information when available. EMR should display the Quest Diagnostics Result Name from OBX.03.02 on the report not the LOINC Code Name from OBX.03.05.	R
OBX.04	Observation Sub-ID		R
OBX.05	Observation Value	“See Note” will be added in the OBX.05 position and “ST” in the OBX.02 position if an OBX has an empty OBX.02, an empty OBX.05, an OBX.11 of F or P, and a following NTE segment.	C
OBX.06	Units		RE
OBX.07	References Range		RE
OBX.08	Abnormal Flags	Quest Diagnostics does not support the following values: <ul style="list-style-type: none">• LL = Below lower panic limits• HH = Above upper panic limits• AA = Very abnormal (applies to non-numeric units, analogous to panic limits for numeric units)	RE
OBX.09	Probability		X
OBX.10	Nature of Abnormal Test		X
OBX.11	Observ Result Status	If OBX.11 is “N” then OBX.08 will be left blank.	R
OBX.12	Date Last Observation Normal Value		X
OBX.13	User Defined Access Checks		X
OBX.14	Date/Time of the Observation		X
OBX.15	Producer's ID		X
OBX.16	Responsible Observer	Some Quest Diagnostics Responsible Observer types are reported with initials, not full names, so initials will appear in OBX.16.02 and a dash in OBX.16.03 for some OBX's.	RE
OBX.17	Observation Method		X

Segment ID	Element Name	Additional Information	Req'd^a
OBX.18	Equipment Instance Identifier		X
OBX.19	Date/Time of the Analysis		X
OBX.20	Reserved for HL7 v2.6		X
OBX.21	Reserved for HL7 v2.6		X
OBX.22	Reserved for HL7 v2.6		X
OBX.23	Performing Organization Name	Quest Diagnostics will always use CLIA #s.	R
OBX.24	Performing Organization Address		R
OBX.25	Performing Organization Medical Director		RE

a. R = Required, RE = Required may be empty, X = Not supported, C = Conditional, O = Optional.

SPM—Specimen Segment

The Specimen (SPM) segment is used to transmit information about a single specimen. The SPM segment relays information about the type of specimen the test was performed on and the date/time the specimen was received by the laboratory.

Segment ID	Element Name	Additional Information	Req'd^a
SPM.00	Segment Type ID	Must be SPM .	R
SPM.01	Set ID - SPM		O
SPM.02	Specimen ID	Not supported by Quest Diagnostics. This optional field will always be empty.	O
SPM.03	Specimen Patient IDs		X
SPM.04	Specimen Type	Quest Diagnostics does not store the Specimen Type in the LIS, so the default unknown value will be reported in all SPM segments. Default unknown value: U^Unknown^HL70353	R
SPM.05	Specimen Type Modifier		X

Segment ID	Element Name	Additional Information	Req'd^a
SPM.06	Specimen Additives		X
SPM.07	Specimen Collection Method	Not supported by Quest Diagnostics. This optional field will always be empty.	O
SPM.08	Specimen Source Site	Not supported by Quest Diagnostics. This optional field will always be empty.	O
SPM.09	Specimen Source Site Modifier	Not supported by Quest Diagnostics. This optional field will always be empty.	O
SPM.10	Specimen Collection Site		X
SPM.11	Specimen Role		X
SPM.12	Specimen Collection Amount	Not supported by Quest Diagnostics. This optional field will always be empty.	O
SPM.13	Grouped Specimen Count		X
SPM.14	Specimen Description	Not supported by Quest Diagnostics. This optional field will always be empty.	O
SPM.15	Specimen Handling Code		X
SPM.16	Specimen Risk Code		X
SPM.17	Specimen Collection Date/Time	Not supported by Quest Diagnostics. This optional field will always be empty.	O
SPM.18	Specimen Received Date/Time	Quest Diagnostics will always report this and expect it displayed on the Report of Record.	O
SPM.19	Specimen Expiration Date/Time		X
SPM.20	Specimen Availability		X
SPM.21	Specimen Reject Reason	Not supported by Quest Diagnostics. This optional field will always be empty.	O
SPM.22	Specimen Quality	Not supported by Quest Diagnostics. This optional field will always be empty.	O
SPM.23	Specimen Appropriateness	Not supported by Quest Diagnostics. This optional field will always be empty.	O

Segment ID	Element Name	Additional Information	Req'd^a
SPM.24	Specimen Condition		X
SPM.25	Specimen Current Quantity		X
SPM.26	Number of Specimen Containers		X
SPM.27	Container Type		X
SPM.28	Container Condition		X
SPM.29	Specimen Child Role		X

a. R = Required, RE = Required may be empty, X = Not supported, C = Conditional, O = Optional.

Sample Care360 ELINCS HL7 R1 Result Message

Following is a sample Observational Report—Unsolicited (ORU) message, formatted according to the “[Care360 ELINCS HL7 R1 Result Message Format Requirements](#)” on page 141 and “[Care360 ELINCS HL7 R1 Result Message Segment Specifications](#)” on page 146.

Sample—Result Message

```
MSH|^~\&|QUX|^05D0608832^CLIA||999900|20091102133200-0800||ORU^R01^ORU_R01|T10024706-2|D^T|2.5.1|||AL|||||ELINCS_MT-ORU-2_R1~ELINCS_MT-ORU-2_R1~ELINCS_MT-ORU-2_R1
PID|1||PID13^PT||TEST^TC13||19800101|F
ORC|RE||LABREF13
OBR|1|LABREF13|T10024706^^05D0608832^CLIA|5000^HEMOGRAM/PLATELET^99QDI^500^HEMOGRAM/PLATELET^99QDI|||20091102|||0||||1234567893^TEST^PHYSICIAN^~~~~~NPI|||RO||20091102133200-0800|||C
OBX|1|NM|101^WHITE CELL COUNT^99QDI^6690-2^WBC # Bld
Auto^LN|1|8.4|THOUS/MCL^MCL^99QDI|3.8-10.8|N|||F|||||||||Quest Diagnostics^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
OBX|2|NM|102^RED CELL COUNT^99QDI^789-8^RBC # Bld
Auto^LN|1|4.67|MILL/MCL^MILL/MCL^99QDI|3.80-5.10|N|||C|||||||||Quest Diagnostics^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
NTE|1||THIS IS AN AMENDED ENTRY. PLEASE DISREGARD PREVIOUS RESULT.
NTE|2||* PREVIOUSLY REPORTED DATA (REPORTED 11/02/09 AT 11:46) 5.43 H *
OBX|3|NM|103^HEMOGLOBIN^99QDI^718-7^Hgb Bld-
mCnc^LN|1|13.9|G/DL^G/DL^99QDI|11.7-15.5|N|||F|||||||||Quest Diagnostics^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
OBX|4|NM|104^HEMATOCRIT^99QDI^4544-3^Hct Fr Bld
Auto^LN|1|42|%^%^99QDI|35.0-45.0|N|||F|||||||||Quest Diagnostics^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
OBX|5|NM|105^MCV^99QDI^787-2^MCV RBC Auto^LN|1|82|fL^fL^99QDI|80.0-100.0|N|||F|||||||||Quest Diagnostics^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
OBX|6|NM|106^MCH^99QDI^785-6^MCH RBC Qn Auto^LN|1|33|pg^pg^99QDI|27.0-33.0|N|||F|||||||||Quest Diagnostics^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
OBX|7|NM|107^MCHC^99QDI^786-4^MCHC RBC Auto-
mCnc^LN|1|33.2|g/dL^g/dL^99QDI|32.0-36.0|N|||F|||||||||Quest Diagnostics^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
OBX|8|NM|108^RDW^99QDI^788-0^RDW RBC Auto-Rto^LN|1|15.3|%^%^99QDI|11.0-15.0|H|||F|||||||||Quest Diagnostics^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
OBX|9|NM|109^MPV^99QDI^776-5^PMV Bld Rees-Ecker^LN|1|8.3|FL^FL^99QDI|7.5-11.5|N|||F|||||||||Quest Diagnostics^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
OBX|10||110^COMMENTS:^99QDI^8251-1^Service Cmnt 01 XXX-Imp^LN|1|||N|||N|||||||||Quest Diagnostics^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
OBX|11|NM|150^PLATELET COUNT^99QDI^777-3^Platelet # Bld
Auto^LN|1|254|THOUS/MCL^THOUS/MCL^99QDI|140-400|N|||F|||||||||Quest Diagnostics^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
SPM|||U^Unknown^HL70353|||||||||||20091102095400-0800
ORC|RE||LABREF13
```

OBR|2|LABREF13|T10024706^^05D0608832^CLIA|6010^RHEUMATOID FACTOR -
QUANT^99QDI^6010^RHEUMATOID FACTOR -
QUANT^99QDI|||20091102||||0||||1234567893^TEST^PHYSICIAN^^^^^^^^^NPI|||
|RO||20091102133200-0800|||F
OBX|1|ST|327^RHEUMATOID FACTOR^99QDI^11572-5^Rheumatoid fact Ser-
aCnc^LN|1|>32|IU/ML^IU/ML^99QDI|<14|H|||F|||||||||Quest
Diagnostics^^^^^CLIA|967 Mabury Road^^San Jose^CA^95133|^Director^Medical
NTE|1||| ***NOTE NEW REFERENCE RANGE***
SPM||||U^Unknown^HL70353|||||||||20091102095400-0800
ORC|RE|||LABREF13
OBR|3|LABREF13|T10024706^^05D0608832^CLIA|6570^HEP A ANTIBODY-
TOTAL^99QDI^6570^HEP A ANTIBODY-
TOTAL^99QDI|||20091102||||0||||1234567893^TEST^PHYSICIAN^^^^^^^^^NPI|||
|RO||20091102133200-0800|||C
OBX|1|ST|246^HEP A ANTIBODY-TOTAL^99QDI^5183-9^HAV Ab Ser EIA-
aCnc^LN|1|NON-REACTIVE||NEGATIVE|N|||C|||||||||Quest
Diagnostics^^^^^CLIA|3714 Northgate
Boulevard^^Sacramento^CA^95834|^Love^Gordon^L.
NTE|1||THIS IS AN AMENDED ENTRY. PLEASE DISREGARD PREVIOUS RESULT.
NTE|2||* PREVIOUSLY REPORTED DATA (REPORTED 11/02/09 AT 11:46) POSITIVE
@ *
SPM||||U^Unknown^HL70353|||||||||20091102095400-0800

Chapter 7

Care360 Textual Results HL7

Specification

.....

In This Chapter:

- About the Care360 Textual Results HL7 Specification 164
- Care360 Textual Results Message Format Requirements 165
- Care360 Textual Results Message Segment Specifications 171
- Sample Care360 Textual Results Message 183

About the Care360 Textual Results HL7 Specification

This chapter provides detailed format specifications for textual results (including radiology results) that have been processed by a third-party HIS or LIS and submitted to, or retrieved from, Hub Information Services for distribution. Results must be formatted according to the HL7 2.3 Specification, with any exceptions noted in this chapter. Supported messages for textual results include:

ORU^R01—ORU/ACK - unsolicited transmission of an observation message

This chapter includes the following sections:

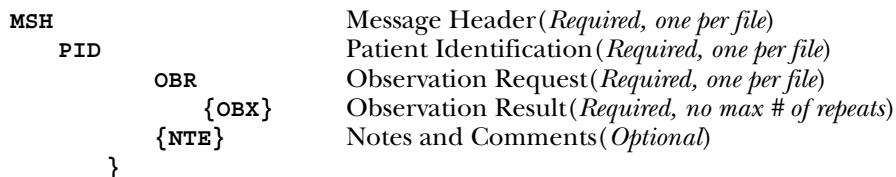
- **Textual Results message format requirements.** For information on the message format requirements, see “[Care360 Textual Results Message Format Requirements](#)” on page 165.
- **Textual Results segment specifications.** Each order message submitted to the Hub must contain a number of standard sections. For requirements on the standard segments of an order message, see “[Care360 Textual Results Message Segment Specifications](#)” on page 171.
- **Sample Textual Results message.** For a sample of a typical textual results message, see “[Sample Care360 Textual Results Message](#)” on page 183.

Care360 Textual Results Message Format Requirements

In addition to the field-level validation detailed in “[Care360 Textual Results Message Segment Specifications](#)”, each inbound ORU message is validated by the Hub to ensure compliance with the rules outlined in this section.

Message Segment Hierarchy

ORU messages must follow the message segment hierarchy, as specified below:



In the hierarchy shown above, braces ({}) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional and/or conditional.

Message Segment Requirements

The following table classifies the various ORU message segments based on their requirement status of *Required* (R), *Optional* (O), or *Conditional* (C) as defined below:

- **Required.** The segment must be present in the ORU message. If it is not present, the message is rejected by the Hub.
- **Optional.** The segment is not required. The ORU message is accepted by the Hub whether or not this segment is present. If the segment is present, the Hub validates the associated field requirements.
- **Conditional.** The segment may or may not be required, depending on certain conditions. Conditions are stipulated in the *Comments/Conditions* column of the table below. If the segment is present, the Hub validates the associated field requirements.

Note: This table is only meant to communicate segment requirements; that is, whether or not a segment in the ORU message must be present, and, if present, how many of these segments can occur. The requirements listed in the table are over and above the field requirements detailed in “[Care360 Textual Results Message Segment Specifications](#)” on page 171. For example, if an ORU passes the segment level rules detailed in the following table, the message can still fail the field-level rules for any of the existing segments.

Segment	Required? ^a	Comments/Conditions
MSH: Message Header	R	The Hub verifies that this segment is present in the ORU message.
PID: Patient Identifier	R	The Hub verifies the following: <ul style="list-style-type: none">• This segment is present in the ORU message.• There is only one PID in the ORU message.

Segment	Required?^a	Comments/Conditions
OBR: Observation Request	R	The Hub verifies the following: <ul style="list-style-type: none"> • This segment is present in the ORU message. • There is only one OBR in the ORU message.
OBX: Observation Result Detail	R	The Hub verifies that this segment is present in the ORU message.
NTE: Notes and Comments	O	If present, the rules for an ORU message include the following: <ul style="list-style-type: none"> • Placer comments (NTE.02 is set to P). • Other comments (NTE.02 is set to O). NTE segments can follow PID and OBR segments in the textual results message. The Hub verifies that the rules stated above are complied with in the ORU message.

a. R = Required, O = Optional, C = Conditional.

Field Delimiters

A delimiter must separate each field. Even if a field contains no data, it must still be delimited. The delimiter for any given HL7 message is always defined in the MSH segment of the message, as the first character following the segment identifier (MSH.00). See the message segment descriptions for more detail. Standard HL7 delimiters are used.

Note: The standard HL7 delimiters (| ^ ~ \ &) are not accepted as valid data in any field, except MSH.02.

Field Specifications

The following table describes the parameters used to define the data fields within each message segment.

Parameter	Description
Type	For a description of the data types, see “ Data Type Specifications ” on page 168.
Length	The maximum allowed length for the field.

Parameter	Description
Required	<p>The fields within each segment are classified based on their requirement status of <i>Required</i> (R), <i>Optional</i> (O), <i>Conditional</i> (C), or <i>Not Supported</i> (NS) as defined below:</p> <ul style="list-style-type: none"> • Required. If the corresponding segment is present, the field must also be present within the segment, and the Hub validates it against any stated requirements. If the field is not present, the message is rejected by the Hub. • Optional. The field is not required; the segment is accepted by the Hub whether or not this field is present. If the field is present, the Hub validates it against any stated requirements. (The contents of this field will not be reflected in the result.) • Conditional. The field may or may not be required, depending on certain conditions (stipulated in the <i>Comments</i> column of each segment table). If the stated conditions are not met, the message is rejected by the Hub. If the field is present, the Hub validates it against any stated requirements. (The contents of this field may or may not be reflected in the result.) • Not Supported. If a field is described as <i>Not Supported</i> by the Hub (the corresponding row appears grayed in the table), the content of the field is not used by the Hub, but it is validated for field type and length, as well as conformance to the specified HL7 table or user-defined table (as applicable). If all fields are successfully validated, the content is passed through; otherwise, the message is rejected by the Hub.

Data Type Specifications

The following table describes the data types that may appear in the message segments.

Note: Brackets ([]) indicate that the enclosed data is optional.

Data Type Category/ Data Type	Data Type Name	Notes/Format
<i>Alphanumeric</i>		
ST	String	Any ASCII printable characters (ASCII decimal values between 32 and 126) with the exception of the defined delimiter characters. Left justified with optional trailing spaces.
FT	Formatted text	String data with embedded formatting instructions.
<i>Numerical</i>		
CQ	Composite quantity with units	<quantity (NM)> ^ <units (CE)>
NM	Numeric	Any of the ASCII numeric characters with an optional leading sign (+ or -) and/or an optional decimal point.
SI	Sequence ID	A non-negative integer in the form of a NM data type.
<i>Identifier</i>		
ID	Coded values for HL7 tables	String data drawn from an HL7-defined table of legal values (see Appendix A of HL7 2.3).
IS	Coded values for user-defined tables	String data drawn from a site-defined table of legal values.
HD	Hierarchic designator	<namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)> Used only as part of EI and other data types.
EI	Entity identifier	<entity identifier (ST)> ^ <namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>
PL	Person location	<point of care (IS)> ^ <room (IS)> ^ <bed (IS)> ^ <facility (HD)> ^ <location status (IS)> ^ <person location type (IS)> ^ <building (IS)> ^ <floor (IS)> ^ <location description (ST)>
PT	Processing type	<processing ID (ID)> ^ <processing mode (ID)>
<i>Date/Time</i>		
DT	Date	YYYY [MM [DD]]
TM	Time	HH [MM [SS [.S [S[S[S]]]]]] [+/- ZZZZ]
TS	Time stamp	YYYY [MM [DD [HHMM [SS [.S [S[S[S]]]]]]]]] [+/- ZZZZ] ^ <degree of precision>

Data Type Category/ Data Type	Data Type Name	Notes/Format
<i>Code Values</i>		
CE	Coded element	<identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) >
CK	Composite ID with check digit	<ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) >
CX	Extended composite ID with check digit	<ID (ST) > ^ <check digit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility (HD) >
XCN	Extended composite ID number and name	In Version 2.3, replaces the CN data type. <ID number (ST) > ^ <family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (e.g., JR or III) (ST) > ^ <prefix (e.g., DR) (ST) > ^ <degree (e.g., MD) (ST) > ^ <source table (IS) > ^ <assigning authority (HD) > ^ <name type code (ID) > ^ <identifier check digit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <identifier type code (IS) > ^ <assigning facility (HD) >
<i>Generic</i>		
CM	Composite	No new CMs are allowed after HL7 Version 2.2. Hence there are no new CMs in Version 2.3.
<i>Demographics</i>		
XAD	Extended address	In Version 2.3, replaces the AD data type. <street address (ST) > ^ <other designation (ST) > ^ <city (ST) > ^ <state or province (ST) > ^ <zip or postal code (ST) > ^ <country (ID) > ^ <address type (ID) > ^ <other geographic designation (ST) > ^ <county/parish code (IS) > ^ <census tract (IS) >
XPN	Extended person name	In Version 2.3, replaces the PN data type. <family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (e.g., JR or III) (ST) > ^ <prefix (e.g., DR) (ST) > ^ <degree (e.g., MD) (ST) > ^ <name type code (ID) >

Data Type Category/ Data Type	Data Type Name	Notes/Format
XON	Extended composite name and ID number for organizations	<organization name (ST) > ^ <organization name type code (IS) > ^ <ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility ID (HD) >
XTN	Extended telecommunications number	In Version 2.3, replaces the TN data type. [NNN] [(999)]999-9999 [X99999] [C any text]^<telecommunication use code (ID) > ^ <telecommunication equipment type (ID) > ^ <email address (ST) > ^ <country code (NM) > ^ <area/city code (NM) > ^ <phone number (NM) > ^ <extension (NM) > ^ <any text (ST) >
<i>Time Series</i>		
TQ	Timing/quantity	For timing/quantity specifications for orders, see Chapter 4 of the HL7 Standard, Section 4.4. <quantity (CQ) > ^ <interval (*) > ^ <duration (*) > ^ <start date/time (TS) > ^ <end date/time (TS) > ^ <priority (ID) > ^ <condition (ST) > ^ <text (TX) > ^ <conjunction (ID) > ^ <order sequencing (*) >

Care360 Textual Results Message Segment Specifications

This section provides detailed specifications for each segment of an HL7 textual results message. Message segments include the following:

- “[MSH—Message Header Segment](#)” on page 171.
- “[PID—Patient Identifier Segment](#)” on page 173.
- “[OBR—Observation Request Segment](#)” on page 175.
- “[OBX—Observation/Result Segment](#)” on page 180.
- “[NTE—Notes and Comments Segment](#)” on page 182.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Segment ID	Element Name	Type ^a	Length	Comments	Req'd ^b
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7, and are the only values supported by the Hub.	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O
MSH.04	Sending Facility	HD	180	The sending facility. This is the account number(s) defined for the Hub Service Provider (e.g., RIS). This value will be provided by MedPlus. The Hub verifies that this field is populated.	R
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined for the requester. Used to identify the Hub Provider Account. This value is determined by the Client team and MedPlus. The Hub verifies that this field is populated.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS The Hub verifies that this field is populated, and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. The only acceptable value for this field is ORU^R01 (Observation result/unsolicited^ORU/ACK - Unsolicited transmission of an observation message). The Hub verifies that the field is populated with the accepted value (ORU^R01).	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the lab system. The Hub checks for the presence of this segment, but does not perform any validation on the value.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: <ul style="list-style-type: none"> • P = Production • T = Testing Live messages are populated with a P. The Hub verifies that the value in this field is P or T.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3.	R
MSH.13	Sequence Number	NM	15		NS
MSH.14	Continuation Pointer	ST	180		NS
MSH.15	Accept Acknowledgment Type	ID	2		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.16	Application Acknowledgment Type	ID	2		NS
MSH.17	Country Code	ID	2		NS
MSH.18	Character Set	ID	6		NS
MSH.19	Principal Language of Message	CE	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 168.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identifier Segment

The Patient Identifier (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O
PID.02	Patient ID (External ID)	CX	20	This field contains the primary identifier, or other identifiers used by the facility to identify a patient uniquely (e.g., medical record number, billing number, birth registry, etc.). Any character is accepted except the reserved characters (^~&). If present, the Hub verifies that the value in this field complies with the above conditions, and that no reserved characters (~\&) are present.	O
PID.03	Patient ID (Internal ID)	CX	40	When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Any character is accepted. The Hub verifies that this field is at a maximum 40 characters wide.	R
PID.04	Alternate Patient ID	CX	20		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.05	Patient Name	XPN	24	Must be no more than 24 characters wide, excluding any delimiters (for example, between last and first name). Must include at least one character for first and last name. No numeric value is allowed in last name. Hyphens are allowed. The Hub verifies that the value in this field complies with the above conditions, and that no reserved characters (~\&) are present.	R
PID.06	Mother's Maiden Name	XPN	48		NS
PID.07	Date/Time of Birth	TS	26	Date of birth (DOB), in YYYYMMDD format. The Hub verifies that the DOB is in this format.	O
	Sex	IS	1	Valid values for this field include: <ul style="list-style-type: none">• M = Male• F = Female• U = Unknown If present, the Hub verifies that one of these values is present in this field.	O
PID.09	Patient Alias	XPN	48		NS
PID.10	Race	IS	1		NS
PID.11	Patient Address	XAD	106		NS
PID.12	County Code	IS	4		NS
PID.13	Phone Number - Home	XTN	40		NS
PID.14	Phone Number - Business	XTN	40		NS
PID.15	Language - Patient	CE	60		NS
PID.16	Marital Status	IS	1		NS
PID.17	Religion	IS	3		NS
PID.18	Patient Account Number	CX	20		NS
PID.19	SSN Number - Patient	ST	16	Numeric only ; no spaces or punctuation. If present, the Hub verifies that the value complies with rules above.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.20	Driver's Lic Num - Patient	DLN	25		NS
PID.21	Mother's Identifier	CX	20		NS
PID.22	Ethnic Group	IS	3		NS
PID.23	Birth Place	ST	60		NS
PID.24	Multiple Birth Indicator	ID	2		NS
PID.25	Birth Order	NM	2		NS
PID.26	Citizenship	IS	4		NS
PID.27	Veterans Military Status	CE	60		NS
PID.28	Nationality	CE	80		NS
PID.29	Patient Death Date & Time	TS	26		NS
PID.30	Patient Death Indicator	ID	1		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 168.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

OBR—Observation Request Segment

One OBR segment must be transmitted for each Textual Results Code associated with any PID segment. This segment is mandatory in ORU messages.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.00	Segment Type ID	ST	4	Must be OBR .	R
OBR.01	Set ID-OBR	SI	4		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.02	Placer Order Number	EI	75	The first component is a string that identifies an individual order (e.g., OBR). A limit of fifteen (15) characters is suggested but not required. It is assigned by the placer (ordering application). It identifies an order uniquely among all orders from a particular ordering application. This is the identifier used by the person who place the order. The Hub verifies that this field is present. Note: The Hub does not require unique order numbers. The service provider is responsible for handling any duplicate order numbers that are received.	R
OBR.03	Filler Order Number	EI	75	This is the identifier used by the person who fulfills the order. The Hub verifies that this field is populated.	R
OBR.04	Universal Service ID	CE	200	This field is the identifier code for the requested observation/test/battery. May contain multiple components: code, procedure name, OBX observation identifier. Order Code must be present. The Hub verifies that this value is present.	R
OBR.05	Priority (OBR.27)	ID	2		NS
OBR.06	Requested Date/time	TS	26		NS
OBR.07	Observation Date/Time	TS	26	This field is the clinically relevant date/time of the observation. Format: YYYYMMDDHHMMSS (Seconds are always 00). The Hub verifies that the data complies with this format, and passes the value through.	R
OBR.08	Observation End Date/Time	TS	26		NS
OBR.09	Collection Volume	CQ	20		NS
OBR.10	Collector Identifier	XCN	60		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.11	Specimen Action Code	ID	1		NS
OBR.12	Danger Code	CE	60		NS
OBR.13	Relevant Clinical Info.	ST	300		NS
OBR.14	Specimen Received Date/Time	TS	26		NS
OBR.15	Specimen Source	CM	300		NS
OBR.16	Ordering Provider	XCN	400	<p>This field identifies the provider who ordered the test. This segment contains the following four components, each of which can be up to 100 characters in length:</p> <ul style="list-style-type: none"> • Ordering Provider ID Number* • Ordering Provider Family Name* • Ordering Provider Given Name* • Ordering Provider Assigning Authority <p>* If present, these components must be displayed on the PDF.</p>	R
OBR.17	Order Callback Phone Number	XTN	40		NS
OBR.18	Placer field 1	ST	60		NS
OBR.19	Placer field 2	ST	60		NS
OBR.20	Filler Field 1	ST	60		NS
OBR.21	Filler Field 2	ST	60		NS
OBR.22	Results Rpt/Status Chng - Date/Time	TS	26		NS
OBR.23	Charge to Practice	CM	40		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.24	Diagnostic Serv Sect ID	ID	10	<p>This field designates the diagnostic service section where the observation was performed.</p> <p>For Care360 Labs & Meds, if this field is left blank the result will be filed in <i>Diagnostics</i>. Otherwise, valid values are:</p> <ul style="list-style-type: none"> • AU = Audiology • BG = Blood Gases • BLB = Blood Bank • CUS = Cardiac Ultrasound • CTH = Cardiac Catheterization • CT = CAT Scan • CH = Chemistry • CP = Cytopathology • EC = Electrocardiac (e.g., EKG, EEC, Holter) • EN = Electroneuro (EEG, EMG, EP, PSG) • HM = Hematology • ICU = Bedside ICU Monitoring • IMM = Immunology • LAB = Laboratory • MB = Microbiology • MCB = Mycobacteriology • MYC = Mycology • NMS = Nuclear Medicine Scan • NMR = Nuclear Magnetic Resonance • NRS = Nursing Service Measures • OUS = OB Ultrasound • OT = Occupational Therapy • OTH = Other • OSL = Outside Lab • PHR = Pharmacy • PT = Physical Therapy • PHY = Physician (Hx, Dx, admission note, etc.) • PF = Pulmonary Function • RAD = Radiology • RX = Radiograph • RUS = Radiology Ultrasound • RC = Respiratory Care (therapy) • RT = Radiation Therapy • SR = Serology • SP = Surgical Pathology • TX = Toxicology • VUS = Vascular Ultrasound • VR = Virology • XRC = Cineradiograph 	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.25	Result Status	ID	1	<p>This field is the status of results for this order. This conditional field is required whenever the OBR is contained in a report message. It is not required as part of an initial order. Valid values are:</p> <ul style="list-style-type: none"> • P = Preliminary: A verified early result is available, final results not yet obtained. • C = Correction to results. • F = Final results; results stored and verified. Can only be changed with a corrected result. • X = No results available; Order canceled. <p>The Hub verifies that one of these values is present.</p>	R
OBR.26	Parent Result	CM	400		NS
OBR.27	Quantity/Timing	TQ	200		NS
OBR.28	Result Copies To	XCN	150		NS
OBR.29	Parent	CM	150		NS
OBR.30	Transportation Mode	ID	20		NS
OBR.31	Reason for Study	CE	300		NS
OBR.32	Principal Result Interpreter	CM	200	This field identifies the physician or other clinician who interpreted the observation and is responsible for the report content.	O
OBR.33	Assistant Result Interpreter	CM	200	This field identifies the clinical observer who assisted with the interpretation of this study.	O
OBR.34	Technician	CM	200		NS
OBR.35	Transcriptionist	CM	200		NS
OBR.36	Scheduled Date/Time	TS	26		NS
OBR.37	Number of Sample Containers	NM	4		NS
OBR.38	Transport Logistics of Collected Sample	CD	60		NS
OBR.39	Collector's Comment	CE	200		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.40	Transport Arrangement Responsibility	CE	60		NS
OBR.41	Transport Arranged	ID	30		NS
OBR.42	Escort Required	ID	1		NS
OBR.43	Planned Patient Transport Comment	CE	200		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 168.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

OBX—Observation/Result Segment

This segment is mandatory in ORU messages.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBX.00	Segment Type ID	ST	4	Must be OBX .	R
OBX.01	Set ID-OBX	SI	10	Sequence number.	O
OBX.02	Value Type	ID	2	Repeat delimiter is used to identify paragraph breaks. Defines the structure of the observation value (OBX.05). The Hub verifies that this field is populated with the accepted value FT.	R
OBX.03	Observation Identifier	CE	590	Contains a unique identifier for the observation. The Hub verifies that this field is present.	R
OBX.04	Observation Sub-ID	ST	20	This field is used to distinguish between multiple OBX segments with the same observation ID organized under one OBR. (See HL7 documentation for full description.)	O
OBX.05	Observation Value	FT	65536	Arbitrary length, up to 64K. May contain formatting commands enclosed in escape characters, e.g., \sp\ . (For the list of FT commands, see ‘2.9 USE OF ESCAPE SEQUENCES IN TEXT FIELDS’ section in HL7 documentation.) Hub will support all formatting commands from the HL7 documentation.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBX.06	Units	CE	60		NS
OBX.07	References Range	ST	10		NS
OBX.08	Abnormal Flags	ID	5		NS
OBX.09	Probability	NM	5		NS
OBX.10	Nature of Abnormal Test	ID	2		NS
OBX.11	Observ Result Status	ID	1	<p>This field contains the observation result status. Valid values are:</p> <ul style="list-style-type: none"> • P = Preliminary: A verified early result is available, final results not yet obtained. • C = Correction to results. • F = Final results; results stored and verified. Can only be changed with a corrected result. • X = No results available; Order canceled. <p>The Hub verifies that one of these values is present.</p>	R
OBX.12	Date Last Obs Normal Values	TS	26		NS
OBX.13	User Defined Access Checks	ST	20		NS
OBX.14	Date/Time of the Observation	TS	26	<p>This field is the clinically relevant date/time of the observation.</p> <p>Format: YYYYMMDDHHMMSS (Seconds are always 00).</p> <p>The Hub verifies that the data complies with this format, and passes the value through.</p>	O
OBX.15	Producer's ID	CE	60		NS
OBX.16	Responsible Observer	XCN	80		NS
OBX.17	Observation Method	CE	60	This optional field can be used to transmit the method or procedure by which an observation was obtained when the sending system wishes to distinguish among one measurement obtained by different methods and the distinction is not implicit in the test ID.	O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 168.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

NTE—Notes and Comments Segment

The Notes and Comments (NTE) segment contains notes and comments for ORU messages, and is optional.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
NTE.00	Segment Type ID	ST	4	Must be NTE.	O
NTE.01	Set ID-NTE	SI	4	May be used where multiple NTE segments are included in a message.	O
NTE.02	Source of Comment	ID	8	Used when source of comment must be identified. Valid values include: <ul style="list-style-type: none">• P = Placer• O = Other The Hub verifies that one of these values is present.	O
NTE.03	Comment	FT	64000	Contains the comment contained in the segment.	O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 168.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

Sample Care360 Textual Results Message

Following is a sample Textual Results (ORU) message, formatted according to the “[Care360 Textual Results Message Format Requirements](#)” on page 165 and “[Care360 Textual Results Message Segment Specifications](#)” on page 171.

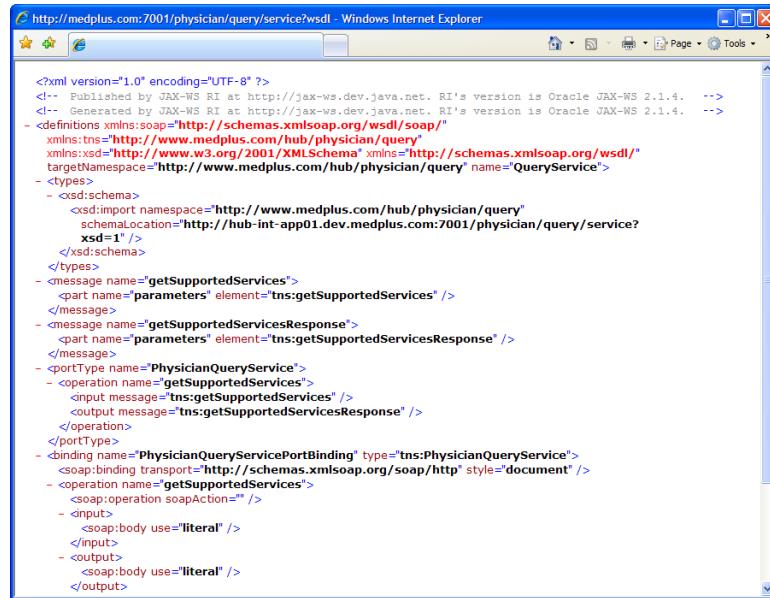
Sample Textual Results Message

```
MSH|^~\&|RIS|unitTestOrderProvider|F|unitTestOrderProviderAccount|2004020  
41000||ORU^R01|20040204100000-1|P|2.3|11  
PID|||123456789|^F|123456789|TEST^WIFE|19560101|F|||||(206)783-  
4||*ENGLISH^E|S||9918210003|123456789  
OBR||0000002466F30070^HBOX|2466^HBOX|30070^MR CHEST W/O  
CONTRAST^RAD||20040204100011|200402041000|200402041000|||||OTH030^DOCT  
OR^A^^^^^UPIN|||||20040204095201|||F|||||999999&Transcriptionist&The&A  
|999999&Transcriptionist&The&A|999999&<None>  
OBX|1|FT|RAD|||||||F|||||999999  
OBX|2|FT|RAD||The findings: Frontal view of the chest compared to earlier  
studies of|||||F|||||999999  
OBX|3|FT|RAD||12/11/2003 and 12/31/2003.|||||F|||||999999  
OBX|4|FT|RAD|||||||F|||||999999  
OBX|5|FT|RAD||Again, the study was obtained and a poor degree of  
inspiration. There|||||F|||||999999  
OBX|6|FT|RAD||is a mild prominence of the interstitial markings  
particularly at the|||||F|||||999999  
OBX|7|FT|RAD||bases and these could easily represent atelectasis. The  
cardiac|||||F|||||999999  
OBX|8|FT|RAD||silhouette is borderline normal. Hilar and mediastinal  
silhouettes are|||||F|||||999999  
OBX|9|FT|RAD||normal for this degree of inspiration. There is no effusion  
or|||||F|||||999999  
OBX|10|FT|RAD||pneumothorax.|||||F|||||999999  
OBX|11|FT|RAD|||||||F|||||999999  
OBX|12|FT|RAD||Impression:|||||F|||||999999  
OBX|13|FT|RAD|||||||F|||||999999  
OBX|14|FT|RAD||Poor inspiration with compression of pulmonary markings. No  
definite|||||F|||||999999  
OBX|15|FT|RAD||acute process is identified|||||F|||||999999
```


Chapter 8

Physician Query API Reference

.....



The screenshot shows a Windows Internet Explorer window displaying the WSDL (Web Services Description Language) interface for the Physician Query API. The URL in the address bar is <http://medplus.com:7001/physician/query/service?wsdl>. The page content is a large block of XML code representing the service definition.

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Published by JAX-WS RI at http://jax-ws.dev.java.net. RI's version is Oracle JAX-WS 2.1.4. -->
<!-- Generated by JAX-WS RI at http://jax-ws.dev.java.net. RI's version is Oracle JAX-WS 2.1.4. -->
<definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:tns="http://www.medplus.com/hub/physician/query"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/"
  targetNamespace="http://www.medplus.com/hub/physician/query" name="QueryService">
  <types>
    <xsd:schema>
      <xsd:import namespace="http://www.medplus.com/hub/physician/query"
        schemaLocation="http://hub-int-app01.dev.medplus.com:7001/physician/query/service?
        xsd=1"/>
    </xsd:schema>
  </types>
  <message name="getSupportedServices">
    <part name="parameters" element="tns:getSupportedServices" />
  </message>
  <message name="getSupportedServicesResponse">
    <part name="parameters" element="tns:getSupportedServicesResponse" />
  </message>
  <portType name="PhysicianQueryService">
    <operation name="getSupportedServices">
      <input message="tns:getSupportedServices" />
      <output message="tns:getSupportedServicesResponse" />
    </operation>
  </portType>
  <binding name="PhysicianQueryServicePortBinding" type="tns:PhysicianQueryService">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="document" />
    <operation name="getSupportedServices">
      <soap:operation soapAction="" />
      <input>
        <soap:body use="literal" />
      </input>
      <output>
        <soap:body use="literal" />
      </output>
```

In This Chapter:

- About the Physician Query API Reference 186
- Physician Query API 187
- About the WSDL Interface Document 189

About the Physician Query API Reference

This section provides details about the Physician Query API calls provided by Care360 Hub Information Services. The Physician Query API is a Web service that allows a third-party service provider (HIS or LIS) to query the Hub—in real-time—for identifier information for a physician or clinician. This includes the ability to determine whether or not the physician or clinician is enabled to receive clinical content from the Hub, and, if so, the types of clinical content they can receive (for example, lab results, text results and transcribed documents). For details about the Physician Query API, see “[Physician Query API](#)” on page 187.

An authorized user name and password are required for accessing this Web service.

For More Information

For information about accessing the WSDL documents for Care360 Hub Information Services, see “[About the WSDL Interface Document](#)” on page 189.

Physician Query API

This section provides details on the methods and objects provided by each service within the Physician Query API. The Physician Query API is a Web service that allows a third-party service provider (HIS or LIS) to query the Hub—in real-time—for identifier information for a physician or clinician. This includes the ability to determine whether or not the physician or clinician is enabled to receive clinical content from the Hub, and, if so, the types of clinical content they can receive (for example, lab results, text results and transcribed documents).

Note: This is a synchronous call and no ACK/NAK is expected.

Physician Query Method

The following is a brief overview of the method provided by the Physician Query Web service. (Usage details for the method are provided in the following section, “[Physician Query Method Details](#)”.)

- **getSupportedServices.** Retrieves the types of clinical content (lab results, textual results, and/or transcribed documents) utilized by all EMR accounts associated to a specific physician.

Physician Query Method Details

The following table provides details about the method listed above.

Method	Description
getSupportedServices	<p>Summary</p> <p>Retrieves the types of clinical content (lab results, textual results, and/or transcribed documents) utilized by all EMR accounts associated to a specific physician.</p> <p>Usage</p> <p>Third-party service provider calls the Physician Query Web service to determine the types of clinical content (lab results, textual results, and/or transcribed documents) that are utilized by all EMR accounts associated to a specific physician.</p> <p>Preconditions</p> <p>The physician’s provider account is associated to one or more Hub accounts with one or more types of clinical content (lab results, textual results, or transcribed documents) enabled.</p> <p>Method Signature</p> <p><code>PhysicianQueryResponse getSupportedServices(PhysicianQueryRequest req)</code></p>

Physician Query Objects

The Physician Query API provides the objects described in the following table.

Object	Description/Attributes	Data Type	Req'd? ^a
PhysicianQueryRequest	Determines the physician's provider account for whom the supported types of clinical content is received during the call. facilityIdentifier – The provider. physicianIdentifier – The provider account for the physician.	Identifier Identifier	R R
PhysicianQueryResponse	The array of supported services (types of clinical content the physician's provider account can receive). Responses contain: supportedServices – The array of clinical content the physician's provider account can receive: lab results, textual results, and/or transcribed documents. physicianIdentifier – Provider account name. facilityIdentifier – The provider. errorMessage – Error message why the query fails.		
Identifier	Attributes that can be set for this object include: qualifier – Provider account name for the physician. value – The provider name for facilityIdentifier.	String[] Identifier String	R R C

a. R = Required, O = Optional, C = Conditional.

About the WSDL Interface Document

In order to utilize a Web service, you must develop a Web service client application. A client application created for accessing the Physician Query services is referred to as a *static* Web service client, because the client knows where the Web service is located without looking up the service in a Universal Description, Discovery, and Integration (UDDI) registry. The client calls the Web services via a known service URL to obtain the WSDL file that describes the Web services.

A WSDL interface document describes all of the information that is needed by a Web service client to interact with the associated Web service. The WSDL document includes the URL to locate the associated Web services. Once you have located the Web service, or after you have obtained the WSDL, you can build a Web service client application that uses the Web service to perform the desired functions.

The following section describes the process for obtaining the WSDL documents for Physician Query.

Note: You must have a valid user name and password (issued by MedPlus) in order to access the WSDL interface documents. For the Production Hub environment, a user name and password will be issued once your application has been developed, tested, and certified.

Accessing the Physician Query Services WSDL Document

To access the WSDL service description for the Physician Query services, use your browser to access the corresponding URL shown below. Using the WSDL that you obtain, you can build a client application to access the Web service.

Staging Environment

To access the Physician Query services in the Staging Hub environment, used to develop, test, and certify your Web service application, access the following link:

<https://shubservices.questemr.com/physician/query/service?wsdl>

Production Environment

Once you have developed, tested, and certified your Web service client application in the Staging Hub environment, you can then update the application to work in the Hub Production environment. Connecting a Web service client to the Production Hub environment is similar to connecting to the Staging environment (the exposed interfaces are equivalent).

Note: Client applications developed against the Staging environment WSDL documents can also be used to access the Production Hub environment, and vice versa; the WSDL content is identical in both environments.

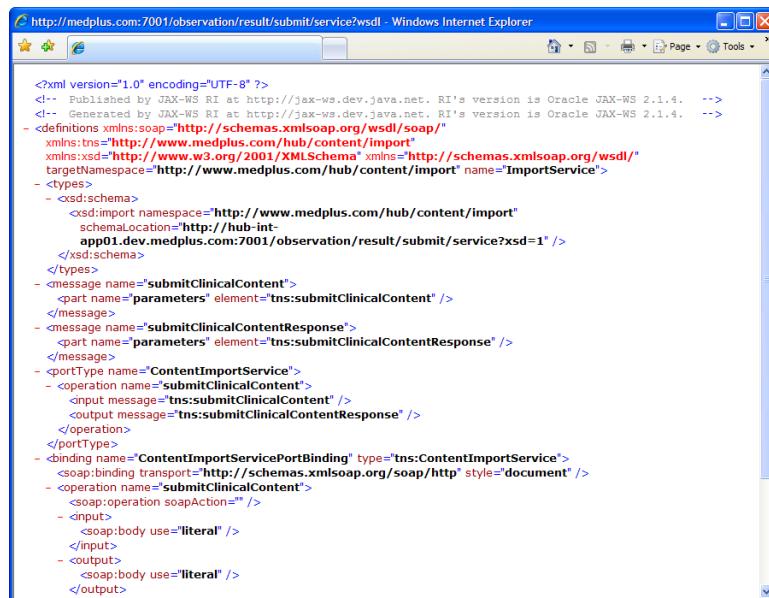
To access the Physician Query services in the Production environment, access the following link:

<https://hubservices.medplus.com/physician/query/service?wsdl>

Chapter 9

Submit Clinical Content API Reference

.....



The screenshot shows a Windows Internet Explorer window displaying an XML document. The URL in the address bar is `http://medplus.com:7001/observation/result/submit/service?wsdl`. The document is a WSDL (Web Services Description Language) file, which defines the structure of a web service. It includes definitions of types, messages, port types, operations, and bindings. Key elements visible in the XML include:

- `<?xml version="1.0" encoding="UTF-8" ?>`
- `<!-- Published by JAX-WS RI at http://jax-ws.dev.java.net. RI's version is Oracle JAX-WS 2.1.4. -->`
- `<!-- Generated by JAX-WS RI at http://jax-ws.dev.java.net. RI's version is Oracle JAX-WS 2.1.4. -->`
- `-<definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"`
- `xmlns:tns="http://www.medplus.com/hub/content/import"`
- `xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/"`
- `targetNamespace="http://www.medplus.com/hub/content/import" name="ImportService">`
- `-<types>`
- `-<xsd:schema>`
- `<xsd:import namespace="http://www.medplus.com/hub/content/import"`
- `schemaLocation="http://hub-int-`
- `app01.dev.medplus.com:7001/observation/result/submit/service?xsd=1" />`
- `</xsd:schema>`
- `</types>`
- `-<message name="submitClinicalContent">`
- `<part name="parameters" element="tns:submitClinicalContent" />`
- `</message>`
- `-<message name="submitClinicalContentResponse">`
- `<part name="parameters" element="tns:submitClinicalContentResponse" />`
- `</message>`
- `-<portType name="ContentImportService">`
- `-<operation name="submitClinicalContent">`
- `<input message="tns:submitClinicalContent" />`
- `<output message="tns:submitClinicalContentResponse" />`
- `</operation>`
- `</portType>`
- `-<binding name="ContentImportServicePortBinding" type="tns:ContentImportService">`
- `<soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="document" />`
- `-<operation name="submitClinicalContent">`
- `<soap:operation soapAction="" />`
- `-<input>`
- `<soap:body use="literal" />`
- `</input>`
- `-<output>`
- `<soap:body use="literal" />`
- `</output>`

In This Chapter:

- About the Submit Clinical Content API Reference 192
- Submit Clinical Content API 193
- About the WSDL Interface Document 196

About the Submit Clinical Content API Reference

This section provides details about the Submit Clinical Content API calls provided by Care360 Hub Information Services. The Submit Clinical Content component of the Hub provides operations for submitting lab results, textual results, and transcribed documents to Hub Information Services. For details about the Submit Clinical Content API, refer to “[Submit Clinical Content API](#)” on page 193.

An authorized user name and password are required for accessing this Web service.

For More Information

- For information about accessing the WSDL documents for Care360 Hub Information Services, see “[About the WSDL Interface Document](#)” on page 196.
- For detailed specifications on formatting results messages that are submitted to Care360 Hub Information Services for processing, see the following:
 - **Lab Results:** [Chapter 5, “Care360 Results HL7 Specification”](#) on page 105 (or, for ELINCS, [Chapter 6, “Care360 ELINCS HL7 R1 Result Specification”](#) on page 139).
 - **Textual Results:** [Chapter 7, “Care360 Textual Results HL7 Specification”](#) on page 163.
 - **Transcribed Documents:** [Chapter 10, “Care360 Transcribed Document HL7 Specification”](#) on page 197.

Submit Clinical Content API

This section provides details on the methods and objects provided by each service within the Submit Clinical Content API. The Submit Clinical Content component of the Hub provides operations for submitting lab results, textual results, and transcribed documents to Hub Information Services.

Note: This is a synchronous call and no ACK/NAK is expected.

Submit Clinical Content Method

The following is a brief overview of the method provided by the Submit Clinical Content Web service. (Usage details for the method are provided in the following section, “[Submit Clinical Content Method Details](#)”.)

- **submitClinicalContent.** Submits clinical content to Hub Information Services.

Submit Clinical Content Method Details

The following table provides details about the method listed above.

Method	Description
submitClinicalContent	<p>Summary</p> <p>Submits clinical content (lab results, textual results, or transcribed documents) to the Hub for delivery.</p> <p>Usage</p> <p>An example is a lab (such as Clinical Portal) submits clinical content (lab result, textual result, or transcribed document) to the Hub for delivery to recipients (such as LO&R, Care360 Labs & Meds, and/or 3rd party EMRs).</p> <p>Notes:</p> <ul style="list-style-type: none">• For detailed specifications on formatting lab results messages to send to Care360 Hub Information Services for processing, see “Care360 Results HL7 Specification” on page 105.• For detailed specifications on formatting textual results messages to send to Care360 Hub Information Services for processing, see “Care360 Textual Results HL7 Specification” on page 163.• For detailed specifications on formatting transcribed document messages to send to Care360 Hub Information Services for processing, see “Care360 Transcribed Document HL7 Specification” on page 197. <p>Preconditions</p> <p>The Result service is configured properly in Hub Information Services—Administration.</p> <p>Method Signature</p> <p>public ContentResponse submitClinicalContent(ContentRequest req)</p>

Submit Clinical Content Objects

The Submit Clinical Content API provides the objects described in the following table.

Object	Description/Attributes	Data Type	Req'd? ^a
ContentRequest		Determines the type of clinical content (lab result, transcribed document, or textual result) being received.	
	contentType – The type of clinical content being submitted:	String	R
	<ul style="list-style-type: none"> • LAB_RESULT • TEXTUAL_RESULT • TRANSCRIBED_DOCUMENT messages – The array of clinical content messages.	ContentData[]	R
	sequenceNumber – Optional integer that lists the sequence number of the message. Note: For non-comprehensive results, the sequence number for each accession must start with one (1) and increment by one (1).	Integer	O
	comprehensiveness – Optional string that can be one of the following: <ul style="list-style-type: none"> • COMPREHENSIVE • NON_COMPREHENSIVE • DEFERRED Note: DEFERRED indicates that comprehensiveness has been set in the Hub Administration for this HUB provider (lab), and that all results from this provider will have the same comprehensiveness; thus, there is no need to indicate that on a per-result basis.	String	O
ContentData		The clinical content being submitted.	
	data – The array of data being submitted.	Byte[]	R
	name – Informational use, such as indicating a PDF file name.	String	O
	dataType – data types that might appear in the message segments: <ul style="list-style-type: none"> • HL7 • STANDARD_BINARY • ADDITIONAL_BINARY Note: Use STANDARD_BINARY for the standard report of record PDF.	String	R

Object	Description/Attributes	Data Type	Req'd? ^a
ContentResponse	Attributes that can be set for this object include:		
	transactionUid – The Hub transaction ID for the response.	String	R
	errorMessages – The array of errors messages.	String[]	C

a. R = Required, O = Optional, C = Conditional.

About the WSDL Interface Document

In order to utilize a Web service, you must develop a Web service client application. A client application created for accessing the Submit Clinical Content services is referred to as a *static* Web service client, because the client knows where the Web service is located without looking up the service in a Universal Description, Discovery, and Integration (UDDI) registry. The client calls the Web services via a known service URL to obtain the WSDL file that describes the Web services.

A WSDL interface document describes all of the information that is needed by a Web service client to interact with the associated Web service. The WSDL document includes the URL to locate the associated Web services. Once you have located the Web service, or after you have obtained the WSDL, you can build a Web service client application that uses the Web service to perform the desired functions.

The following section describes the process for obtaining the WSDL documents for Submit Clinical Content services.

Note: You must have a valid user name and password (issued by MedPlus) in order to access the WSDL interface documents. For the Production Hub environment, a user name and password will be issued once your application has been developed, tested, and certified.

Accessing the Submit Clinical Content Services WSDL Document

To access the WSDL service description for the Submit Clinical Content services, use your browser to access the corresponding URL shown below. Using the WSDL that you obtain, you can build a client application to access the Web service.

Staging Environment

To access the Submit Clinical Content services in the Staging Hub environment, used to develop, test, and certify your Web service application, access the following link:

<https://shubservices.questemr.com/observation/result/submit/service?wsdl>

Production Environment

Once you have developed, tested, and certified your Web service client application in the Staging Hub environment, you can then update the application to work in the Hub Production environment. Connecting a Web service client to the Production Hub environment is similar to connecting to the Staging environment (the exposed interfaces are equivalent).

Note: Client applications developed against the Staging environment WSDL documents can also be used to access the Production Hub environment, and vice versa; the WSDL content is identical in both environments.

To access the Submit Clinical Content services in the Production environment, access the following link:

<https://hubservices.medplus.com/observation/result/submit/service?wsdl>

Chapter 10

Care360 Transcribed Document HL7

Specification

• • • • •

In This Chapter:

About the Care360 Transcribed Document HL7 Specification

This chapter provides detailed format specifications for transcribed documents that are received by Care360 Hub Information Services. The Hub then distributes the transcribed documents to the appropriate destination.

The transcribed document messages must be formatted to the Hub HL7 2.5.1 specification, (based on the HL7 2.5.1 MDM message structure), with any exceptions noted in this chapter. Supported messages for transcribed documents include:

MDM—Medical Document Management—Events T01-T11

Note: For Clinical Portal installations that use the Hub, the Hub Transcribed Document specification is used instead of the Clinical Portal Transcribed Document specification. For Clinical Portal clients where there is no Hub involvement, the Clinical Portal Transcribed Document specification will still be used.

This chapter includes the following sections:

- **Transcription message format requirements.** For information on the message format requirements, see “[Care360 Transcribed Document Message Format Requirements](#)” on page 199.
- **Transcription message segment specifications.** Each transcription message contains a number of standard sections. For requirements on the standard segments of a transcription message, see “[Care360 Transcribed Document Message Segment Specifications](#)” on page 205.
- **Sample transcription messages.** For samples of transcription messages, see “[Sample Care360 Transcribed Document Messages](#)” on page 224.

Care360 Transcribed Document Message Format Requirements

Each Medical Document Management (MDM) message is validated by the Hub for the following:

- The presence of required segments and the required fields within those segments
- If optional segments are sent, the presence of the required fields within those segments
- Valid field data types

Note: Except for the validations outlined in “[MSH—Message Header Segment](#)” on page 205, the Hub does no validations on field lengths and values.

Message Segment Hierarchy

MDM messages must follow the message segment hierarchy, as specified below:

MSH	Message Header (<i>Required</i>)
{ [SFT] }	Software Segment (<i>Optional</i>)
EVN	Event Type (<i>Required</i>)
PID	Patient Identification (<i>Required</i>)
PV1	Patient Visit Data (<i>Required</i>)
[{	
ORC	Common Order (<i>Conditional, only one per order</i>)
TQ1	Timing/Quantity (<i>Required if common order is present, only one per order</i>)
{ [TQ2] }	Timing/Quantity (<i>Optional</i>)
OBR	Observation Request (<i>Required if common order is present</i>)
{ [NTE] }	Notes and comments about the Observation Request (<i>Optional</i>)
}]	
TXA	Documentation Notification (<i>Required, only one</i>)
{	
OBX	Observation Result (<i>Conditional. Required for events T02, T04, T06, T08, and T10</i>)
{ [NTE] }	Notes and Comments about the Observation Result (<i>Optional</i>)
}	

In the hierarchy shown above, braces ({}) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional.

Message Segment Requirements

The following table classifies the MDM message segments based on their requirement status of *Required* (R), *Optional* (O), or *Conditional* (C) as defined below:

- **Required.** The segment must be present in the MDM message. If it is not present, the message is rejected by the Hub.
- **Optional.** The segment is not required. The MDM message is accepted by the Hub whether or not this segment is present. If the segment is present, the Hub validates the associated field requirements.

- **Conditional.** The segment may or may not be required, depending on certain conditions. Conditions are stipulated in the *Comments/Conditions* column of the table below. If the segment is present, the Hub validates the associated field requirements.

Note: This table is only meant to communicate segment requirements; that is, whether or not a segment in the MDM message must be present, and, if present, how many of these segments can occur. The Hub validates segment-level rules first, before validating the field-level requirements detailed in “[Care360 Transcribed Document Message Segment Specifications](#)” on page 205. For example, if an MDM passes the segment level rules detailed in the following table, the message can still fail the field-level rules for any of the existing segments.

Segment	Required? ^a	Comments/Conditions
MSH: Message Header	R	The Hub verifies that this segment is present in the MDM message and that there is only one.
SFT: Software	O	
EVN: Event Type	R	The Hub verifies that this segment is present in the MDM message and that there is only one.
PID: Patient Identifier	R	The Hub verifies that this segment is present in the MDM message and that there is only one.
PV1: Patient Visit Data	R	The Hub verifies that this segment is present in the MDM message and that there is only one.
ORC: Common Order	C	There can be multiple orders within the MDM message. If the ORC segment is present in the message, the Hub verifies the following: <ul style="list-style-type: none"> • That there is only one per order (request for service). • For each ORC segment, there is one—and only one—OBR segment in the MDM message.
TQ1: Timing/Quantity	C	If the ORC segment is present, TQ1 is required and the Hub verifies the following: <ul style="list-style-type: none"> • This segment is present in the MDM message. • Each ORC segment is paired with a TQ1 segment. • Only <i>one</i> TQ1 is associated with an ORC segment. Note: The Hub does not check the content of the TQ1 to verify if the Order Codes are duplicated in the ORM message.
TQ2: Timing/Quantity Relationship	O	
OBR: Observation Request	C	If the ORC segment is present, OBR is required and the Hub verifies the following: <ul style="list-style-type: none"> • This segment is present in the MDM message. • Each OBR segment is paired with an ORC segment. • Only <i>one</i> OBR is associated with an ORC segment. Note: The Hub does not check the content of the OBR to verify if the Order Codes are duplicated in the ORM message.
TXA: Transcription	R	The Hub verifies that this segment is present in the MDM message and that there is only one.

Segment	Required?^a	Comments/Conditions
OBX: Observation Result Detail	C	The Hub verifies that this segment is present in the MDM message only when MSH.09 = T02, T04, T06, T08, or T10. Multiple OBX segments are allowed. Note: Care360 accepts only MSH.09 = T02, T04, and T08.
NTE: Notes and Comments	O	The NTE segment can be included in both the OBR and the OBX segments.

a. R = Required, O = Optional, C = Conditional.

Newline Characters

Result HL7 messages must use the carriage return (CR) character (ASCII 0x0D) to indicate a segment delimiter. Result messages that contain a line feed (LF) character (ASCII 0x0A) to indicate a segment delimiter will be rejected.

Field Delimiters

A delimiter must separate each field. Even if a field contains no data, it must still be delimited. The delimiter for any given HL7 message is always defined in the MSH segment of the message, as the first character following the segment identifier (MSH.00). See the message segment descriptions for more detail. Standard HL7 delimiters are used.

Field Specifications

The following table describes the parameters used to define the data fields within each message segment.

Parameter	Description
Type	For a description of the data types, see “ Data Type Specifications ” on page 202.
Length	The maximum allowed length for the field. Note, however, the Hub does no validation on field length.
Required	The fields within each segment are classified based on their requirement status of <i>Required</i> (R), <i>Optional</i> (O), <i>Conditional</i> (C), or <i>Not Supported</i> (NS) as defined below: <ul style="list-style-type: none"> • Required. If the corresponding segment is present, the field must also be present within the segment. The Hub validates only the field data type. If the field is not present, the message is rejected by the Hub. • Optional. The field is not required; the segment is accepted by the Hub whether or not this field is present. If the field is present, the Hub validates only the field data type. • Conditional. The field may or may not be required, depending on certain conditions (stipulated in the HL7 2.5.1 specification). If the field is present, the Hub validates only the field data type. • Not Supported. If a field is described as Not Supported by the Hub (the corresponding row appears grayed in the table), the content of the field is not used by the Hub.

Data Type Specifications

The following table describes the data types that may appear in the message segments.

Note: Brackets ([]) indicate that the enclosed data is optional.

Data Type/ Category	Data Type Name	Notes/Format
<i>Alphanumeric</i>		
ST	String data	Any ASCII printable characters (ASCII decimal values between 32 and 126) with the exception of the defined delimiter characters. Left justified with optional trailing spaces.
FT	Formatted text	String data with embedded formatting instructions.
TX	Text data	String data meant for display on a monitor or printer.
<i>Numerical</i>		
CQ	Composite quantity with units	<quantity (NM) > ^ <units (CE) > NM specifies the numeric quantity or amount and CE specifies the units (for example, kilograms) in which the quantity is expressed.
NM	Numeric	Any of the ASCII numeric characters with an optional leading sign (+ or -) and/or an optional decimal point.
SI	Sequence ID	A non-negative integer in the form of a NM data type.
<i>Identifier</i>		
ID	Coded values for HL7 tables	String data drawn from an HL7-defined table of legal values (see Appendix A of HL7 2.5.1).
IS	Coded values for user-defined tables	String data drawn from a site-defined table of legal values.
VID	Version Identifier	<version ID (ID) > ^ <internationalization code (CE) > ^ <international version ID (CE) > VID is matched with the receiving system version to ensure the message is interpreted correctly. The internationalization components are for use by HL7 international affiliates.
HD	Hierarchic designator	<namespace ID (IS) > ^ <universal ID (ST) > ^ <universal ID type (ID) >
EI	Entity identifier	<entity identifier (ST) > ^ <namespace ID (IS) > ^ <universal ID (ST) > ^ <universal ID type (ID) >
PL	Person location	<point of care (IS) > ^ <room (IS) > ^ <bed (IS) > ^ <facility (HD) > ^ <location status (IS) > ^ <person location type (IS) > ^ <building (IS) > ^ <floor (IS) > ^ <location description (ST) >
PT	Processing type	<processing ID (ID) > ^ <processing mode (ID) >

Data Type/ Category	Data Type Name	Notes/Format
<i>Master Files</i>		
DLN	Driver's license number	<license number (ST) > ^ <issuing state, province, country (IS) > ^ <expiration date (DT)
<i>Medical Records / Information Management</i>		
PPN	Performing person time stamp	<ID number (ST) > ^ <family name (ST) > & <last name prefix(ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (e.g., JR or III) (ST) > ^ <prefix (e.g., DR) (ST) > ^ <degree (e.g., MD) (IS) > ^ <source table (IS) > ^ <assigning authority (HD) > ^ <name type code(ID) > ^ <identifier checkdigit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <identifier type code (IS) > ^ <assigning facility (HD) > ^ < date/time action performed (TS) > ^ <name representation code (ID) >
<i>Date/Time</i>		
DT	Date	YYYY [MM [DD]]
TM	Time	HH [MM [SS [.S [S[S[S]]]]]] [+/- ZZZZ]
TS	Time stamp	YYYY [MM [DD [HHMM [SS [.S [S[S[S]]]]]]]] [+/- ZZZZ] ^ <degree of precision>
<i>Code Values</i>		
CE	Coded element	<identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) >
CWE	Coded with Exceptions	<identifier (ST) > ^ <text (ST) > ^ <name of coding system(ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) > ^ <coding system version ID (ST) > ^ alternate coding system version ID (ST) > ^ <original text (ST) >
CK	Composite ID with check digit	<ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) >
CX	Extended composite ID with check digit	<ID (ST) > ^ <check digit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility (HD) >

Data Type/ Category	Data Type Name	Notes/Format
XCN	Extended composite ID number and name	<ID number (ST) > ^ <family name (FN) > ^ <given name (ST) > ^ <second and further given names or initials thereof (ST) > ^ <suffix (for example, JR or III) (ST) > ^ <prefix (for example, DR) (ST) > ^ <degree (for example, MD) (IS) > ^ <source table (IS) > ^ <assigning authority (HD) > ^ <name type code (ID) > ^ <identifier check digit (ST) > ^ <check digit scheme (ID) > ^ <identifier type code (IS) > ^ <assigning facility (HD) >
<i>Demographics</i>		
XAD	Extended address	<street address (ST) > ^ <other designation (ST) > ^ <city (ST) > ^ <state or province (ST) > ^ <zip or postal code (ST) > ^ <country (ID) > ^ <address type (ID) > ^ <other geographic designation (ST) > ^ <county/parish code (IS) > ^ <census tract (IS) >
XPN	Extended person name	<family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (for example, JR or III) (ST) > ^ <prefix (for example, DR) (ST) > ^ <degree (for example, MD) (ST) > ^ <name type code (ID) >
XON	Extended composite name and ID number for organizations	<organization name (ST) > ^ <organization name type code (IS) > ^ <ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility ID (HD) >
XTN	Extended telecommunications number	[NNN] [(999)] 999-9999 [X99999] [C any text] ^ <telecommunication use code (ID) > ^ <telecommunication equipment type (ID) > ^ <email address (ST) > ^ <country code (NM) > ^ <area/city code (NM) > ^ <phone number (NM) > ^ <extension (NM) > ^ <any text (ST) >
<i>Time Series</i>		
TQ	Timing/quantity	<quantity (CQ) > ^ <interval (CM) > ^ <duration (ST) > ^ <start date/time (TS) > ^ <end date/time (TS) > ^ <priority (ST) > ^ <condition (ST) > ^ <text (TX) > ^ <conjunction (ST) > ^ <order sequencing (CM) > ^ <occurrence duration (CE) > ^ <total occurrences (NM) >

Care360 Transcribed Document Message Segment Specifications

This section provides detailed specifications for each segment of an HL7 transcription message. Message segments include the following:

- “[MSH—Message Header Segment](#)” on page 205.
- “[SFT—Software Segment](#)” on page 207.
- “[EVN—Event Type Segment](#)” on page 208.
- “[PID—Patient Identifier Segment](#)” on page 208
- “[PV1—Patient Visit Data Segment](#)” on page 210.
- “[ORC—Common Order Segment](#)” on page 213.
- “[TQ1—Timing/Quantity Segment](#)” on page 215.
- “[TQ2—Timing/Quantity Relationship Segment](#)” on page 216.
- “[OBR—Observation Request Segment](#)” on page 217.
- “[TXA—Transcription Segment](#)” on page 220.
- “[OBX—Observation/Result Segment](#)” on page 221.
- “[NTE—Notes and Comments Segment](#)” on page 223.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Segment ID	Element Name	Type ^a	Length	Comments	Req'd ^b
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value must be a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7 and are the only values supported by the Hub.	R
MSH.03	Sending Application	HD	227	The name of the sending application.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.04	Sending Facility	HD	227	The sending facility. This identifies the owner of the patient data and who initiated the request. This field is optional in HL7 but required for the Hub. The Hub validates that this field is populated, but it does not validate the value.	R
MSH.05	Receiving Application	HD	227	The receiving application identifier.	O
MSH.06	Receiving Facility	HD	227	The receiving facility. This is the account number defined by Quest Diagnostics for the requester. This field is optional in HL7 but required for the Hub. The Hub validates that this field is populated, but it does not validate the value.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. The Hub validates that this field is populated, but it does not validate the value.	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	MSG	15	The type of message being transmitted, and the event leading to the creation of the message. If the recipient is Care360, the only valid values are MDM^T02, MDM^T04, and MDM^T08. Otherwise, valid values are MDM^T01 through MDM^T11. The Hub validates that this field is populated with a correct value.	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message. This is populated by the sending facility. The Hub verifies that this field is populated but does not perform any validation on the value.	R
MSH.11	Processing ID	PT	3	This field is used to decide whether to process the message as defined in HL7 Application (level 7) Processing rules. The Hub verifies only that this field is populated. (If Clinical Portal requires specific values, those values need to be documented for the sending system.)	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.12	Version ID	VID	60	Valid value: 2.5.1 The Hub validates that this field is populated with 2.5.1.	R
MSH.13 - MSH.21					NS

a. For a description of the HL7 data types, see [“Data Type Specifications”](#) on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

SFT—Software Segment

The Software (SFT) segment provides additional information about the software product(s) used as the sending application. The primary purpose of this segment is for diagnostic use. There may be additional uses per site-specific agreements. The SFT segment is optional.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
SFT.00	Segment Type ID	ST	4	Must be SFT .	R
SFT.01	Software Vendor Organization	XON	567		R
SFT.02	Software Certified Version or Release Number	ST	15		R
SFT.03	Software Product Name	ST	20		R
SFT.04	Software Binary ID	ST	20		R
SFT.05	Software Product Information	TX	1024		O
SFT.06	Software Install Date	TS	26		O

a. For a description of the HL7 data types, see [“Data Type Specifications”](#) on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

EVN—Event Type Segment

The Event Type (EVN) segment is used to communicate trigger event information to receiving applications (in this case, Clinical Portal). The EVN segment is required.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
EVN.00	Segment Type ID	ST	4	Must be EVN .	R
EVN.01	Event Code Type	ID	3		O
EVN.02	Recorded Date/ Time	TS	26		R
EVN.03	Date/Time Planned Event	TS	26		O
EVN.04	Event Reason Code	IS	3		O
EVN.05	Operator ID	XCN	250		O
EVN.06	Event Occurred	TS	26		O
EVN.07	Event Facility	HD	241		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identifier Segment

The Patient Identifier (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Note: PID.03 is a repeating field and is defined as a maximum length of 250 characters for each repeat of data.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID - PID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O
PID.02	Patient ID	CX	20		O
PID.03	Patient Identifier List	CX	250		R
PID.04	Alternate Patient ID - PID	CX	20		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.05	Patient Name	XPN	250		R
PID.06	Mother's Maiden Name	XPN	250		O
PID.07	Date/Time of Birth	TS	26		O
PID.08	Administrative Sex	IS	1		O
PID.09	Patient Alias	XPN	250		O
PID.10	Race	CE	250		O
PID.11	Patient Address	XAD	250		O
PID.12	County Code	IS	4		O
PID.13	Phone Number - Home	XTN	250		O
PID.14	Phone Number - Business	XTN	250		O
PID.15	Primary Language	CE	250		O
PID.16	Marital Status	CE	250		O
PID.17	Religion	CE	250		O
PID.18	Patient Account Number	CX	250		O
PID.19	SSN Number - Patient	ST	16		O
PID.20	Driver's License Number - Patient	DLN	25		O
PID.21	Mother's Identifier	CX	250		O
PID.22	Ethnic Group	CE	250		O
PID.23	Birth Place	ST	250		O
PID.24	Multiple Birth Indicator	ID	1		O
PID.25	Birth Order	NM	2		O
PID.26	Citizenship	CE	250		O
PID.27	Veterans Military Status	CE	250		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.28	Nationality	CE	250		O
PID.29	Patient Death Date & Time	TS	26		O
PID.30	Patient Death Indicator	ID	1		O
PID.31	Identity Unknown Indicator	ID	1		O
PID.32	Identity Reliability Code	IS	20		O
PID.33	Last Update Date/Time	TS	26		O
PID.34	Last Update Facility	HD	241		O
PID.35	Species Code	CE	250		C
PID.36	Breed Code	CE	250		C
PID.37	Strain	ST	80		O
PID.38	Production Class Code	CE	250		O
PID.39	Tribal Citizenship	CWE	250		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on an account or on a visit-specific basis. The default is to send account level data. To use this segment for visit-level data, PV1.51(Visit Indicator) must be set to V.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R
PV1.01	Set ID - PV1	SI	4	Will always be 1.	O
PV1.02	Patient Class	IS	1		R
PV1.03	Assigned Patient Location	PL	80		O
PV1.04	Admission Type	IS	2		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.05	Preadmit Number	CX	250		O
PV1.06	Prior Patient Location	PL	80		O
PV1.07	Attending Doctor	XCN	250		O
PV1.08	Referring Doctor	XCN	250		O
PV1.09	Consulting Doctor	XCN	250		O
PV1.10	Hospital Service	IS	3		O
PV1.11	Temporary Location	PL	80		O
PV1.12	Preadmit Test Indicator	IS	2		O
PV1.13	Re-admission Indicator	IS	2		O
PV1.14	Admit Source	IS	6		O
PV1.15	Ambulatory Status	IS	2		O
PV1.16	VIP Indicator	IS	2		O
PV1.17	Admitting Doctor	XCN	250		O
PV1.18	Patient Type	IS	2		O
PV1.19	Visit Number	CX	250		O
PV1.20	Financial Class	FC	50		O
PV1.21	Charge Price Indicator	IS	2		O
PV1.22	Courtesy Code	IS	2		O
PV1.23	Credit Rating	IS	2		O
PV1.24	Contract Code	IS	2		O
PV1.25	Contract Effective Date	DT	8		O
PV1.26	Contract Amount	NM	12		O
PV1.27	Contract Period	NM	3		O
PV1.28	Interest Code	IS	2		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.29	Transfer to Bad Debt Code	IS	4		O
PV1.30	Transfer to Bad Debt Date	DT	8		O
PV1.31	Bad Debt Agency Code	IS	10		O
PV1.32	Bad Debt Transfer Amount	NM	12		O
PV1.33	Bad Debt Recovery Amount	NM	12		O
PV1.34	Delete Account Indicator	IS	1		O
PV1.35	Delete Account Date	DT	8		O
PV1.36	Discharge Disposition	IS	3		O
PV1.37	Discharged to Location	DLD	47		O
PV1.38	Diet Type	CE	250		O
PV1.39	Servicing Facility	IS	2		O
PV1.40	Bed Status	IS	1		O
PV1.41	Account Status	IS	2		O
PV1.42	Pending Location	PL	80		O
PV1.43	Prior Temporary Location	PL	80		O
PV1.44	Admit Date/Time	TS	26		O
PV1.45	Discharge Date/Time	TS	26		O
PV1.46	Current Patient Balance	NM	12		O
PV1.47	Total Charges	NM	12		O
PV1.48	Total Adjustments	NM	12		O
PV1.49	Total Payments	NM	12		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.50	Alternate Visit ID	CX	250		O
PV1.51	Visit Indicator	IS	1		O
PV1.52	Other Healthcare Provider	XCN	250		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

ORC—Common Order Segment

The Common Order (ORC) segment is used to transmit fields that are common to all orders (all types of services that are requested).

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
ORC.00	Segment Type ID	ST	4	Must be ORC .	R
ORC.01	Order Control	ID	2	Determines the function of the order segment based on HL7 order control codes.	R
ORC.02	Placer Order Number	EI	22	The placer application's order number. Should be the same as OBR.02.	C
ORC.03	Filler Order Number	EI	22	The order number associated with the filler's application. The same as OBR.03.	C
ORC.04	Placer Group Number	EI	22		O
ORC.05	Order Status	ID	2	Indicates the order status based on HL7 order status codes.	O
ORC.06	Response Flag	ID	1		O
ORC.07	Quantity/Timing	TQ	200		O
ORC.08	Parent	EIP	200		O
ORC.09	Date/Time of Transaction	TS	26		O
ORC.10	Entered By	XCN	250		O
ORC.11	Verified By	XCN	250		O
ORC.12	Ordering Provider	XCN	250		O
ORC.13	Enterer's Location	PL	80		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
ORC.14	Call Back Phone Number	XTN	250		O
ORC.15	Order Effective Date/Time	TS	26		O
ORC.16	Order Control Code Reason	CE	250		O
ORC.17	Entering Organization	CE	250		O
ORC.18	Entering Device	CE	250		O
ORC.19	Action By	XCN	250		O
ORC.20	Advanced Beneficiary Notice Code	CE	250		O
ORC.21	Ordering Facility Name	XON	250		O
ORC.22	Ordering Facility Address	XAD	250		O
ORC.23	Ordering Facility Phone Number	XTN	250		O
ORC.24	Ordering Provider Address	XAD	250		O
ORC.25	Order Status Modifier	CWE	250		O
ORC.26	Advanced Beneficiary Notice Override Reason	CWE	60		C
ORC.27	Filler's Expected Availability Date/Time	TS	26		O
ORC.28	Confidentiality Code	CWE	250		O
ORC.29	Order Type	CWE	250		O
ORC.30	Enterer Authorization Mode	CNE	250		O
ORC.31	Parent Universal Service Identifier	CWE	250		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

TQ1—Timing/Quantity Segment

The Timing/Quantity (TQ1) segment determines the quantity, frequency, priority, and timing of a service.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
TQ1.00	Segment Type ID	ST	4	Must be TQ1 .	R
TQ1.01	Set ID - TQ1	SI	4		O
TQ1.02	Quantity	CQ	20		O
TQ1.03	Repeat Pattern	RPT	540		O
TQ1.04	Explicit Time	TM	20		O
TQ1.05	Relative Time and Units	CQ	20		O
TQ1.06	Service Duration	CQ	20		O
TQ1.07	Start Date/Time	TS	26		O
TQ1.08	End Date/Time	TS	26		O
TQ1.09	Priority	CWE	250		O
TQ1.10	Condition Text	TX	250		O
TQ1.11	Text Instruction	TX	250		O
TQ1.12	Conjunction	ID	10		O
TQ1.13	Occurrence Duration	CQ	20		O
TQ1.14	Total Occurrences	NM	10		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

TQ2—Timing/Quantity Relationship Segment

The Timing/Quantity Relationship (TQ2) segment forms a relationship between the service request the TQ1/TQ2 segments are associated with as well as with other service requests. The TQ2 segment links the current service request with one or more other service requests.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
TQ1.00	Segment Type ID	ST	4	Must be TQ2 .	R
TQ2.01	Set ID - TQ2	SI	4		O
TQ2.02	Sequence/ Results Flag	ID	1		O
TQ2.03	Related Placer Number	EI	22		C
TQ2.04	Related Filler Number	EI	22		C
TQ2.05	Related Placer Group Number	EI	22		C
TQ2.06	Sequence Condition Code	ID	2		C
TQ2.07	Cyclic Entry/ Exit Indicator	ID	1		C
TQ2.08	Sequence Condition Time Interval	CQ	20		O
TQ2.09	Cyclic Group Maximum Number of Requests	NM	10		O
TQ2.10	Special Service Request Relationship	ID	1		C

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

OBR—Observation Request Segment

The Observation Request (OBR) segment defines the attributes of a particular request for diagnostic services or clinical observations. One OBR segment must be transmitted for each Order Code associated with any PID segment.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.00	Segment Type ID	ST	4	Must be OBR .	R
OBR.01	Set ID - OBR	SI	4	OBR segments grouped under a PID are numbered sequentially beginning with 1.	O
OBR.02	Placer Order Number	EI	22		C
OBR.03	Filler Order Number	EI	22		C
OBR.04	Universal Service Identifier	CE	250		R
OBR.05	Priority	ID	2		O
OBR.06	Requested Date/Time	TS	26		O
OBR.07	Observation Date/Time	TS	26		C
OBR.08	Observation End Date/Time	TS	26		O
OBR.09	Collection Volume	CQ	20		O
OBR.10	Collector Identifier	XCN	250		O
OBR.11	Specimen Action Code	ID	1		O
OBR.12	Danger Code	CE	250		O
OBR.13	Relevant Clinical Information	ST	300		O
OBR.14	Specimen Received Date/Time	TS	26		O
OBR.15	Specimen Source	SPS	300		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.16	Ordering Provider	XCN	250		O
OBR.17	Order Callback Phone Number	XTN	250		O
OBR.18	Placer field 1	ST	60		O
OBR.19	Placer field 2	ST	60		O
OBR.20	Filler Field 1	ST	60		O
OBR.21	Filler Field 2	ST	60		O
OBR.22	Results Rpt/Status Chng - Date/Time	TS	26		C
OBR.23	Charge to Practice	MOC	40		O
OBR.24	Diagnostic Serv Sect ID	ID	10		O
OBR.25	Result Status	ID	1		C
OBR.26	Parent Result	PRL	400		O
OBR.27	Quantity/ Timing	TQ	200		O
OBR.28	Result Copies To	XCN	250		O
OBR.29	Parent	EIP	200		O
OBR.30	Transportation Mode	ID	20		O
OBR.31	Reason for Study	CE	250		O
OBR.32	Principal Result Interpreter	NDL	200		O
OBR.33	Assistant Result Interpreter	NDL	200		O
OBR.34	Technician	NDL	200		O
OBR.35	Transcriptionist	NDL	200		O
OBR.36	Scheduled Date/Time	TS	26		O
OBR.37	Number of Sample Containers	NM	4		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBR.38	Transport Logistics of Collected Sample	CE	250		O
OBR.39	Collector's Comment	CE	250		O
OBR.40	Transport Arrangement Responsibility	CE	250		O
OBR.41	Transport Arranged	ID	30		O
OBR.42	Escort Required	ID	1		O
OBR.43	Planned Patient Transport Comment	CE	250		O
OBR.44	Procedure Code	CE	250		O
OBR.45	Procedure Code Modifier	CE	250		O
OBR.46	Placer Supplemental Service Information	CE	250		O
OBR.47	Filler Supplemental Service Information	CE	250		O
OBR.48	Medically Necessary Duplicate Procedure Reason	CWE	250		C
OBR.49	Result Handling	IS	2		O
OBR.50	Parent Universal Service Identifier	CWE	250		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

TXA—Transcription Segment

The Transcription (TXA) segment is used to transmit fields that are common to all transcribed documents. It contains information specific to a transcribed document but does not include the text of the document. The TXA segment is required in the MDM message.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
TXA.00	Segment Type ID	ST	4	Must be TXA	R
TXA.01	Set ID - TXA	SI	4		R
TXA.02	Document Type	IS	30		R
TXA.03	Document Content Presentation	ID	2		C
TXA.04	Activity Date/Time	TS	26		O
TXA.05	Primary Activity Provider Code/Name	XCN	250		C
TXA.06	Origination Date/Time	TS	26		O
TXA.07	Transcription Date/Time	TS	26		C
TXA.08	Edit Date/Time	TS	26		O
TXA.09	Originator Code/Name	XCN	250		O
TXA.10	Assigned Document Authenticator	XCN	250		O
TXA.11	Transcriptionist Code/Name	XCN	250		C
TXA.12	Unique Document Number	EI	30		R
TXA.13	Parent Document Number	EI	30		C
TXA.14	Placer Order Number	EI	22		O
TXA.15	Filler Order Number	EI	22		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
TXA.16	Unique Document File Name	ST	30		O
TXA.17	Document Completion Status	ID	2		R
TXA.18	Document Confidentiality Status	ID	2		O
TXA.19	Document Availability Status	ID	2		O
TXA.20	Document Storage Status	ID	2		O
TXA.21	Document Change Reason	ST	30		C
TXA.22	Authentication Person, Time Stamp	PPN	250		C
TXA.23	Distributed Copies (Code and Name of Recipients)	XCN	250		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

OBX—Observation/Result Segment

This segment is optional. AOEs in the order are typically captured as OBX segments.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBX.00	Segment Type ID	ST	4	Must be OBX .	R
OBX.01	Set ID - OBX	SI	4		O
OBX.02	Value Type	ID	2	Contains the format of the observation value in OBX. It must be set unless OBX.11 is equal to X. Valid values are HL7 value type codes.	C
OBX.03	Observation Identifier	CE	250	Contains a unique identifier for the observation.	R
OBX.04	Observation Sub-ID	ST	20		C

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBX.05	Observation Value	varies	99999	This field contains the value observed by the observation producer. OBX.02 contains the data type for this field, which determines how the observation value is formatted.	C
OBX.06	Units	CE	250		O
OBX.07	References Range	ST	60		O
OBX.08	Abnormal Flags	IS	5		O
OBX.09	Probability	NM	5		O
OBX.10	Nature of Abnormal Test	ID	2		O
OBX.11	Observation Result Status	ID	1	Observation result status codes that affect the PDF report are as follows: • P = Preliminary results • I = Pending results • C = Correction to results • F = Final results • X = Test canceled	R ^c
OBX.12	Effective Date of Reference Range Values	TS	26		O
OBX.13	User Defined Access Checks	ST	20		O
OBX.14	Date/Time of the Observation	TS	26		O
OBX.15	Producer's Reference	CE	250		O
OBX.16	Responsible Observer	XCN	250		O
OBX.17	Observation Method	CE	250		O
OBX.18	Equipment Instance Identifier	EI	22		O
OBX.19	Date/Time of Analysis	TS	26		O
OBX.20 - OBX.22				Reserved	

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
OBX.23	Performing Organization Name	XON	567		O
OBX.24	Performing Organization Address	XAD	631		O
OBX.25	Performing Organization Medical Director	XCN	3002		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

c. Check the status of each OBR in the HL7 file in this order of priority:

- 1.If any are a C then the PDF report would be a C (Corrected).
- 2.If any are a P and none are a C, then the PDF report would be a P (Preliminary).
- 3.If any are an I and none are a C or a P, then the PDF report would be an I (Partial).
- 4.If all are an F or a combination of F's and X's, then the PDF report would be an F (Final).
- 5.If all are an X then the PDF report would be an X (Cancelled).

NTE—Notes and Comments Segment

The Notes and Comments (NTE) segment contains notes and comments for ORU messages, and is optional.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
NTE.00	Segment Type ID	ST	4	Must be NTE.	R
NTE.01	Set ID - NTE	SI	4	May be used to group multiple NTE segments in a message.	O
NTE.02	Source of Comment	ID	8		O
NTE.03	Comment	FT	65536	Each new line is sent in a new NTE segment. Blank lines and leading spaces are retained for correct data representation.	O
NTE.04	Comment Type	CE	250		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 202.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

Sample Care360 Transcribed Document Messages

Following are sample MDM—Medical Document Management messages, formatted according to the “[Care360 Transcribed Document Message Format Requirements](#)” on page 199 and “[Care360 Transcribed Document Message Segment Specifications](#)” on page 205.

Sample 1

This sample message is from the *HL7 Messaging Standard Version 2.5.1* documentation.

```
MSH| ...<cr>
EVN| T02| 20070215154405| | 04| 097220^Everyman^Adam^A^Jr^Dr^MD^| <cr>
PID| ...<cr>
PR1| ...<cr>
TXA| 0001| HP^history &
physical| TX^text| 19960213213000| 099919^Everyman^Adam^R^III^Mr^MS^|
19960213153000| 19960215134500| | 099919^Everyman^Adam^R^III^Mr^MS^| 097220^E
veryman^Adam^A^Jr^Dr^MD^| 01234567^Everywoman^Eve^S^Ms| 1996021500001^trans
A|||example.doc|LA|UC|AV||AC||||| 097220^Everyman^Adam^A^Jr^Dr^MD^| <cr>
OBX| 1| CE| 2000.40^CHIEF COMPLAINT| | ... <cr>
OBX| 2| ST| 2000.01^SOURCE| | PATIENT <cr>
OBX| 3| TX| 2000.02^PRESENT ILLNESS|| SUDDEN ONSET OF CHEST PAIN. 2 DAYS, PTA
ASSOCIATED WITH NAUSEA, VOMITING & SOB. NO RELIEF WITH ANTACIDS OR NTG. NO
OTHER SX. NOT PREVIOUSLY ILL.<cr>
```

Sample 2 T01 Event

This sample message contains only the required fields.

```
MSH|^~\&|LAB|FM1HA|CMX|PA1ALL|20100314112151||MDM^T01|msgctrlidbp00000001
|P|2.5.1||||||
SFT|W^2^ISO^SS|h|b|z||19911030103737
EVN|20001029071129
PID|37359060^QD|31047313^E|PATIENTLAST^PATIENTFIRST^|O^O|19420926|F
|U|||693041560^KV|||||||
PV1|R
TXA|1|OP|FT|200903110000||200903111545|200903120311||ARA127^DOCTORLAST^DO
CTORFIRST S^|128613031109^TRN||||AU|U|||updated
signed||ARA127^DOCTORLAST^DOCTORFIRST S^
signed||ARA127^DOCTORLAST^DOCTORFIRST S^
```

Sample 3 T02 Event with Order

This sample message contains only the required fields.

```
MSH|^~\&|LAB|FM1HA|CMX|PA1ALL|20100314112151||MDM^T02|msgctrlidbp00000001
|P|2.5.1||||||
EVN|19961021021029
PID||54^6^M11^VN^19841010^19951010^23^6~4^2^M11^DS^19851123^19861118
^2^19||PATIENTLAST^PATIENTFIRST^III^Prof^P^16^19831011031025&199310220
81010^19991027043210^19951010062945~LASTNAME^FIRSTNAME
^Jr^DR^L^23^19871013021033&19981022074428^19921015183646^198310130842
10~DUKES^MERCER ^Jr^DR^P^22^19901017215210&19941021141031^
19851016073211^19891022031831
PV1||B
ORC|SR
TQ1|
OBR||||17
TXA|6540|hospital chart|||||||16|||||h
OBX||17||||||R
```

Linking and Single Sign-On



About This Section

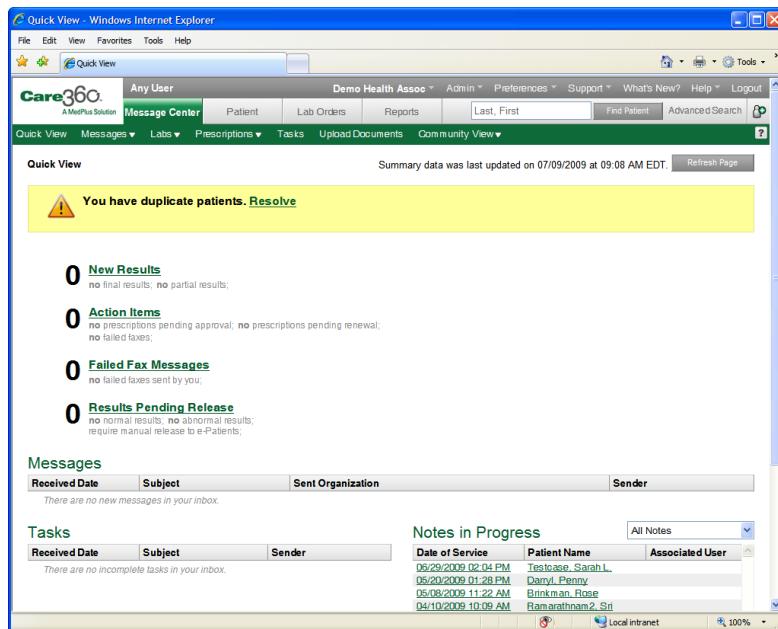
This section provides detailed information necessary for linking a partner application (for example, a third-party EMR, EHR, or PMS application) to Care360 Labs & Meds.

This section includes the following chapter(s):

- [Chapter 11, “Linking to Care360 Labs & Meds” on page 227.](#)
- [Chapter 12, “Care360 Labs & Meds SSO Specification” on page 273.](#)
- [Chapter 13, “User Summary Services API Reference” on page 285.](#)
- [Chapter 14, “Patient Demographic Services API Reference” on page 291.](#)
- [Chapter 15, “Care360 Patient Demographic HL7 Specification” on page 297.](#)
- [Chapter 16, “Document Routing Services API Reference” on page 397.](#)
- [Chapter 17, “Care360 SSO and Web Services Site” on page 401.](#)

Chapter 11

Linking to Care360 Labs & Meds



In This Chapter:

- About Linking and Single Sign-On (SSO) 228
- About User Summary Services 238
- About Order Echo 240
- About Rx Order Echo 242
- About the Care360 CCR Message Specification 244
- About Patient Demographic Services 262
- Customizing the Care360 Labs & Meds User Interface 268

About Linking and Single Sign-On (SSO)

This chapter provides information about linking from a partner application—for example, an electronic medical record (EMR) application, electronic health record (EHR) application, or practice management system (PMS)—to Care360 Labs & Meds. Application linking enables the partner application to directly access specific functions of Care360 Labs & Meds, from within the context of the partner application.

Linking to Care360 Labs & Meds enables a partner application to effectively offer lab order and result services through an existing EMR solution. Users can launch directly into a specific Care360 Labs & Meds function, using SSO and maintaining their current patient context. SSO access allows the user to transparently log in to Care360 Labs & Meds from within the partner application. (For more information about SSO, see “[About Single Sign-On \(SSO\)](#)” on page 230.)

A partner application that is linked to Care360 Labs & Meds can also take advantage of a number of related services, including the following:

- User Summary services
- Order echo
- Rx order echo
- Patient demographic services (Inbound and Outbound)
- PMS Integration
- Care360 Labs & Meds UI customization

Each of these services is described in more detail later in this chapter.

Note: A partner application must allow users to view Care360 Labs & Meds in its native resolution (1024x768), displaying all existing menus, headers, and other navigation elements. In most cases, Care360 Labs & Meds will appear in a new browser window; otherwise, the partner application must display in a higher resolution so that Care360 Labs & Meds can appear in a separate frame within the application.

Care360 Labs & Meds Functions Available for Linking

A partner application can link directly to the following Care360 Labs & Meds functions (also referred to as the “landing” page):

- **New Results.** The EMR user can directly access Care360 Labs & Meds’s *New Results* page to view the latest test results that have been received for *all* of their patients. Results can be viewed or printed, and can be forwarded to other Care360 Labs & Meds users via user messaging or fax.
- **Lab Orders.** The EMR user can directly access Care360 Labs & Meds’s *Lab Orders* page to create an electronic lab order for submission to either a Quest Diagnostics BU or a third-party laboratory for processing. The link to *Lab Orders* can occur in one of the following ways:
 - With patient context—*Lab Orders* opens with the current EMR patient’s data pre-populated, based on the patient’s PID.
 - Without patient context—*Lab Orders* opens with no specific patient pre-populated. The user can then search for a patient within *Lab Orders*, as needed.

- **Patient Summary.** The EMR user can directly access Care360 Labs & Meds's *Patient Summary* page. In Care360 Labs & Meds, a Patient Summary is essentially a "collapsed" or summarized view of the patient's complete chart. To view a more detailed history for the patient, you can access individual items within each section of the Patient Summary to display additional data.
 - Patient Summary (fully expanded)—*Patient Summary* opens with all of the patient's latest data displayed, as well as all of the page's navigational features visible.
 - Patient Summary (collapsed)with Write a Prescription displayed—*Patient Summary* opens with a summarized view of the patient's chart, with only the *Write a Prescription* task link visible.
 - Patient Summary (collapsed)with Write a Lab Order displayed—*Patient Summary* opens with a summarized view of the patient's chart, with only the *Write a Lab Order* task link visible.
- **Action Items Inbox.** The EMR can directly access the *Action Items Inbox* screen related to their organization.
 - *Pending Items*—Displays a collapsed view of the pending items for the logged-in user. Click for an expanded view.
 - *Renewal Items*—Displays a collapsed view of the pending items for the logged-in user. Click for an expanded view.
 - *Failed Faxes*—Displays a collapsed view of failed faxes sent by the logged-in user. Click for an expanded view.

Once the user has linked to a particular Care360 Labs & Meds function, the user can then access the entire Care360 Labs & Meds application, limited only by their assigned access permissions. For information about using specific Care360 Labs & Meds functions, refer to the *Care360 Labs & Meds User Manual* or online help.

Formatting Requirements for Linking to Care360 Labs & Meds

When a partner enables users to link directly to Care360 Labs & Meds functions, the link that appears within the partner application must be formatted according to the following guidelines:

- The full Care360 Labs & Meds product name must be displayed whenever possible, and should appear as shown below:

Care360™ Labs & Meds

- The trademark symbol (™) must always follow Care360.
- If the partner application will display a Care360 logo, the following logo must be used:



Note: You can obtain the Care360 logo from the Care360 Labs & Meds SSO and Web Services site. For more information, see [Chapter 17, “Care360 SSO and Web Services Site”](#) on page 401.

Prior to appearing in a production environment, any links to Care360 Labs & Meds must be submitted (through the project manager) for compliance review and approval.

About Single Sign-On (SSO)

When a partner application establishes a link to Care360 Labs & Meds, the user of the partner application can transparently log in to Care360 Labs & Meds via the SSO capability. That is, the user is not required to log in separately to Care360 Labs & Meds in order to use its services. This allows the user's workflow to continue uninterrupted, and reduces the number of steps and pages necessary for the user to complete a task.

The basic steps to establish an SSO connection to Care360 Labs & Meds are as follows:

- An authorized user logs in to the partner application.
- Within the partner application, the user activates a link to the desired Care360 Labs & Meds function, and is immediately redirected to the appropriate area of Care360 Labs & Meds. If possible, the user's current patient context is maintained within the selected Care360 Labs & Meds function (see “[Maintaining Patient Context](#)”, below).
- The partner application performs user authentication (in the background) to Care360 Labs & Meds.

Note: Authentication to Care360 Labs & Meds is managed through the Sun Java™ System Access Manager, which utilizes the Security Assertion Markup Language (SAML) single sign-on protocol, using 128-bit encryption. For details on establishing an SSO connection to Care360 Labs & Meds, see [Chapter 12, “Care360 Labs & Meds SSO Specification”](#) on page 273.

Maintaining Patient Context

When a user accesses a Care360 Labs & Meds function via SSO, the current patient context is automatically maintained between the two applications whenever possible. For example, if the user has already searched for a particular patient within the partner application, and then wants to place a new lab order for that patient, the user clicks the appropriate link and Care360 Labs & Meds opens to the *Lab Orders* function, with the same patient preselected.

There are two ways in which patient context is maintained:

1. The partner application can use the Patient Demographic Services to submit ADT messages to Care360 to populate the Care360 database with patient demographic information. The partner application can then pass their unique patient identifier (PID) to Care360 Labs & Meds, so that a search for the matching patient can be performed as the linking occurs. If an exact PID match is found, then the patient context is maintained; otherwise, the user can access the selected Care360 Labs & Meds function, but will need to manually search for the desired patient.
2. For applications that do not utilize the ADT messaging, the partner application can pass an additional HTTP Post parameter name 'care360transaction' with the initial SSO request. The value of this parameter is XML which follows the rules defined in <http://custcenter.medplus.com/tech-support/portalcenter/docs/xsd/Care360Transaction.xsd>. This field can contain various forms of information, one of which is patient demographics. The demographics information contained within the message is used to create a patient if one does not exist. This method relies solely on the ability of the partner application to identify a patient using a unique patient identifier (PID) and provide a full set of patient demographics on the SSO request to Care360 Labs & Meds. When using this method, the information provided by the partner application is always considered the most accurate (that is, it overrides any existing data in Care360 Labs & Meds). The patient demographics part of the

Care360Transaction XML is based on the HL7 A31 segment, defined by the xsd file http://custcenter.medplus.com/tech-support/portalcenter/docs/xsd/ADT_A31.xsd. The value of the Care360Transaction parameter must be base64 encoded by the partner application.

When utilizing the care360 transaction method and requesting to land on the lab orders function, a partner application must include the bill type (client, patient, or insurance) and associated required fields.

SSO Field Definitions

The table below describes the required fields for each available bill type. The care360 transaction method also allows for the inclusion of diagnosis codes and test codes via the laborderInfo node when requesting the Lab Orders function. The XSD files used to define the contents of the care360Transaction HTTP parameter and a care360 transaction example XML message can be accessed from the following URL: <http://custcenter.medplus.com/tech-support/portalcenter/>

				Bill Types - These are the required field based on what is sent ^a			
Header	XML Main Tag	XML Sub Tag	Description	Client	Patient	Insurance	ePre
lab.Lab Order Info	dxCodes		Diagnosis Code (ICD9 Codes) 10 codes max	O	O	O	I
	testCodes		Order Code (Quest Diagnostics Specific) 15 codes max	O	O	O	I
PID.Patient Information	PID.3	CM_Pat_ID.1	Unique patient ID	R	R	R	R
	PID.5	PN.1	Last name of patient	R	R	R	R
	PID.5	PN.2	First name of patient	R	R	R	R
	PID.5	PN.3	Middle initial of patient	O	O	O	O
	PID.7	TS.1	Birth Date (mm/dd/yyyy or mmddyyyy)	R	R	R	R
	PID.8		Gender (M/m or F/f) Note: "Unknown" gender will display blank.	R	R	R	R
	PID.11	AD.1	Address 1	R	O	O	R
	PID.11	AD.2	Address 2	O	O	O	O
	PID.11	AD.3	City	O	R	R	R
	PID.11	AD.4	State (2-digit alpha)	O	R	R	R
	PID.11	AD.5	Zip (5 or 9 digits, no hyphens or dashes allowed)	O	R	R	R
	PID.11	AD.6	Country	O	O	O	O

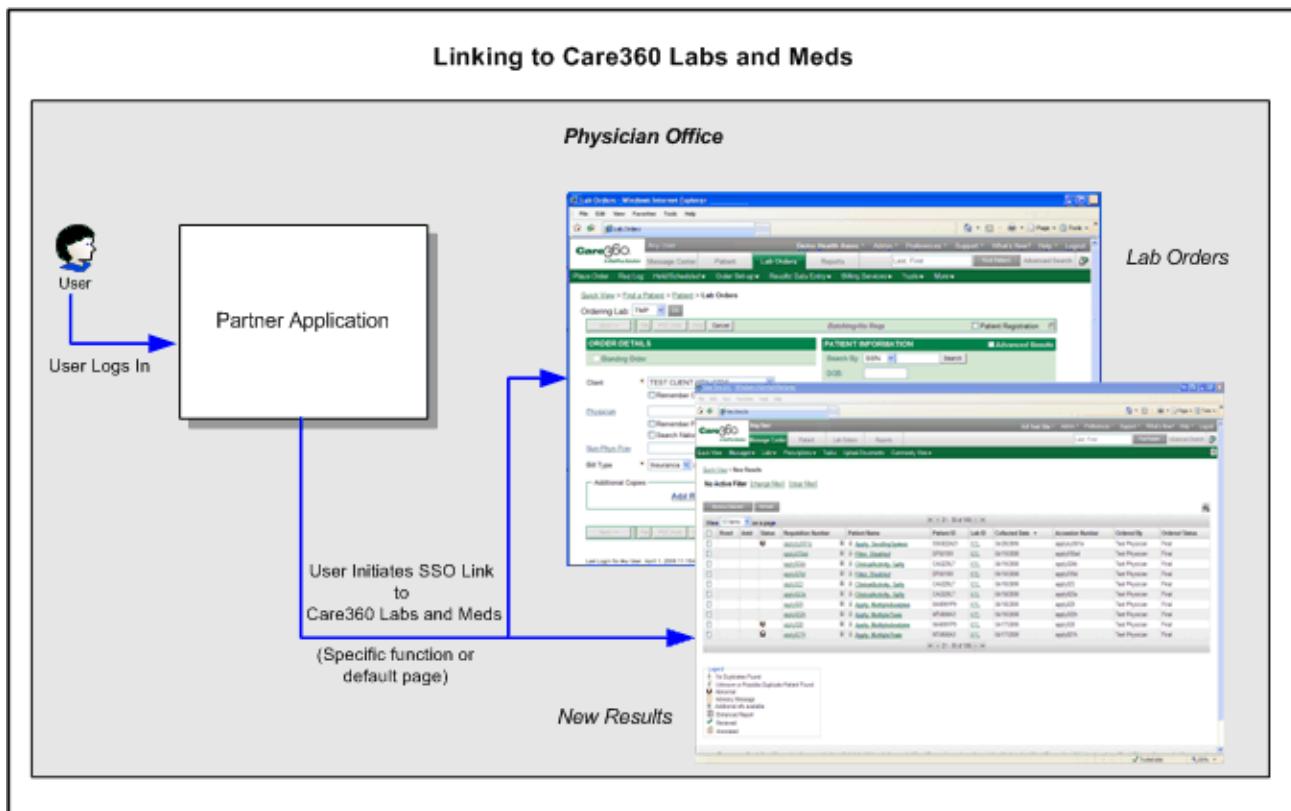
				Bill Types - These are the required field based on what is sent^a			
Header	XML Main Tag	XML Sub Tag	Description	Client	Patient	Insurance	ePre
PID.Patient Information (Continued)	PID.13		Home Phone (1234567890, no hyphens or dashes allowed)	O	R	R	O
	PID.14		Work Phone (1234567890, no hyphens or dashes allowed)	O	O	O	O
	PID.19		SSN (9 digits, no hyphens or dashes allowed)	R	R	R	O
GT1.Guarantor Information	GT1.3	PN.1	Last Name	I	R	R	I
	GT1.3	PN.2	First Name	I	R	R	I
	GT1.3	PN.3	Middle Initial	I	O	O	I
	GT1.5	AD.1	Address 1	I	R	R	I
	GT1.5	AD.2	Address 2	I	O	O	I
	GT1.5	AD.3	City	I	R	R	I
	GT1.5	AD.4	State (2-digit alpha)	I	R	R	I
	GT1.5	AD.5	Zip (5 or 9 digits, no hyphens or dashes allowed)	I	R	R	I
	GT1.5	AD.6	Country	I	O	O	I
	GT1.6		Home Phone (1234567890, no hyphens or dashes allowed)	I	O	O	I
	GT1.7		Work Phone (1234567890, no hyphens or dashes allowed)	I	O	O	I
	GT1.8		Birth Date (mm/dd/yyyy or mmddyyyy, no hyphens or dashes allowed)	I	O	O	I
	GT1.9		Gender (M/m or F/f) Note: "Unknown" will display as blank.	I	O	O	I
	GT1.11		Relationship to patient 1 = Self 2 = Spouse 3 = Child	I	O	O	I

				Bill Types - These are the required field based on what is sent^a			
Header	XML Main Tag	XML Sub Tag	Description	Client	Patient	Insurance	ePre
GT1.Guarantor Information (Continued)	GT1.12		SSN (9 digits, no hyphens or dashes allowed)	I	O	O	I
Employer Information	GT1.16		Employer Name	I	O	O	I
	GT1.17	AD.1	Address 1	I	R	R	I
	GT1.17	AD.2	Address 2	I	O	O	I
	GT1.17	AD.3	City	I	R	R	I
	GT1.17	AD.4	State (2-digit alpha)	I	R	R	I
	GT1.17	AD.5	Zip (5 or 9 digits, no hyphens or dashes allowed)	I	R	R	I
	GT1.17	AD.6	Country	I	O	O	I
IN1.Insurance Information	IN1.2		Insurance ID	I	O	O	I
	IN1.4		Insurance Name	I	O	O	I
	IN1.5	AD.1	Address 1	I	R	R	I
	IN1.5	AD.2	Address 2	I	O	O	I
	IN1.5	AD.3	City	I	R	R	I
	IN1.5	AD.4	State (2-digit alpha)	I	R	R	I
	IN1.5	AD.5	Zip (5 or 9 digits, no hyphens or dashes allowed)	I	R	R	I
	IN1.5	AD.6	Country	I	O	O	I
	IN1.8		Group Number (No hyphens or dashes allowed)	I	O	O	I
	IN1.47		Bill Type: P = Patient C = Client T = Insurance	R	R	R	I

a. R = Required, O = Optional, I = Ignored

Process Walkthrough: Linking and SSO

The diagram below illustrates (at a high level) the flow of information between Care360 Labs & Meds and a linked partner application. Following the diagram is a step-by-step walkthrough of the linking and SSO processes illustrated in the diagram.



Initializing a User's SSO Connection

The following steps outline the procedure—and associated systems—involved in initializing an SSO connection from a partner application to Care360 Labs & Meds.

- MedPlus issues a Care360 Labs & Meds *User ID* and (temporary) *Password* to the partner application user.
- The user logs in to the partner application as before (using their existing partner application username and password).
- The first time the user attempts to link to Care360 Labs & Meds from the partner application, a login page appears, prompting the user to enter their assigned Care360 Labs & Meds *User ID* and *Password*.

Note: The user is allowed five attempts to log in using their assigned Care360 Labs & Meds credentials. If the user cannot successfully log in—or if the *User ID* that was entered is already in use—a message appears, indicating that the user must contact Care360 Labs & Meds Customer Support in order to proceed.

- When the user successfully logs in to Care360 Labs & Meds the first time, their user information and (obfuscated) password are saved to a SAML user mapping table.
 - After the user's information has been successfully saved to the mapping table, the password is disabled.
- When the user subsequently links to Care360 Labs & Meds, the Care360 Labs & Meds login process is completed automatically based on their stored user credentials.
 - When a user links to Care360 Labs & Meds via an SSO connection, they can then access *any* Care360 Labs & Meds functions that are enabled by their user credentials.

Accessing Care360 Labs & Meds via an Established SSO Link

The following steps outline the procedure—and associated systems—involved in accessing Care360 Labs & Meds from a partner application, after a user's SSO link has been initialized (outlined in “[Initializing a User's SSO Connection](#)” on page 235).

- A user logs in to the partner application.
- The partner application user initiates a link to Care360 Labs & Meds. A link to Care360 Labs & Meds can be established in one of the following ways:
 - The link can open Care360 Labs & Meds directly to a specific function. For example, the *Home* page, the *Lab Orders* page, the *New Results* page, the *Patient Summary* page, or the *Action Items Inbox*. For *Lab Orders*, the current patient context may be maintained if an appropriate match can be determined, based on the supplied patient identifier (PID) or inclusion of the care360transaction field ID.
 - The link can open Care360 Labs & Meds with no specific function specified. In this case, the user's default page (as configured in the Care360 Labs & Meds) appears.
- Care360 Labs & Meds opens either in a separate browser window, or framed within the context of the partner application (if the required 1024x768 resolution can be maintained).
- The user can then access *any* Care360 Labs & Meds functions that are enabled by their user credentials.

Accessing Care360 Labs & Meds Directly

The following steps outline the procedure—and associated systems—involved in accessing Care360 Labs & Meds directly, outside the context of a linked application.

- MedPlus issues a user a separate *Password*, associated with either their existing Care360 Labs & Meds *User ID*, or a separate *User ID*.
- The user logs in to Care360 Labs & Meds directly with their assigned *User ID* and *Password*.

Note: The Care360 Labs & Meds password is **not** the same password used to initialize or maintain the SSO link from the partner application. The *User ID* may or may not be the same as used for SSO linking.

Allowing a user direct access to Care360 Labs & Meds is optional. When a user accesses directly, there is no connection established to a partner application, and Care360 Labs & Meds may appear in its default format (that is, with no custom UI branding).

- The user can access *any* Care360 Labs & Meds functions that are enabled by their user credentials.

About User Summary Services

When new lab results or user messages are received by Care360 Labs & Meds for a user or an organization, the partner application can automatically receive notification of their availability. These user summary notifications enable the partner application to display related counts for affected patients, rather than requiring users to access Care360 Labs & Meds on a regular basis to view the information.

When the user summary notification indicates that new information is available within Care360 Labs & Meds, the user can access the desired Care360 Labs & Meds function to view the associated data. Specific data counts that can be communicated to the partner application include the following:

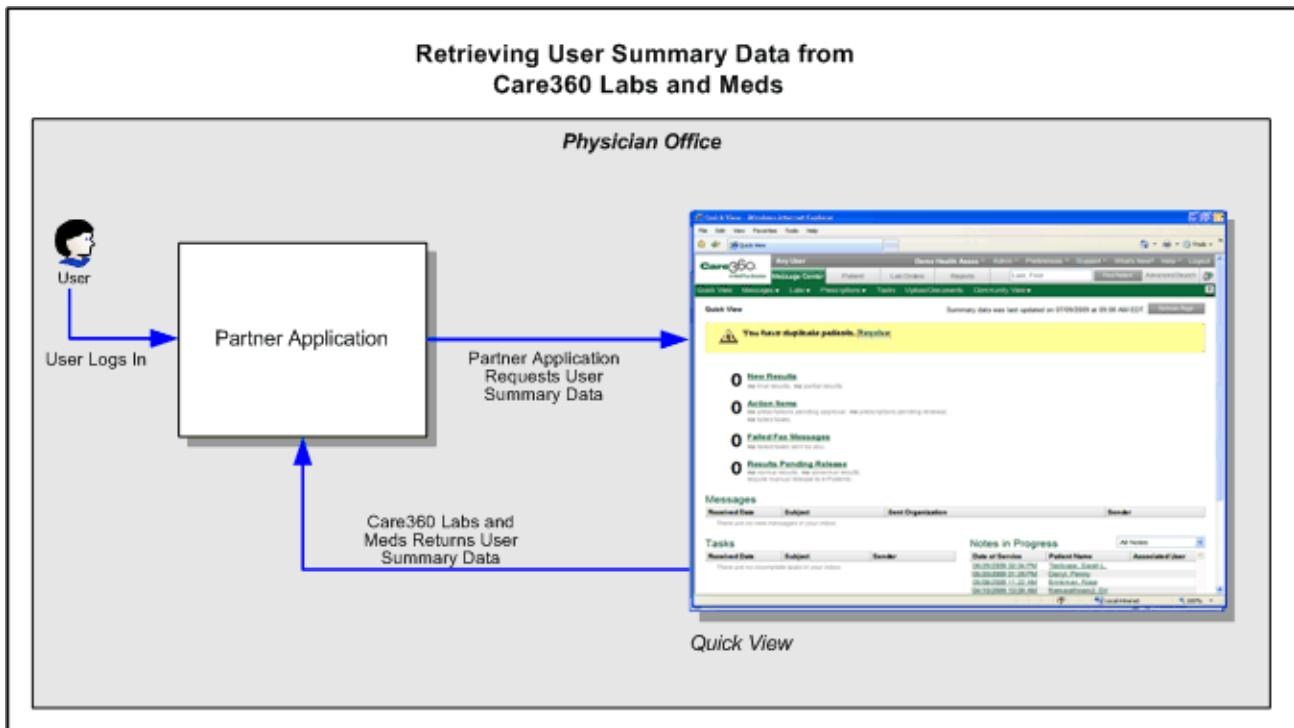
- New results (including Abnormals, Partials, Partials/Abnormals, and Finals)
- Message counts (including user messages and failed faxes)
- Action Items (including Failed Faxes, Pending Renewals, and Pending Approvals)

If a notification of new results is received, for example, the user can link directly to the Care360 Labs & Meds *New Results* page. New results can be viewed for all associated service providers, including Quest Diagnostics, regional hospital laboratories, or independent laboratories.

For detailed specifications of the User Summary Services, see [Chapter 13, “User Summary Services API Reference”](#) on page 285.

Process Walkthrough: Retrieving User Summary Data

The diagram below illustrates (at a high level) the flow of user summary data between Care360 Labs & Meds and a linked partner application. Following the diagram is a step-by-step walkthrough of the user summary data retrieval illustrated in the diagram.



The following steps outline the procedure—and associated systems—involved in communicating user data (for example, result and user message counts) from Care360 Labs & Meds to a partner application.

- A user (with an established SSO connection) logs in to a partner application.
- The partner application sends a request to Care360 Labs & Meds for associated user data.
- Care360 Labs & Meds returns the requested user data to the partner application.
- During the user's current session, the partner application can either allow the user to manually refresh the data displayed, or it can send automatic refresh requests on a predefined basis.

About Order Echo

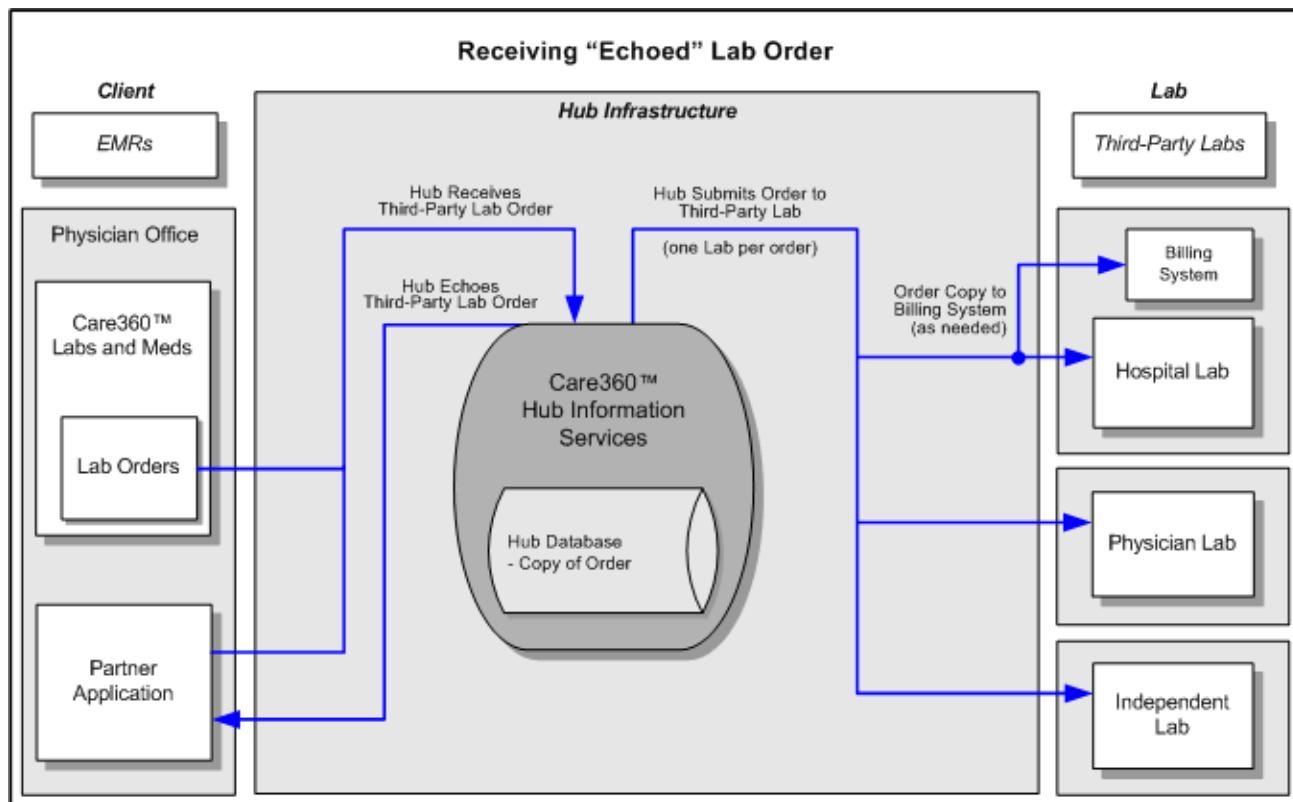
When the user of a partner application links to Care360 Labs & Meds to place a lab order, that order can be “echoed” back to the partner application. Order echo involves Care360 Labs & Meds sending a copy of the order back to the partner application, so that it can store a record of the order for the associated patient. Benefits of order echo include the following:

- Enables the partner application to store a copy of each order (placed through the *Lab Orders* function of Care360 Labs & Meds) to the patient’s chart.
- Improves patient records management and office workflow.
- Eliminates the need for redundant data entry.
- Stores order data in standard HL7 format, so that it can be easily reused as needed.

Order messages that are echoed back to the partner application are formatted according to the specifications detailed in [Chapter 3, “Care360 Order HL7 Specification”](#) on page 55.

Process Walkthrough: Order Echo

The diagram below illustrates (at a high level) the flow of order data between Care360 Labs & Meds and a linked partner application. Following the diagram is a step-by-step walkthrough of the order echo process illustrated in the diagram.



The following steps outline the process and associated systems involved in placing an order and having the order echoed back to the partner application.

- A user logs in to the partner application.
- The partner application user initiates a link to the *Lab Orders* function of Care360 Labs & Meds.
 - When linking to *Lab Orders*, the current patient context may be maintained if an appropriate match can be determined, based on the supplied PID.
- The user creates and submits a lab order for a Quest Diagnostics lab or any lab that is in the Care360 system, or the user creates and prints / delivers a lab order for a generic lab (a lab that is not in the Care360 system).
- The Hub records the order transaction, and stores a copy of the discrete content of the order.
- The Hub “echoes” (returns) a copy of the order back to the partner application.

About Rx Order Echo

When the user of a partner application links to Care360 Labs & Meds to place a prescription order, that order can be “echoed” back to the partner application. Rx Order echo involves Care360 Labs & Meds sending a copy of the prescription order back to the partner application so that it can store a record of the prescription order for the associated patient. Benefits of Rx prescription order echo include the following:

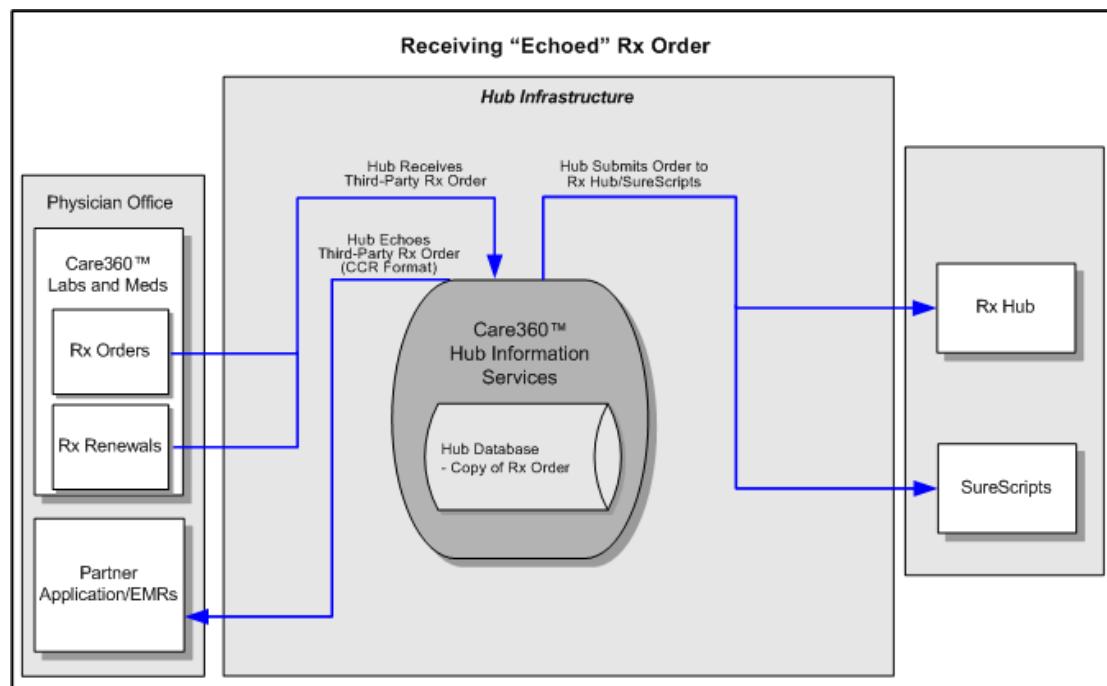
- Enables the partner application to store a copy of each prescription order (placed through the *Prescription Orders* function of Care360 Labs & Meds) to the patient’s chart.
- Improves patient records management and office workflow.
- Eliminates the need for redundant data entry.

Note: Only approved prescriptions can be echoed. This includes both new prescriptions and renewals.

Rx Order messages that are echoed back to the partner application are formatted in CCR Format. For more information, see [“Care360 CCR Message Specifications”](#) on page 245.

Process Walkthrough: Rx Order Echo

The diagram below illustrates (at a high level) the flow of prescription order data between Care360 Labs & Meds and a linked partner application. Following the diagram is a step-by-step walkthrough of the Rx order echo process illustrated in the diagram.



The following steps outline the process and associated systems involved in placing a prescription order and having the prescription order echoed back to the partner application.

- A user logs in to the partner application.
- The partner application user initiates a link to the *Prescription Orders* function of Care360 Labs & Meds.
 - When linking to *Prescription Orders*, the current patient context may be maintained if an appropriate match can be determined, based on the supplied PID.
- The user creates and submits a prescription order, or approves a renewal request.
- Care360 Labs & Meds sends the prescription echo to the Hub at the time the prescription is submitted.
- The Hub records the prescription order transaction, and stores a copy of the discrete content of the prescription order.
- The Hub “echoes” (returns) a copy of the prescription order back to the partner application.

Note: Clients must be able to utilize patient fuzzy matching for prescription orders without an MRN (Medical Record Number).

About the Care360 CCR Message Specification

This section provides detailed format specifications for Prescription Order messages in Continuity of Care Record (CCR) format.

This chapter includes the following sections:

- **CCR message specifications.** The CCR Message Specification defines the intent, source, destination, and some specifics of the syntax of a message. The Hub translates the Rx Order Echo message into the standard CCR Prescription message format. For more information, see “[Care360 CCR Message Specifications](#)” on page 245.
- **Sample CCR message.** The prescription order message is “Echoed” back to the Partner Application/EMRs in CCR format. For more information, see “[Sample Care360 CCR Message](#)” on page 256.

Care360 CCR Message Specifications

The CCR Message Specification defines the intent, source, destination, and some specifics of the syntax of a message. The Hub translates the Rx Order Echo message into the standard CCR Prescription message format.

Note: The following table provides a **partial** list of the fields that are in the XSD. In general, if the field is in the XSD but not listed in the table below, that field is not used in Rx order echo message translation.

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
CCR Header		Care360 Labs & Meds will now only send one header at a time, but the CCR can support multiple headers (no limit).	
CCR Unique Identifier	<CCRDocumentObjectID>	Must be a unique Object ID to identify this specific instance of a CCR. Type: xs:string, should be a UUID or OID.	R
Language	<Language>	Set to English with type of xs:string.	R
Version	<Version>	Set to 1.0 (version of the CCR Implementation Guide used as reference to develop this scope). The Version element is defined as a xs:string type.	R
CCR Creations Date/Time	<Date Time>	Date/Time that the CCR record was created. Date format is: yyyy-mm-ddThh:mm:ss+00:00 The ExactDateTime element is defined as a xs:string type.	R
Patient	<Patient>	Identifies the patient (can be only one) per CCR. Should equal an <ActorObjectId> of xs:string type. Define as <Actors> for the patient object. Example: <Patient> <ActorID>0c3299677f00010104507926bfbd4 68</ActorID> </Patient>	R

CCR Attributes and Data Objects	XML Tag	Comments	Req'd^a
From	<From>	<p>Identifies who created the prescription. An Actor and its Role must be specified under From.</p> <p>Should equal an <ActorId> (xs:string) defined in <Actors> and <ActorRole> with the <Text>Primary Care Provider</Text> (xs:string).</p> <p>Example:</p> <pre><From> <ActorLink> <ActorID>0c32996a7f00010104507926d8e4 40fc</ActorID> <ActorRole> <Text>Primary Care Provider</Text> </ActorRole> </ActorLink> </From></pre>	R
To		Not currently used.	NS
Purpose		Not currently used.	NS
Body	<Body>	Structural grouping element.	
Payers		Not currently used.	NS
Advanced Directives		Not currently used.	NS
Support		Not currently used.	NS
Functional Status		Not currently used.	NS
Problems		Not currently used.	NS
Family History		Not currently used.	NS
Social History		Not currently used.	NS
Alerts	<Alert>	Alerts are not currently being sent in this document.	NS
Medications	<Medication>	Structural grouping element.	O
	<CCRDataObjectID>	<p>Must be a unique Object ID to identify this specific instance of a Medication for this CCR document.</p> <p>Type: xs:string, should be a UUID or OID.</p>	R

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Medications, <i>continued</i>	<DateTime>	<p>Medication start date.</p> <p><Type><Text>Start Date</Text></Type></p> <p>Date format is:</p> <p>yyyy-mm-ddThh:mm:ss+00:00</p> <p>The ExactDateTime element is defined as xs:string type.</p> <p>Example:</p> <pre><DateTime> <Type> <Text>StartDate</Text> </Type> <ExactDateTime> 2005-03-12T12:00:00+00:00 </ExactDateTime> </DateTime></pre>	O
	<DateTime>	<p>Medication stop date. Using the Date Issued field and the Days Supply, calculate the Stop Date by Date Issued + Days Supply.</p> <p><Type><Text>Stop Date</Text></Type></p> <p>Date format is:</p> <p>yyyy-mm-ddThh:mm:ss+00:00</p> <p>The ExactDateTime element is defined as xs:string type.</p> <p>Example:</p> <pre><DateTime> <Type> <Text>StopDate</Text> </Type> <ExactDateTime> 2005-04-16T12:00:00+00:00 </ExactDateTime> </DateTime></pre>	O
<IDs>		Not currently used.	NS
	<Type>	<p>Call to Multim database. If NDC is found in the medication tables, set to Medication. If NDC is found in the supply tables, set to Supply.</p> <p>The Type element is defined as xs:string type.</p> <p>Example:</p> <pre><Type> <Text>Medication</Text> </Type></pre>	O

CCR Attributes and Data Objects	XML Tag	Comments	Req'd^a
Medications, <i>continued</i>	<Status>	Always set to "Active". The Status element is defined as xs:string type. Example: <Status> <Text>Active</Text> </Status>	O
	<Source>	This is an Actor tag with the ActorID of the Physician Actor in the Actor section. The ActorID and ActorRole elements are all defined as xs:string type. Example: <Source> <Actor> <ActorID> 0C329aef7f0001010450792624f1f5cd </ActorID> <ActorRole> <Text>Primary Care Provider</Text> </ActorRole> </Actor> </Source>	R
	<CommentID>	Not currently used.	NS
	<Description>	Not currently used.	NS
	<Product>	Structural grouping element.	O
	<ProductName>	Call to Multim database to retrieve product name using NDC. The ProductName Text element and the Value and Coding System are all defined as xs:string types. Example: <ProductName> <Text>fluocinolone topical</Text> <Code> <Value>99220750917</Value> <CodingSystem>NDC</CodingSystem> </Code> </ProductName>	R
	<Code>	The Code tag will have the <Value> set to the NDC DrugNumber and the <Coding> set to NDC as in the <ProductName> example above.	O

CCR Attributes and Data Objects	XML Tag	Comments	Req'd^a
Medications, <i>continued</i>	<BrandName>	<p>Call to Multim database to retrieve brand name using NDC.</p> <p>The BrandName Text element is defined as xs:string type.</p> <p>Example:</p> <pre><BrandName> <Text>Synemol</Text> </BrandName></pre>	O
	<Manufacturer>	<p>Call to Multim database to retrieve Manufacturer Name using NDC. The Manufacturer contains an ActorID which will correspond to an entry in the Actors section of the CCR.</p> <p>Example:</p> <pre><Manufacturer> <ActorID>0c329b267f00010104507926758f72 5e</ActorID> </Manufacturer></pre>	O
	<Strength>	<p>Call to Multim database to retrieve strength using NDC.</p> <p>The Strength element is defined as xs:string type.</p> <p>Example:</p> <pre><Strength> <Text>0.025%</Text> </Strength></pre>	C
	<Form>	<p>Call to Multim database to retrieve dose form using NDC.</p> <p>The Form element is defined as xs:string type.</p> <p>Example:</p> <pre><Form> <Text>cream</Text> </Form></pre>	C
	<Concentration>	Not currently used.	NS
	<Size>	Not currently used.	NS
	<Quantity>	<p>The amount of the medication to be given.</p> <p>The Quantity element is defined as xs:string type.</p> <p>Example:</p> <pre><Quantity> <Value>2</Value> </Quantity></pre>	R

CCR Attributes and Data Objects	XML Tag	Comments	Req'd^a
Medications, <i>continued</i>	<Directions>	The directions given by the physician on the order. The directions from Care360 Labs & Meds are placed in their entirety in the <Dose> XML tag. The <Frequency> XML tag is not used. Example: <pre><Directions> <Direction> <Route> <Text>topical</Text> </Route> <Duration> <Description> <Text>35</Text> </Description> </Duration> </Direction> </Directions></pre>	C
	<DoseIndicator>	Not currently used.	NS
	<DeliveryMethod>	Not currently used.	NS
	<Dose>	Contains the drug directions from Care360 Labs & Meds.	C
	<DoseCalculation>	Not currently used.	NS
	<Vehicle>	Not currently used.	NS
	<Route>	Call to Multim database to retrieve route using NDC. The Route element is defined as xs:string type. Example: <pre><Route> <Text>topical</Text> </Route></pre>	C
	<Site>	Not currently used.	NS
	<AdministrationTiming>	Not currently used.	NS
	<Frequency>	Not currently used.	NS
	<Interval>	Not currently used.	NS
	<Duration>	The duration is set as the Days Supply from the order. The Duration element is defined as xs:string type. Example: <pre><Duration> <Description> <Text>35</Text> </Description> </Duration></pre>	O

CCR Attributes and Data Objects	XML Tag	Comments	Req'd^a
Medications, <i>continued</i>	<DoseRestrictions>	Not currently used.	NS
	<Indication>	Not currently used.	NS
	<StopIndicator>	Not currently used.	NS
	<DirectionSequencePosition>	Not currently used.	NS
	<MultipleDirectionModifier>	Not currently used.	NS
	<PatientInstructions>	Set to the Comments to the Pharmacist. The Patient Instructions element is defined as xs:string type.	O
	<FulfillmentInstructions>	Not currently used.	NS
	<Refill>	Set to the Refill Quantity from the order. The Refill element is defined as xs:string type. Example: <Refills> <Refill> <Quantity> <Value>1</Value> </Quantity> </Refill> </Refills>	O
	<SeriesNumber>	Not currently used.	NS
	<Consent>	Not currently used.	NS
	<Reaction>	Not currently used.	NS
	<FulfillmentHistory>	Not currently used.	NS
	<InternalCCRLink>	Not currently used.	NS
	<ReferenceID>	Not currently used.	NS
Medical Equipment	<MedicalEquipment>	Not currently used.	NS
Immunizations	<Immunizations>	Not currently used.	NS
Vital Signs	<VitalSigns>	Not currently used.	NS
Results	<Results>	Not currently used.	NS
Procedures	<Procedures>	Not currently used.	NS
Encounters	<Encounters>	Not currently used.	NS

CCR Attributes and Data Objects	XML Tag	Comments	Req'd^a
Plan Of Care	<PlanOfCare>	Not currently used.	NS
Healthcare Providers	<HealthCareProviders>	Not currently used.	NS
CCR Footer			
Actors	<Actor>	Patient information structural grouping element.	R
	<ActorObjectID>	Must be a unique Object ID to identify this specific instance of an Actor for this CCR document. Type: xs:string, should be a UUID or OID.	R
	<Person>	Structural grouping element.	O
	<Name>	Structural grouping element.	O
	<BirthName>	Not currently used.	NS
	<AdditionalName>	Not currently used.	NS
	<CurrentName>	The Given, Family, Middle, Title, and Suffix are being set. The names are all defined as xs:string type. Example: <CurrentName> <Given>Minnie</Given> <Family>Mouse</Family> </CurrentName>	O
	<DisplayName>	Not currently used.	NS
	<DateOfBirth>	The DateOfBirth element is defined as xs:string type. DateOfBirth format is: yyyy-mm-dd Example: <DateOfBirth> <ExactDateTime>1951-06-18 </ExactDateTime> </DateOfBirth>	O
	<Gender>	Male, Female, Unknown The Gender element is defined as xs:string type. Example: <Gender> <Text>Female</Text> </Gender>	O
	<Organization>	Not currently used.	NS
	<InformationSystem>	Not currently used.	NS

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Actors, <i>continued</i>	<IDs>	<p>All patient IDs sent from Care360 Labs & Meds will be in the CCR. This information is sent over in the patientReferenceNumber field.</p> <p>Note: The social security number is sent as “Social Security Number” instead of “SSN” in <Type>. All other reference number qualifiers are the same as those sent from Care360 Labs & Meds.</p> <p>The <Text> tag contains the value “Social Security Number” or “MRN”. The <ID> tag will contain the actual value of the ID. The Type, ID, ActorID, and ActorRole are defined as xs:string type.</p> <p>The <ID> tag will contain the patientReferenceNumber that has a patientReferenceNbrQualifier or “SY” or “ZZ”. Each patientReferenceNumber sent from Care360 Labs & Meds is sent in a different <Ids> element.</p> <p>Example:</p> <pre><Ids> <Type> <Text>Social Security Number</Text> </Type> <ID>123456789</ID> <Source> <Actor> <ActorID> 0C32996a7f00010104507926d8e440fc </ActorID> <ActorRole> <Text>Primary Care Provider </Text> </ActorRole> </Actor> </Source> </Ids></pre>	O
	<Relation>	Not currently used.	NS
	<Specialty>	Not currently used.	NS
	<Address>	<p>All of the Address elements are defined as xs:string type.</p> <p>Example:</p> <pre><Address> <Line1>1234 Mulberry Lane</Line1> <Line2>additional address</Line2> <City>Toledo</City> <State>OH</State> <PostalCode>54360</PostalCode> <Country>USA</Country> </Address></pre>	O

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Actors, <i>continued</i>	<Telephone>	<p>Can be more than one depending on what Care360 Labs & Meds sends. A separate telephone instance is created for each.</p> <p>The Value and Type elements are all defined as xs:string type.</p> <p>Example:</p> <pre><Telephone> <Value>1234567890</Value> <Type> <Text>Telephone</Text> </Type> </Telephone> <Telephone> <Value>1234567890</Value> <Type> <Text>Nighttime Phone</Text> </Type> </Telephone> <Telephone> <Value>1234567890</Value> <Type> <Text>Work Phone</Text> </Type> </Telephone> <Telephone> <Value>1234567890</Value> <Type> <Text>Fax Number</Text> </Type> </Telephone></pre> <p>Values from Care360 Labs & Meds:</p> <p>PAGE = "BN" CELLULAR = "CP" FAX = "FX" HOME = "HP" NIGHT = "NP" TELEPHONE = "TE" WORK = "WP" EMAIL = "EM"</p>	O
	<Email>	<p>If an email address is available it will be included in the CCR message. The <Email> element is used only for the Prescriber communication numbers, and only the email address of the Prescriber is used. All other communication numbers are ignored.</p> <p>The Value and Type elements are all defined as xs:string type.</p> <p>Values from Care360 Labs & Meds:</p> <p>EMAIL = "EM"</p>	O

CCR Attributes and Data Objects	XML Tag	Comments	Req'd^a
Actors, <i>continued</i>	<URL>	Not currently used.	NS
	<Status>	The Status element is defined as xs:string type. Example: <Status> <Text>Active</Text> </Status>	O
	<Source>	The ActorObjectID of the Care Site or Hub Account. All of the elements in the Source element are defined as xs:string type. Example: <Source> <Actor> <ActorID> 0c32996a7f00010104507926d8e440fc </ActorID> <ActorRole> <Text>Primary Care Provider</Text> </ActorRole> </Actor> </Source>	R
	<InternalCCRLink>	Not currently used.	NS
	<ReferenceID>	Not currently used.	NS
	<CommentID>	Not currently used.	NS
	<References>	Not currently used.	NS
Comments	<Comments>	Not currently used.	NS
Signatures	<Signatures>	Not currently used.	NS

a. R = Required, O = Optional, C = Conditional (required for drugs, optional for supplies), NS = Not Supported.

Sample Care360 CCR Message

Following is a sample XML message, formatted according to the “[Care360 CCR Message Specifications](#)” on page 245.

Sample Message

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ContinuityOfCareRecord xmlns="urn:astm-org:CCR">
<CCRDocumentObjectID>0c3299627f0001010450792695a0fd38</CCRDocumentObjectID>
<Language>
    <Text>English</Text>
</Language>
<Version>1.0</Version>
<DateTime>
    <ExactDateTime>2010-05-04T10:16:31+00:00</ExactDateTime>
</DateTime>
<Patient>
    <ActorID>0c3299677f00010104507926bfbda468</ActorID>
</Patient>
<From>
    <ActorLink>
        <ActorID>0c32996a7f00010104507926d8e440fc</ActorID>
        <ActorRole>
            <Text>Primary Care Provider</Text>
        </ActorRole>
    </ActorLink>
</From>
<Body>
    <Medications>
        <Medication>
            <CCRDataObjectID>
                0c329ae17f00010104507926a3f3bb06
            </CCRDataObjectID>
            <DateTime>
                <Type>
                    <Text>Start Date</Text>
                </Type>
                <ExactDateTime>2005-03-12T12:00:00+00:00</ExactDateTime>
            </DateTime>
            <DateTime>
                <Type>
                    <Text>Stop Date</Text>
                </Type>
                <ExactDateTime>2005-04-16T12:00:00+00:00</ExactDateTime>
            </DateTime>
            <Type>
                <Text>Medication</Text>
            </Type>
            <Status>
                <Text>Active</Text>
            </Status>
            <Source>
                <Actor>
                    <ActorID>0c329aef7f0001010450792624f1f5cd</ActorID>
                    <ActorRole>
                        <Text>Primary Care Provider</Text>
                    </ActorRole>
                </Actor>
            </Source>
        </Medication>
    </Medications>
</Body>
</ContinuityOfCareRecord>
```

```

        </Actor>
    </Source>
    <Product>
        <ProductName>
            <Text>fluocinolone topical</Text>
        <Code>
            <Value>99220750917</Value>
            <CodingSystem>NDC</CodingSystem>
        </Code>
    </ProductName>
    <BrandName>
        <Text>Synemol</Text>
    </BrandName>
    <Strength>
        <Text>0.025%</Text>
    </Strength>
    <Form>
        <Text>cream</Text>
    </Form>
    <Manufacturer>
        <ActorID>0c329b267f00010104507926758f725e</ActorID>
    </Manufacturer>
</Product>
<Quantity>
    <Value>2</Value>
</Quantity>
<Directions>
    <Direction>
        <Dose>
            <Value>Twice a day</Value>
        </Dose>
        <Route>
            <Text>topical</Text>
        </Route>
        <Frequency>
            <Description>
                <Text></Text>
            </Description>
        </Frequency>
        <Duration>
            <Description>
                <Text>35</Text>
            </Description>
        </Duration>
    </Direction>
</Directions>
<PatientInstructions>
    <Instruction>
        <Text>Comments to Pharmacist</Text>
    </Instruction>
</PatientInstructions>
<Refills>
    <Refill>
        <Quantity>
            <Value>1</Value>
        </Quantity>
    </Refill>
</Refills>
</Medication>

```

```

        </Medications>
    </Body>

    <Actors>
        <Actor>
            <ActorObjectID>0c329aef7f0001010450792624f1f5cd</ActorObjectID>
        <Person>
            <Name>
                <CurrentName>
                    <Given>FirstName</Given>
                    <Family>LastName</Family>
                </CurrentName>
            </Name>
        </Person>
        <IDs>
            <Type>
                <Text>DEA</Text>
            </Type>
            <ID>888888</ID>
            <Source>
                <Actor>
                    <ActorID>0c32996a7f00010104507926d8e440fc</ActorID>
                    <ActorRole>
                        <Text>Primary Care Provider</Text>
                    </ActorRole>
                </Actor>
            </Source>
        </IDs>
        <IDs>
            <Type>
                <Text>State License</Text>
            </Type>
            <ID>ST-888888</ID>
            <Source>
                <Actor>
                    <ActorID>0c32996a7f00010104507926d8e440fc</ActorID>
                    <ActorRole>
                        <Text>Primary Care Provider</Text>
                    </ActorRole>
                </Actor>
            </Source>
        </IDs>
        <Status>
            <Text>Active</Text>
        </Status>
        <Source>
            <Actor>
                <ActorID>0c32996a7f00010104507926d8e440fc</ActorID>
                <ActorRole>
                    <Text>Primary Care Provider</Text>
                </ActorRole>
            </Actor>
        </Source>
    </Actor>

    <Actor>
        <ActorObjectID>0c32996a7f00010104507926d8e440fc</ActorObjectID>
        <Source>
            <Actor>

```

```

<ActorID>0c32996a7f00010104507926d8e440fc</ActorID>
<ActorRole>
    <Text>Primary Care Provider</Text>
</ActorRole>
</Actor>
</Source>
</Actor>

<Actor>
    <ActorObjectID>0c329b267f00010104507926758f725e</ActorObjectID>
    <Organization>
        <Name>Medicis Pharmaceutical Corporation</Name>
    </Organization>
    <Source>
        <Actor>
            <ActorID>Care360</ActorID>
            <ActorRole>
                <Text>Medical Information System</Text>
            </ActorRole>
        </Actor>
    </Source>
</Actor>

<Actor>
    <ActorObjectID>0c329bc87f00010104507926c6a17d0e</ActorObjectID>
    <Person>
        <Name>
            <CurrentName>
                <Given>FirstName</Given>
                <Family>LastName</Family>
            </CurrentName>
        </Name>
        <DateOfBirth>
            <ExactDateTime>1951-06-18</ExactDateTime>
        </DateOfBirth>
        <Gender>
            <Text>Female</Text>
        </Gender>
    </Person>

    <IDs>
        <Type>
            <Text>2U</Text>
        </Type>
        <ID>B000000%11111110%002</ID>
        <Source>
            <Actor>
                <ActorID>0c32996a7f00010104507926d8e440fc</ActorID>
                <ActorRole>
                    <Text>Primary Care Provider</Text>
                </ActorRole>
            </Actor>
        </Source>
    </IDs>

    <IDs>
        <Type>
            <Text>Social Security Number</Text>
        </Type>
    </IDs>

```

```

<ID>123456789</ID>
<Source>
    <Actor>
        <ActorID>0c32996a7f00010104507926d8e440fc</ActorID>
        <ActorRole>
            <Text>Primary Care Provider</Text>
        </ActorRole>
    </Actor>
</Source>
</IDs>

<Address>
    <Line1>4690 Parkway Drive</Line1>
    <City>Mason</City>
    <State>OH</State>
    <PostalCode>45040</PostalCode>
</Address>

<Telephone>
    <Value>1234567890</Value>
    <Type>
        <Text>Telephone</Text>
    </Type>
</Telephone>
<Telephone>
    <Value>1234567890</Value>
    <Type>
        <Text>Nighttime Phone</Text>
    </Type>
</Telephone>
<Telephone>
    <Value>1234567890</Value>
    <Type>
        <Text>Work Phone</Text>
    </Type>
</Telephone>
<Telephone>
    <Value>1234567890</Value>
    <Type>
        <Text>Fax Number</Text>
    </Type>
</Telephone>

<Source>
    <Actor>
        <ActorID>0c32996a7f00010104507926d8e440fc</ActorID>
        <ActorRole>
            <Text>Primary Care Provider</Text>
        </ActorRole>
    </Actor>
</Source>
</Actor>

<Actor>
    <ActorObjectID>Care360</ActorObjectID>
<InformationSystem>
    <Name>Medplus Care360 Physician Portal</Name>
    <Type>EMR</Type>
    <Version>4.0</Version>

```

```
</InformationSystem>
  <Source>
    <Actor>
      <ActorID>0c32996a7f00010104507926d8e440fc</ActorID>
      <ActorRole>
        <Text>Primary Care Provider</Text>
      </ActorRole>
    </Actor>
  </Source>
</Actor>
</Actors>
</ContinuityOfCareRecord>
```

About Patient Demographic Services

Patient demographic integration enables patient demographic data changes that occur within a partner application to be forwarded to Care360 Labs & Meds, in order to maintain the integrity of patient demographic data between the two applications. The types of patient demographic changes that can be submitted include the following:

- Add Patient
- Update Patient
- Delete Patient
- Merge Patients
- Schedule Patient

Patient demographic updates are communicated to Care360 Labs & Meds through Care360 Hub Information Services, which maintains a record of all patient demographic transactions. Any errors that occur when the updates are communicated to Care360 Labs & Meds are returned to the Hub.

Patient demographic update messages submitted by the partner application must be formatted according to the specifications detailed in [Chapter 15, “Care360 Patient Demographic HL7 Specification”](#) on page 297.

Outbound patient demographic updates are communicated to the partner application through Care360 Hub Information Services, which maintains a record of all patient demographic transactions. Any errors that occur when the updates are communicated to the partner application are returned to the Hub.

Patient Demographic Services Connectivity

The transfer of all Patient Demographic updates between a partner application and Care360 Hub Information Services will occur via the Hub Patient Demographic Services (HTTPS).

Note: For details of the Patient Demographic Services, see [Chapter 14, “Patient Demographic Services API Reference”](#) on page 291.

Real-Time vs. Batch Processing

Patient demographic update messages can either be submitted individually for *real-time* updates that will be processed immediately, or they can be submitted individually for *batch* processing that will occur at a later time. Unlike real-time updates that are processed immediately, HL7 messages that are submitted for batch processing are placed in a queue.

- Use real-time updates for submitting individual patient demographic update messages that are time sensitive.
- Use batch updates for submitting a large number of individual patient demographic messages that are not time sensitive. For example, use batch updates to process the initial patient demographic data load between a partner application and Care360 Labs & Meds.

Both update types are processed in the order in which they are received by Care360 Labs & Meds. To distinguish real-time and batch updates, each type is submitted to Care360 Hub Information Services via its own Patient Demographic Services method. For information on the real-time and batch methods, see [“Patient Demographic Method Details”](#) on page 293.

PID-Only vs. “Fuzzy” Matching

There are two methods available for processing patient demographic merge requests. Partners must specify their preferred method during the initial integration process with Care360 Labs & Meds. The two methods include the following:

- **PID-Only Matching.** This method relies solely on the ability of the partner application to identify a patient using a unique patient identifier (PID). When using this method, the information provided by the partner application is always considered the most accurate (that is, it overrides any existing data in Care360 Labs & Meds).
- **“Fuzzy” Matching.** This method requires the partner application to pass a minimum set of patient demographic data, in addition to the PID, to identify the patient. Care360 Labs & Meds uses the supplied patient demographic data to attempt to identify the matching patient(s) to complete the patient demographic update request.

For additional information, see “[PID-Only Matching Detail](#)” on page 263 and “[“Fuzzy” Matching Detail](#)” on page 264.

PID-Only Matching Detail

The following table provides additional details on the rules associated with PID-only matching for patient demographic updates.

PID-Only Matching Request	Potential Results
Add Patient	<p>If the incoming PID matches no existing patient in the target organization, the patient is added.</p> <p>If the incoming PID matches a single patient in the target organization, that patient is updated.</p> <p>If the incoming PID matches more than one existing patient, Care360 Labs & Meds returns an error to the partner application.</p>
Update Patient	<p>If the incoming PID matches no existing patient in the target organization, the patient is added.</p> <p>If the incoming PID matches a single patient in the target organization, that patient is updated.</p> <p>If the incoming PID matches more than one existing patient, Care360 Labs & Meds returns an error to the partner application.</p>
Delete Patient	<p>If the incoming PID matches no existing patient in the target organization, Care360 Labs & Meds returns an error to the partner application.</p> <p>If the incoming PID matches a single patient in the target organization, that patient is deleted.^a</p> <p>If the incoming PID matches more than one existing patient, Care360 Labs & Meds returns an error to the partner application.</p>

PID-Only Matching Request	Potential Results
Merge Patients	<p>If the target organization contains no patient with the same PID for either the “correct” patient or the “incorrect” patient, Care360 Labs & Meds returns an error to the partner application.</p> <p>If the target organization contains a single patient with the same PID for the “correct” patient and a single patient with the same PID for the “incorrect” patient, those patients are merged.</p> <p>If the target organization contains more than one patient with the same PID for either the “correct” patient or the “incorrect” patient, Care360 Labs & Meds returns an error to the partner application.</p>
Schedule Patient	<p>If the incoming PID matches no existing patient in the target organization, the patient is added.</p> <p>If the incoming PID matches a single patient in the target organization, that patient is updated.</p> <p>If the incoming PID matches more than one existing patient, Care360 Labs & Meds returns an error to the partner application.</p>

- a. You cannot delete a patient after clinical entries (for example, lab results) have been associated with that patient, or if the patient is associated with an alias patient. If a delete cannot be performed due to either of these conditions, an error message is returned.

“Fuzzy” Matching Detail

The following table provides additional details on the rules associated with “fuzzy” matching for patient demographic updates.

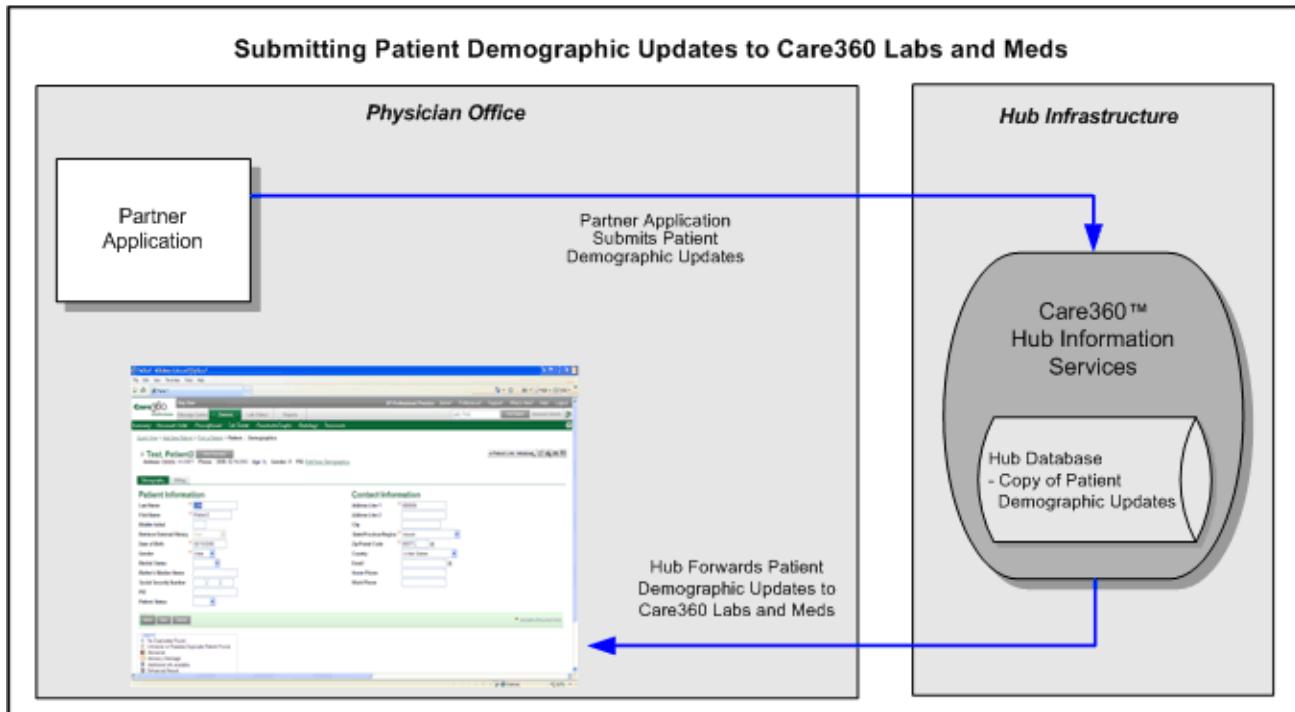
“Fuzzy” Matching Request	Potential Results
Add Patient	<p>If Care360 Labs & Meds finds no high-confidence match between existing patients in the target organization and the incoming patient demographics, the patient is added.</p> <p>If Care360 Labs & Meds finds a high-confidence match between a single patient in the target organization and the incoming patient demographics, the matching patient is updated.</p> <p>If Care360 Labs & Meds finds more than one existing patient that has a high-confidence or ambiguous match with the incoming patient demographics, Care360 Labs & Meds adds the patient, and marks the patient as a potential duplicate.</p> <p>If Care360 Labs & Meds finds an ambiguous match between the incoming patient demographics and a single patient in the target organization, Care360 Labs & Meds adds the patient, and marks the patient as a potential duplicate.</p>

“Fuzzy” Matching Request	Potential Results
Update Patient	<p>If Care360 Labs & Meds finds no high-confidence match between existing patients in the target organization and the incoming patient demographics, the patient is added.</p> <p>If Care360 Labs & Meds finds a high-confidence match between a single patient in the target organization and the incoming patient demographics, the matching patient is updated.</p> <p>If Care360 Labs & Meds finds more than one existing patient that has a high-confidence or ambiguous match with the incoming patient demographics, Care360 Labs & Meds adds the patient, and marks the patient as a potential duplicate.</p> <p>If Care360 Labs & Meds finds an ambiguous match between the incoming patient demographics and a single patient in the target organization, Care360 Labs & Meds adds the patient, and marks the patient as a potential duplicate.</p>
Delete Patient	<p>If Care360 Labs & Meds finds no high-confidence match between existing patients in the target organization and the incoming patient demographics, Care360 Labs & Meds returns an error to the partner application.</p> <p>If Care360 Labs & Meds finds a high-confidence match between a single patient in the target organization and the incoming patient demographics, the matching patient is deleted.^a</p> <p>If Care360 Labs & Meds finds more than one high-confidence match between existing patients in the target Organization and the incoming patient demographics, Care360 Labs & Meds returns an error to the partner application.</p>
Merge Patients	<p>If the target organization contains no match for either the “correct” patient or the “incorrect” patient, Care360 Labs & Meds returns an error to the partner application.</p> <p>If the target organization contains a single high-confidence match for the “correct” patient and a single high-confidence match for the “incorrect” patient, those patients are merged.</p> <p>If the target organization contains more than one high-confidence match for either the “correct” patient or the “incorrect” patient, Care360 Labs & Meds returns an error to the partner application.</p>
Schedule Patient	<p>If the incoming PID matches no existing patient in the target organization, the patient is added.</p> <p>If the incoming PID matches a single patient in the target organization, that patient is updated.</p> <p>If the incoming PID matches more than one existing patient, Care360 Labs & Meds returns an error to the partner application.</p>

a. You cannot delete a patient after clinical entries (for example, lab results) have been associated with that patient, or if the patient is associated with an alias patient. If a delete cannot be performed due to either of these conditions, an error message is returned.

Process Walkthrough: Submitting a Patient Demographic Update

The diagram below illustrates (at a high level) the flow of information between a partner application, Care360 Hub Information Services, and Care360 Labs & Meds. Following the diagram is a step-by-step walkthrough of the patient demographic processes illustrated in the diagram.

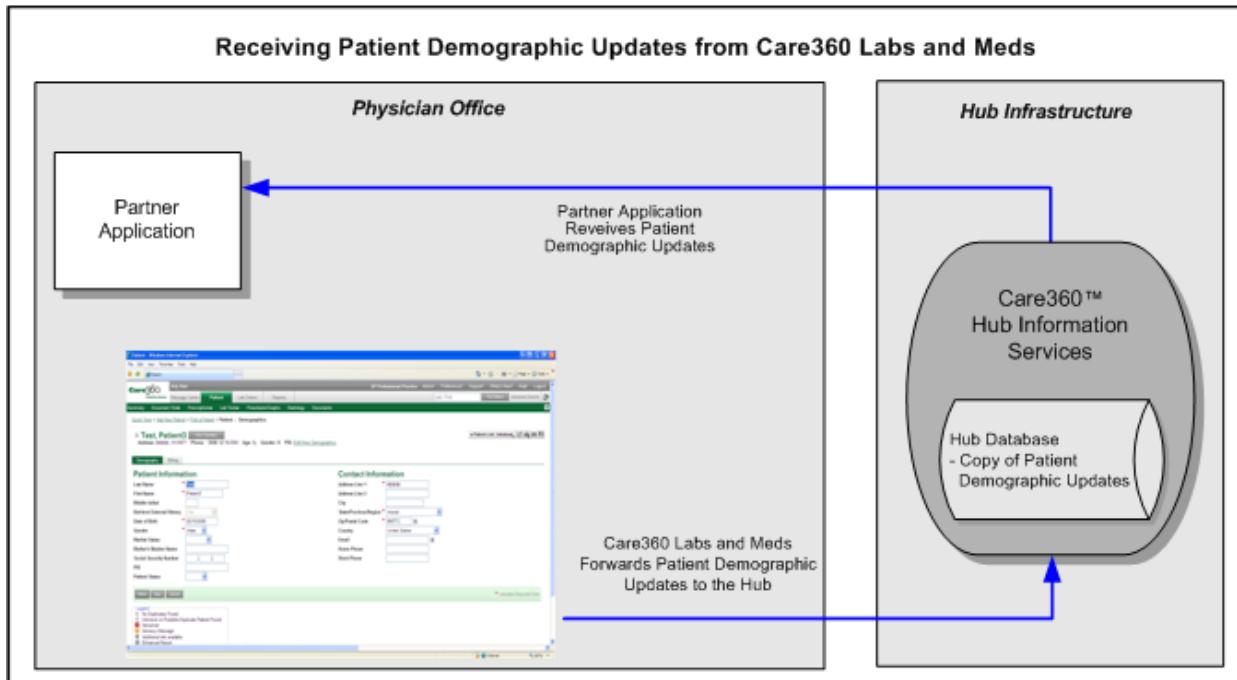


The following steps outline the process and associated systems involved in a partner application submitting patient demographic update requests to Care360 Labs & Meds.

- The partner application submits patient demographic update messages to the Hub via the Inbound Patient Demographic Services.
Note: Patient demographic update messages provided by the partner application must be formatted according to the specifications detailed in [Chapter 15, “Care360 Patient Demographic HL7 Specification”](#) on page 297.
- The Hub receives the patient demographic messages from the partner application, and verifies the format and content of the patient demographic messages.
- The Hub records the patient demographic transaction, and stores a copy of the discrete content of the patient demographic messages for a minimum of 90 days (or longer, as specified by the partner).
- The Hub converts the patient demographic messages to the Care360 Labs & Meds format, and then forwards the messages to Care360 Labs & Meds.
- Care360 Labs & Meds applies the updates to its patient database.
 - Any validation errors that occur within Care360 Labs & Meds are returned to the Hub.

Process Walkthrough: Outbound Patient Demographic Updates

The diagram below illustrates (at a high level) the flow of information between Care360 Labs & Meds, Care360 Hub Information Services, and a partner application. Following the diagram is a step-by-step walkthrough of the patient demographic processes illustrated in the diagram.

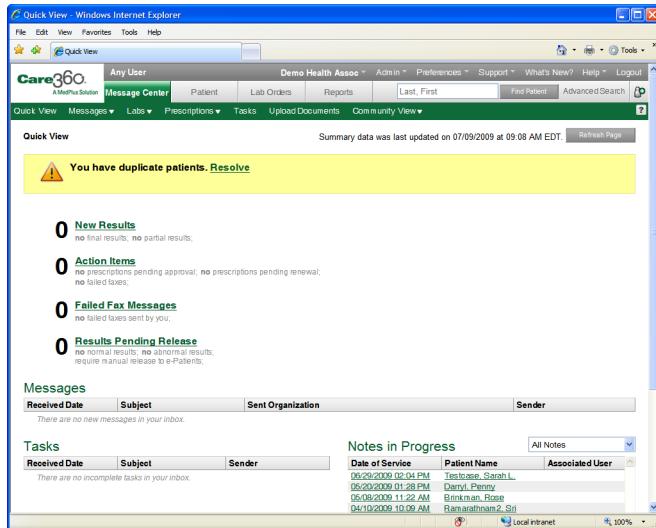


The following steps outline the procedure—and associated systems—involved in a partner application receiving patient demographic updates from Care360 Labs & Meds.

- The Hub receives the patient demographic messages from Care360 Labs & Meds, and verifies the format and content of the patient demographic messages.
- The Hub records the patient demographic transaction, and stores a copy of the discrete content of the patient demographic messages for a minimum of 90 days (or longer, as specified by the partner).
- The Hub converts the patient demographic messages to the standard HL7 ADT message format, and then forwards the messages to the partner application.
- The partner application applies the updates to its patient database.
- Any validation errors that occur within the partner application are returned to the Hub.

Customizing the Care360 Labs & Meds User Interface

When Care360 Labs & Meds is linked to a partner application, it is possible to customize certain elements of Care360 Labs & Meds's user interface (UI) to provide a more seamless experience for users as they move between the two applications.



The elements of the Care360 Labs & Meds that can be customized include the following:

- **Logos and Images.** The Care360 Labs & Meds logo (in the upper-left corner), as well as the Quest Diagnostics logo (in the lower-left corner) can each be replaced with a similarly-sized logo or image to reflect the branding of the partner organization or application. For details, see “[Logo and Image Specifications](#)” on page 269.
- **Color Palette.** The overall color scheme of the Care360 Labs & Meds user interface, including the navigational buttons, can be modified to reflect the partner organization or application. For details, see “[Color Palette Specifications](#)” on page 269.
- **Copyright and Trademark Text.** The Quest Diagnostics copyright and trademark text (along the bottom of each page) can be changed to reflect the applicable copyright or trademark text of the partner organization. For details, see “[Copyright and Trademark Text Specifications](#)” on page 269.
- **Link Names and Destinations.** Several of the hypertext links (along the bottom of each page) can be changed to display custom text, as well as to link to Web-based resources associated with the partner organization. For example, the *Contact Us* link could be changed to *Contact University Hospital*, with the link providing direct access to the hospital’s customer support Web site. For details, see “[Link Name and Destination Specifications](#)” on page 270.
- **Custom Uniform Resource Locator (URL).** The Web address (or *URL*) that is used to access Care360 Labs & Meds—and appears in the user’s Web browser while using the Care360 Labs & Meds—can be changed to include a domain name that reflects the partner organization or application. For details, see “[Custom URL Specifications](#)” on page 270.
- **User Manual and Help.** The *Care360 Labs & Meds User Manual* and online help can be replaced with a “generic” version (with Quest Diagnostics references and branding removed). For details, see “[User Manual and Help Specifications](#)” on page 271.

Custom UI Specifications

The following sections provide detailed specifications of the Care360 Labs & Meds UI elements that can be customized for use with a partner application.

Logo and Image Specifications

The following Care360 Labs & Meds logos and/or images can be replaced or removed:

Logo/Image	Location	File Type	Dimensions (Pixels)
Care360 Labs & Meds logo	Upper-left corner of application	.GIF	197 W x 70 H
Quest Diagnostics logo	Left-hand navigation pane of application	.GIF	125 W x 41 H
Care360 Labs & Meds logo	Upper-left corner of login page	.GIF	302 W x 99 H

Color Palette Specifications

The overall color scheme of the Care360 Labs & Meds user interface, including navigational buttons, can be customized to reflect the partner organization or application. Elements for which color can be defined include the following:

- Text color
- Background colors (including lighter, middle, and darker)
- Button text color
- Button background color

Colors for each option are specified using one of the following three color formats: RGB (composed of three number or percentage values), hexadecimal (a 3- or 6-digit hex value), or color name (standard colors defined by the World Wide Web Consortium (W3C)).

Copyright and Trademark Text Specifications

The Quest Diagnostics copyright and trademark text that appears along the bottom of each Care360 Labs & Meds page can be changed to reflect the applicable copyright, trademark, or disclaimer text (up to 500 characters) of the partner organization. The text can also contain HTML tags, which enables additional formatting or linking options to be included.

Link Name and Destination Specifications

The following hypertext links—which appear along the bottom of each page—can be customized to display a different link name (up to 30 characters each) and/or to link to a different destination, or they can be removed altogether:

Care360 Labs & Meds Link	Location	Customization Options
<i>About Care360</i>	Login page	Can be renamed and/or linked to a different destination page, or removed.
<i>Forgot Password?</i>	Login page	Can be renamed or removed.
<i>Contact Us</i>	Login page, Each portal page	Can be renamed and/or linked to a different destination page, or removed.
<i>Feedback</i>	Each portal page	Can change e-mail recipient.
<i>Quest Diagnostics Resource</i>	Each portal page	Can be renamed and/or linked to a different destination page, or removed.
<i>Logo in Left-Hand Navigation Pane</i>	Each portal page	Can be replaced and/or linked to a different destination page.
<i>Quick View</i>	Each portal page	<i>Cannot</i> be changed or removed (links to Care360 Labs & Meds internal destination).

Custom URL Specifications

In order for a partner application to link to a custom “branded” version of Care360 Labs & Meds, the partner application must connect via a custom URL that identifies the branded version of Care360 Labs & Meds to display. The custom URL can be used to programmatically link the applications, or to enable an end user to access the branded version of Care360 Labs & Meds directly (outside the context of the partner application).

The format of the custom URL is as follows:

`https://<portal server name>:<port>/login.jsp?branduid=<brand uid>`

where:

- `<portal server name>:<port>` are the server name and (optional) port number associated with the Care360 Labs & Meds installation to which the partner application is connecting
 - and –
- `<brand uid>` is a random number that is generated by MedPlus to identify the branded Care360 Labs & Meds instance to display.

For example:

`https://www.Care360.com/physicianportal/login.jsp?branduid=12345`

Partners that allow their users to access Care360 Labs & Meds directly (outside the context of the partner application) can either provide their users with the MedPlus-supplied URL, or they can create a custom URL by aliasing a more appropriate domain name.

User Manual and Help Specifications

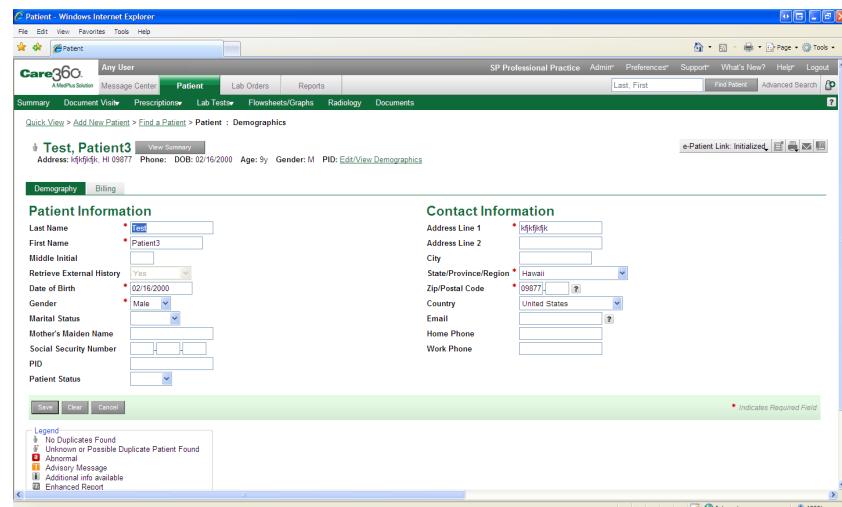
The *Care360 Labs & Meds User Manual* and online help can be replaced with a generic user manual and help, which contain no references to Quest Diagnostics, and no Care360 Labs & Meds or Quest Diagnostics branding, such as logos or images.

Note: The *Care360 Labs & Meds Reference Guide* cannot be customized.

Chapter 12

Care360 Labs & Meds SSO Specification

.....



In This Chapter:

- About the Care360 Labs & Meds SSO Specification 274
- Establishing Organizational Trust 275
- Implementing SAML 276
- Usage Scenario 1: Care360 Labs & Meds SSO for Interactive Users . 279
- Usage Scenario 2: Care360 Labs & Meds SSO for Web Services 281

About the Care360 Labs & Meds SSO Specification

Care360 Labs & Meds SSO utilizes the [Oasis SAML 1.1](#) specification for exchanging credentials securely between itself and a partner application. The implementation of this trust model is based upon a combination of the following items:

- A *digital certificate* that identifies the external partner.
- An *organizational trust record* that is recorded with Care360 Labs & Meds.

The organizational trust record follows an assessment process, verifying that the partner site can securely and accurately assert the identities of its users on behalf of Care360 Labs & Meds. Since password management is not required to access Care360 Labs & Meds, the password management at the partner application endpoint must be comparable.

Once the organizational trust has been established, the partner application can submit authentication requests to Care360 Labs & Meds in the form of a *SAML assertion*. SAML is an XML-based messaging standard that provides for the specification of a partner site identifier, user name identifier, digital signature of the asserted information, and so on. This SAML message is typically posted directly to the Care360 Labs & Meds secure Web server, using the SAML Browser/POST profile.

Some of the various third-party SAML toolsets available include the following:

- ComponentSpace SAML.NET, for the Windows .NET platform
- OpenSAML, for Java

Quest Diagnostics can provide sample implementations using the above toolsets, which can be used as a starting point and for performing system checks for your configuration.

Establishing Organizational Trust

This section provides a list of business processes that you can follow to facilitate the collection of identifiers and credentials for your site, as well as to assess the fitness and requirements of your application infrastructure for the use of SAML in place of Care360 Labs & Meds passwords.

The high-level processes for establishing organization trust include the following:

- Performing a security assessment.** Quest Diagnostics will work with you to review application security, network security, password aging practices, password complexity rules, and user account management practices to determine whether or not your system operates at a minimum level of discipline across these areas.
- Obtaining a digital certificate.** This is an RSA-encrypted certificate that your application will use for signing SAML assertions, before passing them to Care360 Labs & Meds. You must generate a private key and certificate request to be authorized by a third-party certificate authority (for example, VeriSign), and then forward the public key to Quest Diagnostics.
- Providing SAML credentials.** Your SAML implementation must employ a few key pieces of information that must be shared with Quest Diagnostics (your SAML partner), including:
 - Source ID.** A base64-encoded identifier that uniquely identifies your site. This is the “primary key” component of the organizational trust record Quest Diagnostics creates for you in our system.
 - Issuer.** A unique string (typically in URL format) that identifies your Internet host point. This string is stored in the organizational trust record that Quest Diagnostics maintains for you, and is also included in all SAML assertions transmitted by your site to Care360 Labs & Meds.
 - SAML Artifact Redemption Servlet.** Applies only to partners using the SAML Browser/Artifact profile. If your site uses the SAML Browser/Artifact profile method of authentication, this is a URL on your system to which Care360 Labs & Meds SSO can call back to redeem an SAML artifact. This must be a secure (SSL-accessible) endpoint on your system, and may require special firewall configuration, which would be examined as part of the security assessment.

Note: If you are using the recommended SAML Browser/POST profile, this component is not necessary.

Implementing SAML

Your SAML implementation must employ the digital certificate and SAML identifiers shared and configured as outlined in the previous sections of this chapter. This section outlines the general steps required to authenticate successfully to Care360 Labs & Meds via SAML. Sample implementations are provided later in this guide to illustrate how these steps are facilitated on various platforms, and in various usage scenarios (for example, a Web service vs. a user's browser). These instructions are based upon the SAML Browser/POST profile model.

The following general actions must occur in order to authenticate a partner application user to Care360 Labs & Meds using SAML 1.1:

- The user is authenticated in the partner application.** Before accessing a link to a Care360 Labs & Meds feature using SSO, the user must authenticate to the partner application environment. The means used to authenticate must be that which was previously approved during the security assessment.
- The user selects a linked Care360 Labs & Meds feature.** The user takes some action (for example, clicking a button or submitting a form) that correlates to a feature hosted by Care360 Labs & Meds. This action triggers the SAML authentication process, and directs Care360 Labs & Meds to serve the requested content once authentication has been achieved. The requested content contains a target URI (*targetUri*), plus possible application context parameters.
- The SAML assertion is created.** Using a SAML library or application installed within the partner application environment, a SAML assertion is created. This assertion contains the user identity (*NameIdentifier*), the partner's *Issuer* value, and a precise and current timestamp based on Greenwich Mean Time (GMT).
- The SAML assertion is signed.** The partner site's private key is used to digitally sign the SAML assertion. An encoded copy of the resulting signature and an encoded copy of the partner site's public key are coupled with the SAML assertion to form a SAML response. (This is referred to as a SAML *response*, as opposed to a *request*. Refer to the Oasis Web site for a detailed explanation of each.)
- The SAML response (assertion + signature) is transmitted to Care360 Labs & Meds via HTTP+SSL.** The SAML response is POSTed to the following URL:

<https://portal.Care360.com/Care360/Care360SSOSecurityCheck>

The following parameters are passed within the form, using the standard application/x-www-form-urlencoded format.

Parameter	Description	Example Value	Req'd?	Default
<i>Process Control Parameters</i>				
care360Transaction	A Base64-encoded Care360 Transaction Document containing an A31 XML message.	[Base64-encoded <c360:Care360Transaction>...</c360:Care360Transaction> payload]	N	
SAMLResponse	A Base64-encoded copy of the SAML response XML message.	[Base64-encoded copy of the <saml:Response>...</saml:Response> payload]	Y	

Parameter	Description	Example Value	Req'd?	Default
targetUri	A Care360 Labs & Meds page identifier, indicating the preferred “landing page.”	<p>One of the following:</p> <ul style="list-style-type: none"> • NewResults • LabOrders • Home • BlankPage • PatientSummary • RxPad • ActionItems • ActionItemFailedFaxes • ActionItemsPendingRenewals • ActionItemsPendingApprovals <p>Notes:</p> <ul style="list-style-type: none"> • Home specifies the user's default page. • BlankPage is valid only for Web service calls. 	N	Home
branduid	A string value indicating the preferred UI brand.	2c9252d710e58d150110e58d67190001	N	Care360 Labs & Meds default brand
TARGET	A SAML 1.1 parameter that identifies a target page. This parameter is not used by Care360 Labs & Meds SSO, even though it is in the standard. If your SAML implementation or library requires this name/value pair, specify it with any arbitrary value (the value is ignored).	[any value]	N	
<i>Application Context Parameters</i>				
ctx.patientID	<p>A Care360 Labs & Meds patient identifier (PID).</p> <p>Note: Valid only for the LabOrders, PatientSummary, and RxPad landing pages.</p>	23456	N	

- The SAML response is authenticated by Care360 Labs & Meds.** Care360 Labs & Meds SSO verifies the SAML response, and authenticates the asserted user based upon the following:
 - **Was the SAML response signed by a trusted partner?** The public key passed within the SAML response is sought in the Care360 Labs & Meds SSO keystore. If found, this step succeeds. This control prevents rogue third parties from forging the identities of Care360 Labs & Meds customers, and also thwarts “man in the middle” attacks that attempt to modify the SAML message in transit.
 - **Was the SAML response created in a timely manner?** Care360 Labs & Meds SSO enforces a strict time tolerance window (allowing only for a 180-second discrepancy between your clock and ours), outside of which a SAML response is not accepted. This control prevents the future posting of any intercepted and captured SAML response by a malicious third party, should a security breach occur, and helps to ensure that timely information transmitted.
- Note:** You may specify a *Conditions* node within your SAML assertion to narrow the time tolerance window, if you prefer. The time tolerance window always reflects the narrower of the two settings.
- **Is the partner's Issuer recognized by Care360 Labs & Meds?** Having verified the signature of the SAML response, Care360 Labs & Meds is assured that the Issuer value transmitted within the SAML assertion reflects your partner profile. When Care360 Labs & Meds SSO locates this value in its SAML partner configuration data, your site's identity is verified as a viable SAML asserter.
 - **Is the asserted partner application user recognized by Care360 Labs & Meds?** The NameIdentifier value within the SAML assertion provides unique identification of the user, as recognized by the partner application. Care360 Labs & Meds SSO looks up this user identifier in its user mapping table to determine the correlating Care360 Labs & Meds user identity. If found, a Care360 Labs & Meds login session is established for the user. If not found, Care360 Labs & Meds SSO presumes the user is accessing Care360 Labs & Meds via SSO for the first time, and directs the user to a one-time Care360 Labs & Meds login page (for an overview of this process, see [“Initializing a User's SSO Connection” on page 235](#)).
 - **Does the asserted partner application user correlate to the partner providing the assertion?** When a user's identity from the partner application is correlated to his/her Care360 Labs & Meds user identity, the partner application's Issuer is also recorded for that user. On subsequent requests to Care360 Labs & Meds, the SAML Issuer is compared to that stored in the user's mapping record. If they match, Care360 Labs & Meds SSO is assured that the user does, in fact, belong to the partner site that is asserting the user's identity.
- HTTP Response is received.** The page requested via the targetUri HTTP POST parameter is returned by Care360 Labs & Meds to the partner application user/application within the HTTP Response. The returned page reflects the user's new Care360 Labs & Meds login session.

Usage Scenario 1: Care360 Labs & Meds SSO for Interactive Users

In this scenario, SSO is used to establish a Care360 Labs & Meds session for an end user within a Web browser window (specifically, Internet Explorer) on the user's computer. The SAML 1.1 Browser/POST implementation, as outlined in "[Implementing SAML](#)" on page 276, is manifested when the partner application launches the Web browser. Doing so loads an HTML document containing a form that targets the Care360 Labs & Meds SSO security check servlet with the appropriate parameters as hidden input nodes.

Example: Browser/POST

Note: The SAMLResponse value in the following example is truncated for the sake of brevity.

```
<HTML>
<BODY Onload="document.forms[0].submit()">
<FORM METHOD="POST"
      ACTION="https://portal.Care360.com/Care360/Care360SSOSecurityCheck">
  <input type="hidden" name="targetUri" value="NewResults"></input>
  <input type="hidden" name="branduid"
        value="2c9252d710e58d150110e58d67190001"></input>
  <INPUT TYPE="HIDDEN" NAME="SAMLResponse" VALUE="PHNhbWxwOlJ..."></INPUT>
</FORM>
</BODY>
</HTML>
```

In the example above, the form is posted to Care360SSOSecurityCheck from the Web browser, such that the specified landing page is displayed to the user, and the session cookie is established within the browser process for use on subsequent requests. After the user has accessed Care360 Labs & Meds from the partner application link, the user may remain within Care360 Labs & Meds and perform any other tasks he/she is authorized to perform, based upon the Care360 Labs & Meds user access rights previously configured.

About Session Timeouts and Terminations

A user who connects to Care360 Labs & Meds via an SSO link is subject to the same timeout conditions as they would if they were to access Care360 Labs & Meds directly. When a directly-accessed session times out, Care360 Labs & Meds displays the login page. For an SSO-authenticated session, Care360 Labs & Meds displays a page indicating that the user has timed out, but it does not allow the user to re-enter their login credentials. (A similar message appears if the user clicks *Log Out* within Care360 Labs & Meds after authenticating via SSO.)

The message presented to the user indicates that in order to begin a new session, the user must return to the partner application and click a Care360 Labs & Meds link. Doing so results in a new SSO authentication request to Care360 Labs & Meds.

It is quite possible that users who interact with Care360 Labs & Meds only via links from the partner application will not be aware that a session timeout has occurred. Each time a link from the partner application to Care360SSOSecurityCheck is invoked, a new SAML assertion is passed using an HTML FORM of the type discussed above.

Care360 Labs & Meds evaluates the current user session in conjunction with the SAML assertion provided, and performs authentication to establish a new session under the following conditions (evaluated in the order shown):

- The partner application link has launched a *new* browser window.
- The partner application link attempts to update the *existing* browser window, for which the Care360 Labs & Meds session has timed out.
- A different user has authenticated to the running partner application since the Care360 Labs & Meds browser window was launched. This requires authentication to Care360 Labs & Meds as the “new” partner application user.

About SSO User Initialization

Before successful SSO authentication to Care360 Labs & Meds can occur, users of trusted partner applications must be mapped to Care360 Labs & Meds. This process includes verifying that the user knows his/her Care360 Labs & Meds credentials (*User ID* and *Password*) the first time the user accesses Care360 Labs & Meds via a link from the partner application.

The first time the user initiates SSO-based access to Care360 Labs & Meds, the absence of a user mapping on file for the user elicits a login page, displaying a message indicating why the credentials are being requested. Both new and existing Care360 Labs & Meds users will see this page on their first SSO-based access attempt. Both temporary passwords (issued by Customer Support) and permanent passwords (set by the user via the *Change Password* function) are accepted on this page.

Upon successful authentication of a user’s Care360 Labs & Meds *User ID* and *Password*, a mapping record is stored within Care360 Labs & Meds that relates the Care360 Labs & Meds user identity to the partner application user identity passed within the SAML assertion.

At the same time, the user’s Care360 Labs & Meds password is obfuscated, so the user will *only* be able to access Care360 Labs & Meds via SSO from that point forward. If the user requires both SSO-based and password-based authentication, Customer Support may be contacted to request a password reset. Existing Care360 Labs & Meds practices are employed for password resets; that is, the user must change the password upon the first password-based login following a password reset.

Usage Scenario 2: Care360 Labs & Meds SSO for Web Services

A partner application can leverage SSO in the process of invoking Care360 Labs & Meds Web services on behalf of a previously-mapped user (see “[About SSO User Initialization](#)” on page 280). Establishing a session using SSO enables the partner application to establish a user-specific context to Care360 Labs & Meds without having to know (or store) the user’s Care360 Labs & Meds password. For this release, the only Web service available for integration is the User Summary service, which is referenced in the following sections.

From the Care360 Labs & Meds server perspective, the SSO “handshake” for Web service usage is identical to the handshake for browser usage. The primary difference from the partner application perspective is that instead of sending an HTML form to a Web browser, the application opens a direct HTTPS connection to the Care360 Labs & Meds server. It can then invoke a POST request to send the authentication information, and receive a landing page response along with the Care360 Labs & Meds session cookie.

Example 1: Traffic of HTTP+SSL Request to Care360SSOSecurityCheck

```
--- REQUEST ---
POST /care360/Care360SSOSecurityCheck HTTP/1.0
Host: Care360.dev.medplus.com
Content-Length: 6810
Content-Type: application/x-www-form-urlencoded
User-Agent: SOATest
X-Care360-SessionForWebService: true

SAMLResponse=PFJlc3BvbnNlIHhtbG5zPSJ1cm...

--- RESPONSE ---
HTTP/1.1 200 OK
Date: Mon, 19 Mar 2007 15:28:42 GMT
Pragma: no-cache
Content-Length: 350:
Content-Type: text/html
Expires: Thu, 01 Jan 2008 00:00:00 GMT
Last-Modified: Mon, 20 Nov 2006 16:23:24 GMT
Set-Cookie: JSESSIONID=F2sq7JLqQs19hkGfQf1v7qh1w2LrLgJT5NBz4HLY1Yzb9PJr
2y4!98796407;path=/
Set-Cookie: securityCheckUri=Care360SSOSecurityCheck
Set-Cookie: IsSSOClient=true
Set-Cookie: sso_lastKnownSessionId=F2sq7JLqQs19hkGfQf1v7qh1w2LrLgJT5NBz4
HLY1Yzb9PJr2y4!987964007!1174318122760; path=/
Accept-Ranges: bytes
Cache-Control: no-cache
Connection: Close

<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html;
      charset=UTF-8"></meta>
    <title>Care360</title>
  </head>
  <body bgcolor="#FFFFFF"></body>
</html>
```

Following are a few details from the traffic example on the previous page:

- A User-Agent header must be specified. Care360 Labs & Meds authentication will fail if this header is not provided. The header value is not important, so you may specify anything you want, as long as it is unique and does not match that of any popular Web browser.
- A X-Care360-IsForWebService header must be specified, in order to prevent concurrent-session termination issues, as the user will likely be using Care360 Labs & Meds within a Web browser as well.
- The targetUri parameter is not needed. However, if provided, it will be ignored. A ‘blank’ HTML page is returned regardless, upon successful authentication. Only the Care360 Labs & Meds session cookies (‘Set-Cookie’ response headers) are important within an HTTP response indicating success.

The session cookies are passed back to the Care360 Labs & Meds server on a subsequent Web service request.

Example 2: Traffic of HTTP+SSL Request to User Summary Service Following Authentication

```
--- REQUEST ---
POST /care360-services/UserSummaryWebService HTTP/1.0
Host: localhost:7001
Content-Type: text/xml; charset=UTF-8
Content-Length: 400
Connection: Keep-Alive
SOAPAction: ""
Cookie: JSESSIONID=F2sq7JLqQs19hkGfQf1v7qh1w2LrLgJT5NBz4HLYlYZybgPJr2
        y4!987964007; securityCheckUri=Care360SSOSecurityCheck;
        IsSSOClient=true;sso_lastKnownSessionId=F2sq7JLqQs19hkGfQf1v7qh1w2
        LrLgJT5NBz4HLYlYZybgPJr2y4!987964007!1174318122760

<SOAP-ENV:Envelope>
  <SOAP-ENV:Body>
    <ns1:getOrgs SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/
      soap/encoding/"></ns1:getOrgs>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

--- RESPONSE ---
HTTP/1.1 200 OK
Date: Mon, 19 Mar 2007 16:24:18 GMT
Content-Length: 938
Content-Type: text/xml; charset=UTF-8
Connection: Keep-Alive

<?xml version="1.0" encoding="UTF-8"?>
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
  <env:Header>
    <wsse:Security wsse:mustUnderstand="1">
      <wsse:UsernameToken wsse:mustUnderstand="1">
        <wsse:Username>care360user</wsse:Username>
        <wsse:Password>Care360User@123</wsse:Password>
        <wsse:Nonce>BjPmDfXWZuRzJUkC</wsse:Nonce>
        <wsse:Created>2007-03-19T16:24:18Z</wsse:Created>
      </wsse:UsernameToken>
    </wsse:Security>
  </env:Header>
  <env:Body>
    <ns1:getOrgsResponse ns1="http://www.Care360.com/services">
      <ns1:orgList ns1="java:com.medplus.Care360.ws.org.model">
        <maxOrgs xsi:type="xsd:int">6</maxOrgs>
        <orgList soapenc:arrayType="ns1:WSOrg[5]">
          <WSOrg>
            <id>1</id>
            <name>Care360 Labs & Meds</name>
            <description>Care360 Labs & Meds</description>
            <address>123 Main Street</address>
            <city>Anytown</city>
            <state>CA</state>
            <zip>90210</zip>
            <phone>(555) 123-4567</phone>
            <fax>(555) 123-4568</fax>
            <email>care360user@care360.com</email>
            <website>http://www.care360.com</website>
            <status>Active</status>
            <created>2007-03-19T16:24:18Z</created>
            <modified>2007-03-19T16:24:18Z</modified>
          </WSOrg>
          <WSOrg>
            <id>2</id>
            <name>Care360 Labs & Meds</name>
            <description>Care360 Labs & Meds</description>
            <address>123 Main Street</address>
            <city>Anytown</city>
            <state>CA</state>
            <zip>90210</zip>
            <phone>(555) 123-4567</phone>
            <fax>(555) 123-4568</fax>
            <email>care360user@care360.com</email>
            <website>http://www.care360.com</website>
            <status>Active</status>
            <created>2007-03-19T16:24:18Z</created>
            <modified>2007-03-19T16:24:18Z</modified>
          </WSOrg>
          <WSOrg>
            <id>3</id>
            <name>Care360 Labs & Meds</name>
            <description>Care360 Labs & Meds</description>
            <address>123 Main Street</address>
            <city>Anytown</city>
            <state>CA</state>
            <zip>90210</zip>
            <phone>(555) 123-4567</phone>
            <fax>(555) 123-4568</fax>
            <email>care360user@care360.com</email>
            <website>http://www.care360.com</website>
            <status>Active</status>
            <created>2007-03-19T16:24:18Z</created>
            <modified>2007-03-19T16:24:18Z</modified>
          </WSOrg>
          <WSOrg>
            <id>4</id>
            <name>Care360 Labs & Meds</name>
            <description>Care360 Labs & Meds</description>
            <address>123 Main Street</address>
            <city>Anytown</city>
            <state>CA</state>
            <zip>90210</zip>
            <phone>(555) 123-4567</phone>
            <fax>(555) 123-4568</fax>
            <email>care360user@care360.com</email>
            <website>http://www.care360.com</website>
            <status>Active</status>
            <created>2007-03-19T16:24:18Z</created>
            <modified>2007-03-19T16:24:18Z</modified>
          </WSOrg>
          <WSOrg>
            <id>5</id>
            <name>Care360 Labs & Meds</name>
            <description>Care360 Labs & Meds</description>
            <address>123 Main Street</address>
            <city>Anytown</city>
            <state>CA</state>
            <zip>90210</zip>
            <phone>(555) 123-4567</phone>
            <fax>(555) 123-4568</fax>
            <email>care360user@care360.com</email>
            <website>http://www.care360.com</website>
            <status>Active</status>
            <created>2007-03-19T16:24:18Z</created>
            <modified>2007-03-19T16:24:18Z</modified>
          </WSOrg>
          <WSOrg>
            <id>6</id>
            <name>Care360 Labs & Meds</name>
            <description>Care360 Labs & Meds</description>
            <address>123 Main Street</address>
            <city>Anytown</city>
            <state>CA</state>
            <zip>90210</zip>
            <phone>(555) 123-4567</phone>
            <fax>(555) 123-4568</fax>
            <email>care360user@care360.com</email>
            <website>http://www.care360.com</website>
            <status>Active</status>
            <created>2007-03-19T16:24:18Z</created>
            <modified>2007-03-19T16:24:18Z</modified>
          </WSOrg>
        </orgList>
      </ns1:getOrgsResponse>
    </env:Body>
  </env:Envelope>
```

```

<WSOrg xsi:type="n1:WSOrg">
    <orgName xsi:type="xsd:string">AUTO LNR US04</orgName>
    <orgUID xsi:type="xsd:string">
        2c928dc01195313601119a1d0bb700f5</orgUID>
    </WSOrg>
    <WSOrg xsi:type="n1:WSOrg">
        <orgName xsi:type="xsd:string">AUTO LNR US05</orgName>
        <orgUID xsi:type="xsd:string">
            2c928dc01195313601119a206c3700f6</orgUID>
        </WSOrg>
        <WSOrg xsi:type="n1:WSOrg">
            <orgName xsi:type="xsd:string">AUTO LNR US06</orgName>
            <orgUID xsi:type="xsd:string">
                2c928dc01195313601119a22079700f7</orgUID>
            </WSOrg>
            <WSOrg xsi:type="n1:WSOrg">
                <orgName xsi:type="xsd:string">AUTO LNR US07</orgName>
                <orgUID xsi:type="xsd:string">
                    2c928dc01195313601119a24307c00f8</orgUID>
                </WSOrg>
                <WSOrg xsi:type="n1:WSOrg">
                    <orgName xsi:type="xsd:string">AUTO LNR US08</orgName>
                    <orgUID xsi:type="xsd:string">
                        2c928dc01195313601119a25a3f200f9</orgUID>
                    </WSOrg>
                </orgList>
                <timeStamp xsi:type="xsd:dateTime">
                    2007-04-17T12:59:59.420Z</timeStamp>
                </result>
            </m:getOrgsResponse>
        </env:Body>
    </env:Envelope>

```

For more information about the User Summary services, see “[About User Summary Services](#)” on page 238 and [Chapter 13, “User Summary Services API Reference”](#) on page 285.

About Session Timeouts and Terminations

Session timeout conditions do not need to be actively considered by the partner application integrator when establishing SSO for Web services, as long as an SSO authentication action is made on a new session each time a Web service is called. (The example application code, above, demonstrates this model.) However, following is some background as to how Care360 Labs & Meds Web service usage is impacted:

- Sessions established on behalf of Care360 Labs & Meds user for Web service usage (as indicated by the X-Care360-IsForWebService header) are managed separately from sessions established for Web browser usage. This means that user browser sessions to Care360 Labs & Meds will not be terminated due to a multiple-login condition, if the partner application invokes a Web service call (in the background) on the user’s behalf.
- Web service sessions are limited to 60 seconds (by default) in order to avoid the proliferation of abandoned non-interactive sessions on the Care360 Labs & Meds server.
- Sessions created for Web service usage neither support nor require a “log out” feature, in part due to the 60-second limit on Web service-oriented sessions.

About SSO User Initialization

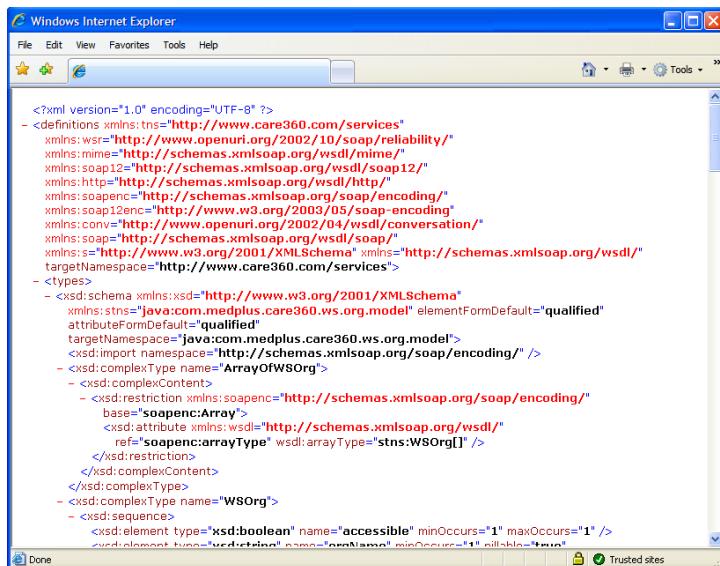
SSO authentication will not succeed when executed on behalf of a yet-unmapped user for Web service usage; that is, an HTTP 401 status will be returned with appropriate response text. The partner application will need to gracefully handle this condition. This differs from the Web browser usage scenario, where the user is directed to a login verification page.

About the Landing Page

When accessing Care360 Labs & Meds from a partner application via SSO linking in a Web service context, the `BlankPage` option is the only landing page option that is applicable. The `BlankPage` option displays a blank page to the user. This is used as the landing page from a successful SSO authentication, and is irrelevant to the subsequent Web service call.

Chapter 13

User Summary Services API Reference



The screenshot shows a Windows Internet Explorer window displaying an XML document. The XML code is a schema definition (xsd) for a service. It includes declarations for namespaces, types, and elements. Key parts of the XML include:

```
<?xml version="1.0" encoding="UTF-8" ?>
<definitions xmlns:tns="http://www.care360.com/services"
  xmlns:wse="http://www.openuri.org/2002/10/soap/reliability/"
  xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
  xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
  xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
  xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:soap12enc="http://www.w3.org/2003/05/soap-encoding"
  xmlns:conv="http://www.openuri.org/2002/04/wsdl/conversation/"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:se="http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/"
  targetNamespace="http://www.care360.com/services">
```

In This Chapter:

- About the User Summary Services API Reference 286
- User Summary Services API 287

About the User Summary Services API Reference

This section provides details about the User Summary Services API calls provided by Care360 Labs & Meds. The User Summary Services component of Care360 Labs & Meds provides operations for receiving notification of the availability of user messages, new results, and pending prescriptions within Care360 Labs & Meds.

For more information about the User Summary Services, see “[About User Summary Services](#)” on page 238. For details about the User Summary Services API, refer to “[User Summary Services API](#)” on page 287.

An authorized user name and password are required for accessing this Web service.

For More Information

For information about accessing the Web Services Definition Language (WSDL) documents for Care360 Labs & Meds, see “[About the WSDL Interface Documents](#)” on page 405.

User Summary Services API

This section provides details on the methods and objects provided by each service within the User Summary Services API. User Summary Services enables a partner application to receive notification of the availability of user messages and new results within Care360 Labs & Meds.

User Summary Methods

Following is a brief overview of each method provided by the User Summary Services Web service. (Usage details for each method are provided in the following section, “[User Summary Method Details](#)”.)

- **getCounts.** Retrieves user summary data from Care360 Labs & Meds for all organizations with which the current partner application user is associated (up to the maximum number of organizations allowed).
- **getCountsByOrg.** Retrieves user summary data from Care360 Labs & Meds for one or more specific organization(s) with which the current partner application user is associated.
- **getOrgs.** Retrieves a list of organizations with which the partner application user is associated.

User Summary Method Details

The following table provides details about each of the methods listed above.

Method	Description
getCounts	<p>Summary</p> <p>Retrieves user summary data from Care360 Labs & Meds for all organizations with which the current partner application user is associated (up to the maximum number of organizations allowed).</p> <p>Usage</p> <p>The WSUserSummaryData object contains the user summary data that is returned. The WSUserSummaryCounts object contained by WSUserSummaryData includes data for up to the maximum number of organizations allowed.</p> <p>Method Signature</p> <p>WSUserSummaryData getCounts() throws SOAPException</p>

Method	Description
getCountsByOrg	<p>Summary Retrieves user summary data from Care360 Labs & Meds for one or more specific organization(s) with which the current partner application user is associated.</p> <p>Usage The WSUserSummaryData object contains the user summary data that is returned. Throws a SOAPException for the following conditions:</p> <ul style="list-style-type: none"> • The method is called with an invalid orgUID (either the orgUID does not exist in the system, or the partner does not have access to the requested organization). • The method is called, and passes more orgUIDs than the maximum allowed. • The method is called without passing in an orgUID. <p>Method Signature WSUserSummaryData getCountsByOrg(String orgUID[]) throws SOAPException</p>
getOrgs	<p>Summary Retrieves a list of organizations with which the partner application user is associated.</p> <p>Usage The WSOrgData object contains the list of organizations (array of WSOrg objects) that is returned.</p> <p>Method Signature WSOrgData getOrg() throws SOAPException</p>

User Summary Objects

The User Summary Services API provides the objects described in the following table.

Note: The attributes defined in this table are case-sensitive.

Object	Description/Attributes	Data Type	Req'd^a						
WSUserSummaryData	<p>Contains the user summary data returned from Care360 Labs & Meds. Responses include:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">counts – An array of WSUserSummaryCounts objects, one for each organization.</td><td style="width: 50%; padding: 5px;">WSUserSummaryCounts[]</td><td style="width: 5%; text-align: center; padding: 5px;">O</td></tr> <tr> <td style="padding: 5px;">timeStamp – The date and time at which the query was run.</td><td style="padding: 5px;">DateTime</td><td style="text-align: center; padding: 5px;">O</td></tr> </table>	counts – An array of WSUserSummaryCounts objects, one for each organization.	WSUserSummaryCounts[]	O	timeStamp – The date and time at which the query was run.	DateTime	O		
counts – An array of WSUserSummaryCounts objects, one for each organization.	WSUserSummaryCounts[]	O							
timeStamp – The date and time at which the query was run.	DateTime	O							
<i>WSUserSummaryData Continued</i>	<p>warnMesage – A message indicating an error condition (for example, the maximum number of organizations was exceeded).</p>	String	O						

Object	Description/Attributes	Data Type	Req'd? ^a
WSUserSummaryCounts	<p>Contains the individual data counts returned within the WSUserSummaryData object. Responses include:</p> <p>newResultCount – The number of new results for the organization.</p> <p>finalAbnormalResultCount – The number of final abnormal results for the organization.</p> <p>finalNormalResultCount – The number of final normal results for the organization.</p> <p>ipAbnormalResultCount – The number of abnormal results that are not yet final for the organization.</p> <p>ipNormalResultCount – The number of normal results that are not final for the organization.</p> <p>userFailedFaxCount – The number of faxes that have failed for the user from the specified organization.</p> <p>orgFailedFaxCount – The number of faxes that have failed for the specified organization.</p> <p>newUserMessageCount – The number of user messages for the user from the specified organization.</p> <p>prescripPendingApprovalCount – The number of prescriptions for the user pending approval from the specified organization.</p> <p>prescripPendingRenewalCount – The number of prescriptions for the user pending renewal from the specified organization.</p> <p>prescripFailedFaxCount – The number of faxed prescriptions that have failed for the user from the specified organization.</p>	Int	O
WSOrgData	<p>Contains the organization data returned by the getOrgs method. Responses include:</p> <p>maxOrgs – The maximum number of organizations that can be queried in a single call.</p> <p>orgList – An array of WSOrgs, one for each organization.</p>	Long	O
		WSOrg[]	O

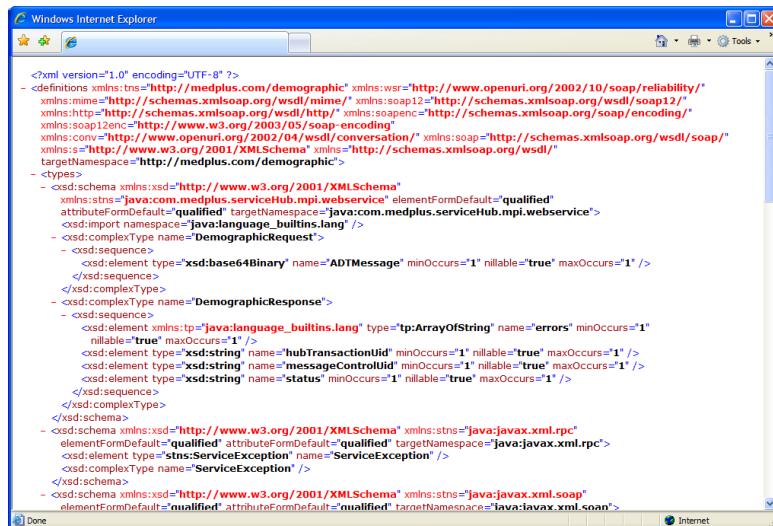
Object	Description/Attributes	Data Type	Req'd?^a
WSOrgData <i>Continued</i>	timeStamp – The date and time at which the query was run.	DateTime	O
WSOrg	Contains information returned about a particular organization. Responses include:		
	orgName – The common name of the organization.	String	O
	orgUID – The UID with which the organization is associated.	String	R

a. R = Required, O = Optional, C = Conditional.

Chapter 14

Patient Demographic Services API Reference

• • • • •



The screenshot shows a Windows Internet Explorer window displaying an XML document. The title bar reads "Windows Internet Explorer". The content area contains a large block of XML code representing the WSDL interface for the Patient Demographic Services API. The XML includes definitions for namespaces, types, and various message structures like DemographicRequest and DemographicResponse.

```
<?xml version="1.0" encoding="UTF-8" ?>
<definitions xmlns:tns="http://medplus.com/demographic" xmlns:wsr="http://www.openuri.org/2002/10/soap/reliability/"
  xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/" xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
  xmlns:http="http://schemas.xmlsoap.org/wsdl/http/" xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:soap12enc="http://www.w3.org/2003/05/soap-encoding"
  xmlns="http://www.openuri.org/2002/04/wsdl/conversation/" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:s="http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/"
  targetNamespace="http://medplus.com/demographic">
  <types>
    <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
      xmlns:stns="java:com.medplus.serviceHub.mpi.webservice" elementFormDefault="qualified"
      attributeFormDefault="qualified" targetNamespace="java:com.medplus.serviceHub.mpi.webservice">
      <xsd:import namespace="java:language.builts.lang" />
      <xsd:complexType name="DemographicRequest">
        <xsd:sequence>
          <xsd:element type="xsd:base64Binary" name="ADTMessage" minOccurs="1" nillable="true" maxOccurs="1" />
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="DemographicResponse">
        <xsd:sequence>
          <xsd:element xmlns:tp="java:language_builts.lang" type="tp:ArrayOfString" name="errors" minOccurs="1"
            nillable="true" maxOccurs="1" />
          <xsd:element type="xsd:string" name="hubTransactionId" minOccurs="1" nillable="true" maxOccurs="1" />
          <xsd:element type="xsd:string" name="messageControlId" minOccurs="1" nillable="true" maxOccurs="1" />
          <xsd:element type="xsd:string" name="status" minOccurs="1" nillable="true" maxOccurs="1" />
        </xsd:sequence>
      </xsd:complexType>
    </xsd:schema>
    <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:stns="java:javax.xml.rpc"
      elementFormDefault="qualified" attributeFormDefault="qualified" targetNamespace="java:javax.xml.rpc">
      <xsd:element type="stns:ServiceException" name="ServiceException" />
    </xsd:schema>
    <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:stns="java:javax.xml.soap"
      elementFormDefault="qualified" attributeFormDefault="qualified" targetNamespace="java:javax.xml.soap">
```

In This Chapter:

- About the Patient Demographic Services API Reference 292
- Patient Demographic Services API 293
- About the WSDL Interface Document 296

About the Patient Demographic Services API Reference

This section provides details about the Patient Demographic Services API calls provided by Care360 Hub Information Services. The Patient Demographic Services component of Care360 Hub Information Services provides operations for receiving and processing patient demographic updates from a partner application, and forwarding those updates to Care360 Labs & Meds. For details about the Patient Demographic Services API, refer to [“Patient Demographic Services API”](#) on page 293.

An authorized user name and password are required for accessing this Web service.

For More Information

- For detailed specifications on formatting HL7 Patient Demographic Message (ADT) messages that are sent to Care360 Hub Information Services for processing, see [Chapter 15, “Care360 Patient Demographic HL7 Specification”](#) on page 297.
- For information about accessing the WSDL documents for Care360 Hub Information Services, see [“About the WSDL Interface Document”](#) on page 296.

Patient Demographic Services API

This section provides details on the methods and objects provided by each service within the Patient Demographic Services API. Patient Demographic Services enables the submission of patient demographic updates from a partner application, which are then forwarded to Physician Portal. Demographic updates can be submitted either in real-time or batch mode. For more information about the Patient Demographic Services, see “[About Patient Demographic Services](#)” on page 262.

Patient Demographic Methods

Following is a brief overview of each method provided by the Patient Demographic Services Web service. (Usage details for each method are provided in the following section, “[Patient Demographic Method Details](#)”.)

- **submitRealTimeADTMessage.** Submits a patient demographic update ADT message (in HL7 format) to Care360 Hub Information Services for real-time delivery to Care360 Labs & Meds.
- **submitBatchADTMessage.** Submits a patient demographic update ADT message (in HL7 format) to Care360 Hub Information Services in batch mode that places the message in a queue for later delivery to Care360 Labs & Meds.

Patient Demographic Method Details

The following table provides details about each of the methods listed above.

Method	Description
submitRealTimeADTMessage	<p>Summary</p> <p>Submits a patient demographic update (in HL7 format) to Care360 Hub Information Services in real-time mode. This means that each HL7 message is delivered to Care360 Labs & Meds immediately.</p> <p>Usage</p> <p>The InboundPatientDemographicRequest object contains the inbound patient demographic update.</p> <p>Notes:</p> <ul style="list-style-type: none">• Even if an inbound patient demographic update is accepted by the Hub, it still may ultimately be rejected by Care360 Labs & Meds.• For detailed specifications on formatting patient demographic update messages that are sent to Care360 Hub Information Services for processing, see Chapter 15, “Care360 Patient Demographic HL7 Specification” on page 297. <p>Preconditions</p> <ul style="list-style-type: none">• The Demographics service is configured properly in Hub Information Services—Administration.

Method	Description
	<p>Method Signature</p> <p><code>DemographicResponse submitRealTimeADTMessage (DemographicRequest request) throws SOAPException</code></p>
submitBatchADTMessage	<p>Summary</p> <p>Submits a patient demographic update (in HL7 format) to Care360 Hub Information Services in batch mode. This means that each HL7 message will be placed in a queue for later delivery (for example, several hours) to Care360 Labs & Meds.</p> <p>Note: Only one HL7 message for one patient can be submitted per submitBatchADTMessage call.</p> <p>Usage</p> <p>The InboundPatientDemographicRequest object contains the inbound patient demographic update.</p> <p>Notes:</p> <ul style="list-style-type: none"> Even if an inbound patient demographic update is accepted by the Hub, it still may ultimately be rejected by Care360 Labs & Meds. For detailed specifications on formatting patient demographic update messages that are sent to Care360 Hub Information Services for processing, see Chapter 15, “Care360 Patient Demographic HL7 Specification” on page 297. <p>Preconditions</p> <ul style="list-style-type: none"> The Demographics service is configured properly in Hub Information Services—Administration. <p>Method Signature</p> <p><code>DemographicResponse submitBatchADTMessage (DemographicRequest request) throws SOAPException</code></p>

Patient Demographic Objects

The Patient Demographic Services API provides the objects described in the following table.

Note: The attributes defined in this table are case-sensitive.

Object	Description/Attributes	Data Type	Req'd? ^a			
DemographicRequest	<p>Contains the inbound patient demographics update.</p> <p>Note: For detailed specifications on formatting patient demographic updates that are sent to Care360 Hub Information Services for processing, see Chapter 15, “Care360 Patient Demographic HL7 Specification” on page 297.</p> <p>Attributes that can be set for this object include:</p> <table border="1"> <tr> <td>ADTMessage – The HL7 (ADT and SIU) Patient Demographic update message content.</td><td>byte[]</td><td>R</td></tr> </table>	ADTMessage – The HL7 (ADT and SIU) Patient Demographic update message content.	byte[]	R		
ADTMessage – The HL7 (ADT and SIU) Patient Demographic update message content.	byte[]	R				
DemographicResponse	<p>Represents the response elements for a demographic update request. This includes the Hub transaction ID and any validation errors that occur.</p> <p>Responses include:</p> <table border="1"> <tr> <td>messageControlUid – The message control ID included in the patient demographic update message that was submitted to the Hub.</td><td>String</td><td>O</td></tr> </table>	messageControlUid – The message control ID included in the patient demographic update message that was submitted to the Hub.	String	O		
messageControlUid – The message control ID included in the patient demographic update message that was submitted to the Hub.	String	O				
DemographicResponse, <i>Continued</i>	hubTransactionUid – The Hub transaction ID for the response.	String	O			
	errors – The array of validation and authorization errors returned, if the patient demographic update message is returned based on validation.	String[]	O			
	status – The status of the transaction response. Valid values: SUCCESS or FAILURE.	String	R			

a. R = Required, O = Optional, C = Conditional.

About the WSDL Interface Document

In order to utilize a Web service, you must develop a Web service client application. A client application created for accessing the Patient Demographic Web service is referred to as a *static* Web service client, because the client knows where the Web service is located without looking up the service in a Universal Description, Discovery, and Integration (UDDI) registry. The client calls the Web services via a known service URL to obtain the WSDL file that describes the Web services.

A WSDL interface document describes all of the information that is needed by a Web service client to interact with the associated Web service. The WSDL document includes the URL to locate the associated Web services. Once you have located the Web service, or after you have obtained the WSDL, you can build a Web service client application that uses the Web service to perform the desired functions.

The following section describes the process for obtaining the WSDL documents for Patient Demographic Web services.

Note: You must have a valid user name and password (issued by MedPlus) in order to access the WSDL interface documents. For the Production Hub environment, a user name and password will be issued once your application has been developed, tested, and certified.

Accessing the Patient Demographic Services WSDL Document

To access the WSDL service description for the Patient Demographic Services, use your browser to access the corresponding URL shown below. Using the WSDL that you obtain, you can build a client application to access the Web service.

Staging Environment

To access the Patient Demographic Services in the Staging Hub environment, used to develop, test, and certify your Web service application, access the following link:

<https://shubservices.questemr.com/demographic/service?wsdl>

Production Environment

Once you have developed, tested, and certified your Web service client application in the Staging Hub environment, you can then update the application to work in the Hub Production environment. Connecting a Web service client to the Production Hub environment is similar to connecting to the Staging environment (the exposed interfaces are equivalent).

Note: Client applications developed against the Staging environment WSDL documents can also be used to access the Production Hub environment, and vice versa; the WSDL content is identical in both environments.

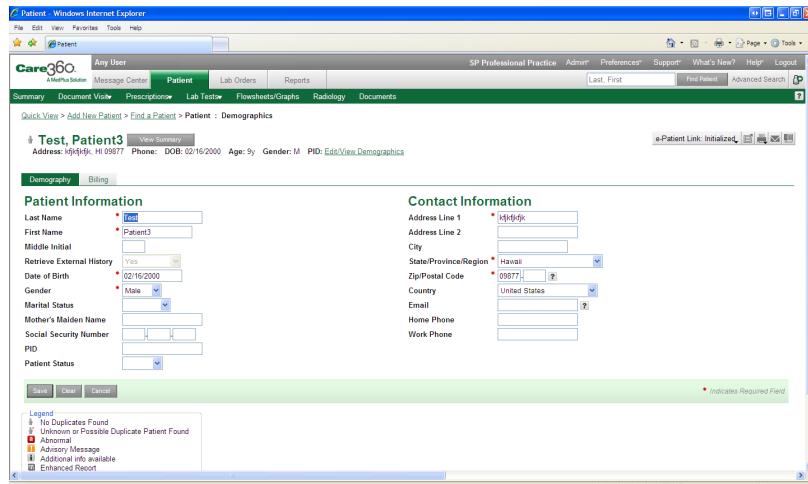
To access the Patient Demographic Services in the Production environment, access the following link:

<https://hubservices.medplus.com/demographic/service?wsdl>

Chapter 15

Care360 Patient Demographic HL7 Specification

.....



In This Chapter:

- About the Care360 Patient Demographic HL7 Specification 298
- Care360 Patient Demographic Message Format Requirements 299
- ADT A28 (Patient Add) Message Segment Specifications 303
- ADT A29 (Patient Delete) Message Segment Specifications 328
- ADT A31 (Patient Update) Message Segment Specifications 338
- ADT A39 (Patient Merge) Message Segment Specifications 362
- SIU (Patient Schedule) Message Segment Specifications 374
- Sample Care360 Patient Demographic Messages 395

About the Care360 Patient Demographic HL7 Specification

This chapter provides detailed format specifications for patient demographic add, delete, update, and merge requests that are received by Care360 Hub Information Services from a partner application. Patient demographic update requests are received and processed by the Hub, and are then forwarded to Care360 Labs & Meds. Any errors that are generated by Care360 Labs & Meds are also returned to the originating partner application via the Hub.

Patient demographic messages must be formatted according to the HL7 2.3 Specification, with any exceptions noted in this chapter. Supported messages for inbound patient demographic updates include the following:

- A28—ADT A28 (Patient Add)
- A29—ADT A29 (Patient Delete)
- A31—ADT A31 (Patient Update)
- A39—ADT A39 (Patient Merge)
- SIU—SIU (Patient Schedule)

This chapter includes the following sections:

- **Patient demographic message format requirements.** For information on the message format requirements, see “[Care360 Patient Demographic Message Format Requirements](#)” on page 299.
- **Patient demographic message segment specifications.** Each result message received by the Hub contains a number of standard sections. For requirements on the standard segments of a result message, see the following:
 - [“ADT A28 \(Patient Add\) Message Segment Specifications”](#) on page 303.
 - [“ADT A29 \(Patient Delete\) Message Segment Specifications”](#) on page 328.
 - [“ADT A31 \(Patient Update\) Message Segment Specifications”](#) on page 338.
 - [“ADT A39 \(Patient Merge\) Message Segment Specifications”](#) on page 362.
 - [“SIU \(Patient Schedule\) Message Segment Specifications”](#) on page 374.
- **Sample patient demographic messages.** For samples of the various patient demographic update messages, see “[Sample Care360 Patient Demographic Messages](#)” on page 395.

Care360 Patient Demographic Message Format Requirements

In addition to the field-level validation detailed in this chapter, each patient demographic message is validated by the Hub to ensure compliance with rules outlined in this section. The following requirements apply to all of the patient demographic message types supported by the Hub.

Newline Characters

Patient demographic HL7 messages must use the carriage return (CR) character (ASCII 0x0D) to indicate a newline. Patient demographic messages that contain a line feed (LF) character (ASCII 0x0A) to indicate a newline will be rejected.

Field Delimiters

A delimiter must separate each field. Even if a field contains no data, it must still be delimited. The delimiter for any given HL7 message is always defined in the MSH segment of the message, as the first character following the segment identifier (MSH.00). See the message segment specifications (later in this chapter) for more detail. Standard HL7 delimiters are used.

Field Specifications

The following table describes the parameters used to define the data fields within each message segment.

Parameter	Description
Type	For a description of the data types, see “ Data Type Specifications ” on page 300.
Length	The maximum allowed length for the field.
Required	The fields within each segment are classified based on their requirement status of <i>Required</i> (R), <i>Optional</i> (O), <i>Conditional</i> (C), or <i>Not Supported</i> (NS) as defined below: <ul style="list-style-type: none">• Required. If the corresponding segment is present, the field must also be present within the segment, and the Hub validates it against any stated requirements. If the field is not present, the message is rejected by the Hub.• Optional. The field is not required; the segment is accepted by the Hub whether or not this field is present. If the field is present, the Hub validates it against any stated requirements.• Conditional. The field may or may not be required, depending on certain conditions (stipulated in the <i>Comments</i> column of each segment table). If the stated conditions are not met, the message is rejected by the Hub. If the field is present, the Hub validates it against any stated requirements.• Not Supported. If a field is described as <i>Not Supported</i> by the Hub (the corresponding row appears grayed in the table), the content of the field is not used by the Hub, but it is validated for field type and length, as well as conformance to the specified HL7 table or user-defined table (as applicable). If all fields are successfully validated, the content is passed through; otherwise, the message is rejected by the Hub.

Data Type Specifications

The following table describes the data types that may appear in the message segments.

Note: Brackets ([]) indicate that the enclosed data is optional.

Data Type/ Category	Data Type Name	Notes/Format
<i>Alphanumeric</i>		
ST	String	Any ASCII printable characters (ASCII decimal values between 32 and 126) with the exception of the defined delimiter characters. Left justified with optional trailing spaces.
FT	Formatted text	String data with embedded formatting instructions.
<i>Numerical</i>		
CQ	Composite quantity with units	<quantity (NM)> ^ <units (CE)>
NM	Numeric	Any of the ASCII numeric characters with an optional leading sign (+ or -) and/or an optional decimal point.
SI	Sequence ID	A non-negative integer in the form of a NM data type.
<i>Identifier</i>		
ID	Coded values for HL7 tables	String data drawn from an HL7-defined table of legal values (see Appendix A of HL7 2.3).
IS	Coded values for user-defined tables	String data drawn from a site-defined table of legal values.
HD	Hierarchic designator	<namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)> Used only as part of EI and other data types.
EI	Entity identifier	<entity identifier (ST)> ^ <namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>
PL	Person location	<point of care (IS)> ^ <room (IS)> ^ <bed (IS)> ^ <facility (HD)> ^ <location status (IS)> ^ <person location type (IS)> ^ <building (IS)> ^ <floor (IS)> ^ <location description (ST)>
PT	Processing type	<processing ID (ID)> ^ <processing mode (ID)>
<i>Date/Time</i>		
DT	Date	YYYY [MM [DD]]
TM	Time	HH [MM [SS [.S [S [S [S]]]]]] [+/- ZZZZ]
TS	Time stamp	YYYY [MM [DD [HHMM [SS [.S [S [S [S]]]]]]]] [+/- ZZZZ] ^ <degree of precision>

Data Type/ Category	Data Type Name	Notes/Format
<i>Code Values</i>		
CE	Coded element	<identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) >
CK	Composite ID with check digit	<ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) >
CX	Extended composite ID with check digit	<ID (ST) > ^ <check digit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility (HD) >
XCN	Extended composite ID number and name	In Version 2.3, replaces the CN data type. <ID number (ST) > ^ <family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (for example, JR or III) (ST) > ^ <prefix (for example, DR) (ST) > ^ <degree (for example, MD) (ST) > ^ <source table (IS) > ^ <assigning authority (HD) > ^ <name type code (ID) > ^ <identifier check digit (ST) > ^ <code identifying the check digit scheme employed (ID) > ^ <identifier type code (IS) > ^ <assigning facility (HD) >
<i>Generic</i>		
CM	Composite	No new CMs are allowed after HL7 Version 2.2. Hence there are no new CMs in Version 2.3.
<i>Demographics</i>		
XAD	Extended address	In Version 2.3, replaces the AD data type. <street address (ST) > ^ <other designation (ST) > ^ <city (ST) > ^ <state or province (ST) > ^ <zip or postal code (ST) > ^ <country (ID) > ^ <address type (ID) > ^ <other geographic designation (ST) > ^ <county/parish code (IS) > ^ <census tract (IS) >
XPN	Extended person name	In Version 2.3, replaces the PN data type. <family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (for example, JR or III) (ST) > ^ <prefix (for example, DR) (ST) > ^ <degree (for example, MD) (ST) > ^ <name type code (ID) >

Data Type/ Category	Data Type Name	Notes/Format
XON	Extended composite name and ID number for organizations	<organization name (ST) > ^ <organization name type code (IS) > ^ <ID number (NM) > ^ <check digit (NM) > ^ <code identifying the check digit scheme employed (ID) > ^ <assigning authority (HD) > ^ <identifier type code (IS) > ^ <assigning facility ID (HD) >
XTN	Extended telecommunications number	In Version 2.3, XTN replaces the TN data type. [NNN] [(999)] 9999999 [X99999] [B99999] [C any text] ^ <telecommunication use code (ID) > ^ <telecommunication equipment type (ID) > ^ <email address (ST) > ^ <country code (NM) > ^ <area/city code (NM) > ^ <phone number (NM) > ^ <extension (NM) > ^ <any text (ST) >
<i>Time Series</i>		
TQ	Timing/quantity	For timing/quantity specifications for orders, see Chapter 4 of the HL7 Standard, Section 4.4. <quantity (CQ) > ^ <interval (*) > ^ <duration (*) > ^ <start date/time (TS) > ^ <end date/time (TS) > ^ <priority (ID) > ^ <condition (ST) > ^ <text (TX) > ^ <conjunction (ID) > ^ <order sequencing (*) >

ADT A28 (Patient Add) Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A28 (Patient Add) HL7 message. The purpose of this message type is to enable a partner application to add a new patient (via the Hub) to Care360 Labs & Meds.

Note: All date timestamps are set to Coordinated Universal Time (UTC).

Message Segment Hierarchy

An ADT A28 message must follow the message segment hierarchy, as specified below:

MSH	Message Header (<i>Required</i> ; one per file)
EVN	Event Type (<i>Required</i>)
PID	Patient Identification (<i>Required</i>)
[PD1]	Additional Demographics (<i>Optional</i>)
[{NK1}]	Next of Kin /Associated Parties (<i>Optional</i>)
PV1	Patient Visit Data (<i>Required</i>)
[PV2]	Patient Visit—Additional Info. (<i>Optional</i> ; not supported by the Hub)
[{DB1}]	Disability Information (<i>Optional</i> ; not supported by the Hub)
[{OBX}]	Observation/Result (<i>Optional</i> ; not supported by the Hub)
[{AL1}]	Allergy Information (<i>Optional</i> ; not supported by the Hub)
[{DG1}]	Diagnosis Information (<i>Optional</i>)
[DRG]	Diagnosis Related Group (<i>Optional</i> ; not supported by the Hub)
[{PR1}	Procedures (<i>Optional</i> ; not supported by the Hub)
[{ROL}]	Role (<i>Optional</i> ; not supported by the Hub)
}]	
[{GT1}]	Guarantor (<i>Optional</i> ; forwarded to portal if provided. The system can only handle one GT1 at this time. You can have 1 Guarantor with 2 insurances but not 2 Guarantors.)
[
{IN1}	Insurance (<i>Optional</i> ; forwarded to portal if provided. The first IN1=Primary Insurance for Guarantor. The second IN1=Secondary Insurance for Guarantor (if provided). In order for the IN1 information to be stored by the portal, the IN1.47 field must be populated with a 'T' or a 'P'.)
[IN2]	Insurance Additional Info. (<i>Optional</i> ; not supported by the Hub)
[IN3]	Insurance Additional Info. (<i>Optional</i> ; not supported by the Hub)
}	
]	
[ACC]	Accident Information (<i>Optional</i> ; not supported by the Hub)
[UB1]	Universal Bill Information (<i>Optional</i> ; not supported by the Hub)
[UB2]	Universal Bill 92 Information (<i>Optional</i> ; not supported by the Hub)

In the hierarchy shown above, braces ({}) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional.

Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A28 (Patient Add) message. Message segments supported by the Hub include the following:

- “[MSH—Message Header Segment](#)” on page 304.
- “[EVN—Event Type Segment](#)” on page 306.
- “[PID—Patient Identification Segment](#)” on page 307.
- “[NK1—Next of Kin Segment](#)” on page 313.
- “[PV1—Patient Visit Data Segment](#)” on page 315.
- “[PD1—Patient Additional Demographic Segment](#)” on page 317.
- “[DG1—Diagnosis Segment](#)” on page 319.
- “[GT1—Guarantor Segment](#)” on page 320.
- “[IN1—Insurance Segment](#)” on page 324.

Note: ADT A28 message segments that are not supported by the Hub are *not* included in this section; for detailed specifications, refer to the HL7 2.3 Specification.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Segment ID	Element Name	Type ^a	Length	Comments	Req'd ^b
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7, and are the only values supported by Quest Diagnostics.	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.04	Sending Facility	HD	180	The sending facility. Identifies the owner of the patient data and who initiated the patient demographic request. This value will be provided by MedPlus. Inbound: The Hub verifies that the field is populated. Outbound: No verification by the Hub.	R
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined for the requester. This value will be determined by the Client team and MedPlus. Inbound: The Hub verifies that the field is populated. Outbound: No verification by the Hub.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC). The Hub verifies that this field is populated, and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Valid value: A28 (Add Person Information).	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the lab system. The Hub verifies that this field is populated.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: <ul style="list-style-type: none">• P = Production• T = Testing The Hub verifies that the value in this field is P or T.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3.	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.13	Sequence Number	NM	15		NS
MSH.14	Continuation Pointer	ST	180		NS
MSH.15	Accept Acknowledgment Type	ID	2		NS
MSH.16	Application Acknowledgment Type	ID	2		NS
MSH.17	Country Code	ID	2		NS
MSH.18	Character Set	ID	6		NS
MSH.19	Principal Language of Message	CE	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

EVN—Event Type Segment

The Event Type (EVN) segment is used to communicate necessary trigger event information to receiving applications.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
EVN.00	Segment Type ID	ST	4	Must be EVN .	R
EVN.01	Event Type Code	ID	3	The second component (trigger event) of MSH.09 (<i>Message Type</i>) should be used to transmit event type code information. This field contains the events corresponding to the trigger events described in this section. Valid value: A28 or A31. Note: This field has been retained for backward compatibility only.	R
EVN.02	Recorded Date/Time	TS	26		NS
EVN.03	Date/Time Planned Event	TS	26		NS
EVN.04	Event Reason Code	IS	3		NS
EVN.05	Operator ID	XCN	60		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
EVN.06	Event Occurred	TS	26		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O
PID.02	Patient ID	CX	40	This is the Care360 patient identifier. This field is used to uniquely identify a patient within Care360. When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Example: 2c92ba0f1b5b9f92011b5ba31407 0005	R
PID.03	Patient ID	CX	40	The primary identifier, or other identifiers used by the facility to identify a patient uniquely (for example, medical record number, billing number, birth registry, etc.). This is the patient identifier associated with the non-Care360 system and it is not always available within Care360.	O
PID.04	Alternate Patient ID (PID)	CX	20		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.05	Patient Name	XPN	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	R
PID.06	Mother's Maiden Name	XPN	48		NS
PID.07	Date of Birth	TS	26	Date of birth (DOB), in YYYYMMDD format. The Hub verifies that the DOB is in this format.	O
PID.08	Sex	IS	1	Possible values are listed below. <ul style="list-style-type: none"> • M = Male • F = Female • O = Other • U = Unknown • A = Ambiguous • N = Not applicable • Z = Undifferentiated The Hub does no validations on this field. If Care360 Labs & Meds does not support a value that is sent, that value appears as a blank in the user interface.	O
PID.09	Patient Alias	XPN	48	Patient alias name.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.10	Race	CE	250	<p>This is a repeating field with a maximum of three instances allowed.</p> <p>For HL7 v2.3, values supported by Care360 Labs & Meds are listed below.</p> <ul style="list-style-type: none"> • W = White • B = Black • A = Asian • I = American Indian or Alaskan • O = Other <p>For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) race code set (http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.113883.6.238&code=1000-9) with a Concept Status Date of 09/26/2008.</p> <p>Because this is a repeating field, for a patient whose race is Apache (1010-8), White (2106-3), and Asian (2028-9), for example, you would send all three of the codes:</p> <p>1010-8^2106-3^2028-9</p> <p>The Hub does no validations on this field. However, if a value other than one of those in the CDC race code set is sent, the patient's race will not appear in the Care360 Labs & Meds user interface.</p>	O
PID.11	Patient Address	XAD	106	<p>No more than 106 characters wide.</p> <p>Add1 50 ^ add2 50 ^ city 50^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only.</p> <p>The Hub verifies that the field length complies with rules above.</p>	O
PID.12	County Code	IS	4		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.13	Phone Number-Home	XTN	40	<p>PID.13 is a repeating field that can accept Home phone number and Cell/Mobile phone number.</p> <ul style="list-style-type: none"> • If the Home phone number is sent, it must be the first occurrence. • If the Cell/Mobile phone number is sent, then <telecommunication equipment type (ID) > must equal CP. • If there is a Cell/Mobile phone number but no primary Home phone number, the first sequence must be blank (~). <p>The accepted length for each phone number is 20 numeric characters. No dashes or other separating characters are allowed.</p> <p>Example with home and cell phone (extension and country code omitted): ^^^^^^333^4445555^ CP^^^^^777^8889999^</p> <p>Example with home and cell phone (including country code): ^^^^1^333^4445555^ CP^^^1^777^8889999^</p> <p>The Hub verifies that the value complies with rules above.</p>	O
PID.14	Phone Number-Business	XTN	40	<p>Accepted length of this field is 20 numeric characters. No dashes or other separating characters.</p> <p>Example with extension (country code omitted): ^^^^^^333^4445555^999^</p> <p>Example with extension and country code: ^^^^1^333^4445555^999^</p> <p>The Hub verifies that the value complies with rules above.</p>	O
PID.15	Language - Patient	CE	250	<p>Values supported by Care360 Labs & Meds are listed in “Patient Language (PID.15)” on page 411.</p> <p>This field uses the HL7 v3.0 field length of 250 rather than the HL7 v2.3 field length of 60.</p> <p>The Hub does no validations on this field. However, if a value other than those listed is sent, the patient's language will not appear in the Care360 Labs & Meds user interface.</p>	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.16	Marital Status	IS	1	<p>Values supported by Care360 Labs & Meds are listed below.</p> <p>P = Polygamous W = Widowed D = Divorced M = Married A = Annulled S = Never Married L = Legally Separated I = Interlocutory T = Domestic Partner</p> <p>The Hub does no validations on this field. However, if a value other than those listed is sent, the patient's marital status will not appear in the Care360 Labs & Meds user interface.</p>	O
PID.17	Religion	IS	3		NS
PID.18	Patient Account Number	CX	20		NS
PID.19	SSN Number - Patient	ST	16	<p>Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900.</p> <p>If present, the Hub verifies that the value complies with rules above.</p>	O
PID.20	Driver's Lic Num - Patient	DLN	25		NS
PID.21	Mother's Identifier	CX	20		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.22	Ethnic Group	CE	250	<p>For HL7 v2.3, values supported by Care360 Labs & Meds are listed below.</p> <ul style="list-style-type: none"> • H = Hispanic • N = Non-Hispanic • U = Unknown <p>For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) ethnicity code set (http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.113883.6.238&code=2133-7) with a Concept Status Date of 09/26/2008.</p> <p>For example, for Mexican American, you would send ^2149-3.</p> <p>The Hub does no validations on this field. However, if a value other than those in the CDC ethnicity code set is sent, the patient's ethnicity will not appear in the Care360 Labs & Meds user interface.</p>	O
PID.23	Birth Place	ST	60		NS
PID.24	Multiple Birth Indicator	ID	2		NS
PID.25	Birth Order	NM	2		NS
PID.26	Citizenship	IS	4		NS
PID.27	Veterans Military Status	CE	60		NS
PID.28	Nationality	CD	80		NS
PID.29	Patient Death Date & Time	TS	26		NS
PID.30	Patient Death Indicator	ID	1		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

NK1—Next of Kin Segment

The Next of Kin (NK1) segment is used by all applications as the primary means of contacting the patient when the patient is not available.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
NK1.01	Segment Type ID	ST	4	Must be NK1.	R
NK1.02	Name	XPN	48	<p>No more than 48 characters, including the delimiter between the last and first names. At least one character must be used for first and last name. A numeric value cannot be used as the first character of the last name.</p> <p><family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (e.g., JR or III) (ST) > ^ <prefix (e.g., DR) (ST) > ^ <degree (e.g., MD) (ST) > ^ <name type code (ID) ></p> <p>The Hub does no validations on this field.</p>	O
NK1.03	Relationship	CE	60	<p>Values supported by Care360 Labs & Meds are the same as the HL7 values for Family Relation Type Value Set (http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008).</p> <p>Send the abbreviation of the terminology for the patient contact relationship. For example, for neighbor, you would send NBOR; for step daughter, you would send STPDAU.</p> <p>The Hub does no validations on this field. However, if a value other than those listed in the Family Relation Type Value Set is sent, the patient's relationship with the next of kin will not appear in the Care360 Labs & Meds user interface.</p>	O
NK1.04	Address	XAD	106	<p>No more than 106 characters.</p> <p>Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only.</p> <p>The Hub does no validations on this field.</p>	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
NK1.05	Phone Number	XTN	40	<p>This is a repeating field that holds all of the phone numbers for the next of kin. All unique instances within NK1.05 are separated by a tilde (~).</p> <ul style="list-style-type: none"> The primary telephone number must be sent in the first sequence. If the primary telephone number is not sent, the first sequence must be blank (~). If the Cell/Mobile phone number is sent, then <telecommunication equipment type (ID) > must equal CP. <p>The accepted length for each phone number is 20 numeric characters. No dashes or other separating characters are allowed.</p> <p>Example with just cell/mobile phone: ~ CP^^^^^777^8889999^</p> <p>The Hub does no validations on this field.</p>	O
NK1.06	Business Phone Number	XTN	40	<p>Accepted length of this field is 20 numeric characters. No dashes or other separating characters.</p> <p>Example with extension (country code omitted): ^^^^^333^4445555^999^</p> <p>Example with extension and country code: ^^^^^1^333^4445555^999^</p> <p>The Hub does no validations on this field.</p>	O
NK1.07	Contact Role	CE	60	<p>Values supported by Care360 Labs & Meds are below. The default is PRS.</p> <p>AGNT = Agent CAREGIVER = Caregiver ECON = Emergency Contact GUARD = Guardian NOK = Next of Kin PRS = Personal</p> <p>The Hub does no validations on this field. However, if a value other than those listed is sent, the contact role will not appear in the Care360 Labs & Meds user interface.</p>	R
NK1.08- NK1.37					NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on a visit-specific basis. This segment can be used to send multiple-visit statistic records to the same patient account, or single-visit records to more than one account.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R
PV1.01	Set ID	SI	4	Will always be 1.	O
PV1.02	Patient Class	IS	1	Examples of valid values: • E = Emergency • I = Inpatient • O = Outpatient	R
PV1.03	Assigned Patient Location	PL	80		NS
PV1.04	Admission Type	IS	2		NS
PV1.05	Preadmit Number	CX	20		NS
PV1.06	Prior Patient Location	PL	80		NS
PV1.07	Attending Doctor	XCN	60		NS
PV1.08	Referring Doctor	XCN	60		NS
PV1.09	Consulting Doctor	XCN	60		NS
PV1.10	Hospital Service	IS	3		NS
PV1.11	Temporary Location	PL	80		NS
PV1.12	Preadmit Test Indicator	IS	2		NS
PV1.13	Readmission Indicator	IS	2		NS
PV1.14	Admit Source	IS	3		NS
PV1.15	Ambulatory Status	IS	2		NS
PV1.16	VIP Indicator	IS	2		NS
PV1.17	Admitting Doctor	XCN	60		NS
PV1.18	Patient Type	IS	2		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.19	Visit Number	CX	20		NS
PV1.20	Financial Class	FC	50		NS
PV1.21	Charge Price Indicator	IS	2		NS
PV1.22	Courtesy Code	IS	2		NS
PV1.23	Credit Rating	IS	2		NS
PV1.24	Contract Code	IS	2		NS
PV1.25	Contract Effective Date	DT	8		NS
PV1.26	Contract Amount	NM	12		NS
PV1.27	Contract Period	NM	3		NS
PV1.28	Interest Code	IS	2		NS
PV1.29	Transfer to Bad Debt Code	IS	1		NS
PV1.30	Transfer to Bad Debt Date	DT	8		NS
PV1.31	Bad Debt Agency Code	IS	10		NS
PV1.32	Bad Debt Transfer Amount	NM	12		NS
PV1.33	Bad Debt Recovery Amount	NM	12		NS
PV1.34	Delete Account Indicator	IS	1		NS
PV1.35	Delete Account Date	DT	8		NS
PV1.36	Discharge Disposition	IS	3		NS
PV1.37	Discharged to Location	CM	25		NS
PV1.38	Diet Type	IS	2		NS
PV1.39	Servicing Facility	IS	2		NS
PV1.40	Bed Status	IS	1		NS
PV1.41	Account Status	IS	2		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.42	Pending Location	PL	80		NS
PV1.43	Prior Temporary Location	PL	80		NS
PV1.44	Admit Date/Time	TS	26		NS
PV1.45	Discharge Date/Time	TS	26		NS
PV1.46	Current Patient Balance	NM	12		NS
PV1.47	Total Charges	NM	12		NS
PV1.48	Total Adjustments	NM	12		NS
PV1.49	Total Payments	NM	12		NS
PV1.50	Alternate Visit ID	CX	20		NS
PV1.51	Visit Indicator	IS	1		NS
PV1.52	Other Healthcare Provider	XCN	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PD1—Patient Additional Demographic Segment

The Patient Additional Demographic (PD1) segment contains demographic information that is likely to change about the patient.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PD1.01	Living Dependency	IS	2		O
PD1.02	Living Arrangement	IS	2		O
PD1.03	Patient Primary Facility	XON	90		O
PD1.04	Patient Primary Care Provider Name & ID No.	XON	90		O
PD1.05	Student Indicator	IS	2		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PD1.06	Handicap	IS	2		O
PD1.07	Living Will	IS	2		O
PD1.08	Organ Donor	IS	2		O
PD1.09	Separate Bill	ID	2		O
PD1.10	Duplicate Patient	CX	2		O
PD1.11	Publicity Indicator	CE	1	<p>CE format:</p> <pre><identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) ></pre> <p>Valid values:</p> <ul style="list-style-type: none"> • Inbound: Y, N or blank • Outbound: Y, N, P or blank <p>Note: Hub will not edit to ensure valid values.</p>	O
PD1.12	Protection Indicator	ID	1	<p>Valid values: Inbound: Y, N or blank</p> <p>Notes:</p> <ul style="list-style-type: none"> • The patient consent fields will override what is currently defined in the Portal. • If this field is populated on Inbound feed, it will be ignored. The value in the Publicity Indicator field will be used to set both the disclose and access flags within Care360 Labs & Meds. <p>Outbound: Y, N, P or blank</p> <p>Note: Hub will not edit to ensure valid values.</p>	O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

DG1—Diagnosis Segment

The Diagnosis (DG1) segment contains patient diagnosis information.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
DG1.00	Segment Type ID	ST	4	Must be DG1 .	R
DG1.01	Set ID - Patient ID	SI	4	Used to number DG1 message segments sequentially beginning with 1.	O
DG1.02	Diagnosis Coding Method	ID	2		R
DG1.03	Diagnosis Code	CE	60	Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> sub-field1 = ICD-9 code sub-field3 = "I9" If field is populated, Hub verifies that sub-field3 (name of coding system)="I9."	O
DG1.04	Diagnosis Description	ST	40	Diagnosis name and description.	O
DG1.05	Diagnosis Date/Time	TS	26	Date/Time that the diagnosis was determined. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC).	O
DG1.06	Diagnosis Type	IS	2	Valid values: • A = Admitting • W = Working • F = Final	R
DG1.07	Major Diagnostic Category	CE	60		O
DG1.08	Diagnostic Related Group	CE	60		O
DG1.09	DRG Approval Indicator	ID	2		O
DG1.10	DRG Grouper Review Code	IS	2		O
DG1.11	Outlier Type	CE	60		O
DG1.12	Outlier Days	NM	3		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
DG1.13	Outlier Cost	CP	12		O
DG1.14	GrouperVersion and Type	ST	4		O
DG1.15	Diagnosis Priority	NM	2		O
DG1.16	Diagnosing Clinician	XCN	60		O
DG1.17	Diagnosis Classification	IS	3	Valid values: • C = Consultation • D = Diagnosis • M = Medication (antibiotic) • O = Other • R = Radiological scheduling (not using ICDA codes) • S = Sign and symptom • T = Tissue diagnosis • I = Invasive procedure not classified elsewhere (I.V., catheter, etc.)	O
DG1.18	Confidential Indicator	ID	1	Valid values for this field include: • Y = Yes • N = No	O
DG1.19	Attestation Date/Time	TS	26		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

GT1—Guarantor Segment

The Guarantor (GT1) segment contains guarantor (for example, the person or the organization with financial responsibility for payment of a patient account) data for patient and insurance billing applications. This segment is applicable only for patient and insurance billing.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.00	Segment Type ID	ST	4	Must be GT1 .	R
GT1.01	Set ID	SI	4	GT1 message segments should be numbered sequentially from 1.	R
GT1.02	Guarantor Number	CX	59		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.03	Guarantor Name	XPN	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the value complies with rules above.	R
GT1.04	Guarantor Spouse Name	XPN	48		NS
GT1.05	Guarantor Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O
GT1.06	Guarantor Ph Num-Home	XTN	40	Accepted length of this field is 20 numeric characters. No dashes or other separating characters. Example with country code and extension omitted: ^^^^^333^4445555 Example with country code: ^^^1^333^4445555 If present, the Hub verifies that the value complies with rules above.	O
GT1.07	Guarantor Ph Num-Business	XTN	40	Accepted length of this field is 20 numeric characters. No dashes or other separating characters. Example with country code omitted: ^^^^^333^4445555^999^ Example with country code: ^^^1^333^4445555^999^ If present, the Hub verifies that the value complies with rules above.	O
GT1.08	Guarantor Date/Time Of Birth	TS	26	The date and time of the guarantor's birth. Format: YYYYMMDDHHMMSS The Hub verifies that the date/time is in this format.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.09	Guarantor Sex	IS	1	Valid values for this field include: <ul style="list-style-type: none">• M = Male• F = Female• Blank The Hub verifies that one of these values is present in this field.	O
GT1.10	Guarantor Type	IS	2		NS
GT1.11	Guarantor Relationship	IS	2	Describes relations to patient. Valid values: <ul style="list-style-type: none">• 1 = Self• 2 = Spouse• 8 = Dependent• Blank.	O
GT1.12	Guarantor SSN	ST	11	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
GT1.13	Guarantor Date - Begin	DT	8		NS
GT1.14	Guarantor Date - End	DT	8		NS
GT1.15	Guarantor Priority	NM	2		NS
GT1.16	Guarantor Employer Name	XPN	130	Employer name. No more than 130 characters wide. Alphanumeric data only.	O
GT1.17	Guarantor Employer Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O
GT1.18	Guarantor Employer Phone Number	XTN	40		NS
GT1.19	Guarantor Employee ID Number	CX	20		NS
GT1.20	Guarantor Employment Status	IS	2		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.21	Guarantor Organization Name	XON	130		NS
GT1.22	Guarantor Billing Hold Flag	ID	1		NS
GT1.23	Guarantor Credit Rating Code	CE	80		NS
GT1.24	Guarantor Death Date And Time	TS	26		NS
GT1.25	Guarantor Death Flag	ID	1		NS
GT1.26	Guarantor Charge Adjustment Code	CE	80		NS
GT1.27	Guarantor Household Annual Income	CP	10		NS
GT1.28	Guarantor Household Size	NM	3		NS
GT1.29	Guarantor Employer ID Number	CX	20		NS
GT1.30	Guarantor Marital Status Code	IS	1		NS
GT1.31	Guarantor Hire Effective Date	DT	8		NS
GT1.32	Employment Stop Date	DT	8		NS
GT1.33	Living Dependency	IS	2		NS
GT1.34	Ambulatory Status	IS	2		NS
GT1.35	Citizenship	IS	4		NS
GT1.36	Primary Language	CE	60		NS
GT1.37	Living Arrangement	IS	2		NS
GT1.38	Publicity Indicator	CE	80		NS
GT1.39	Protection Indicator	ID	1		NS
GT1.40	Student Indicator	IS	2		NS
GT1.41	Religion	IS	3		NS
GT1.42	Mother's Maiden Name	XPN	48		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.43	Nationality	CE	80		NS
GT1.44	Ethnic Group	IS	3		NS
GT1.45	Contact Person's Name	XPN	48		NS
GT1.46	Contact Person's Telephone Number	XTN	40		NS
GT1.47	Contact Reason	CE	80		NS
GT1.48	Contact Relationship	IS	2		NS
GT1.49	Job Title	ST	20		NS
GT1.50	Job Code/Class	JCC	20		NS
GT1.51	Guarantor Employer's Organ. Name	XON	130		NS
GT1.52	Handicap	IS	2		NS
GT1.53	Job Status	IS	2		NS
GT1.54	Guarantor Financial Class	FC	50		NS
GT1.55	Guarantor Race	IS	1		NS

a. For a description of the HL7 data types, see [“Data Type Specifications”](#) on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

IN1—Insurance Segment

The Insurance (IN1) segment contains insurance policy coverage information necessary to produce properly pro-rated and patient and insurance bills. This segment is applicable only for insurance billing.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.00	Segment Type ID	ST	4	Must be IN1.	R
IN1.01	Set ID	SI	4	IN1 message segments should be numbered sequentially from 1.	R
IN1.02	Insurance Plan ID	CE	50	The Hub verifies that the field is populated.	R
IN1.03	Insurance Company ID	CX	59	This is the QDI Bill mnemonic. Note: Required only if IN1.47 = T(Third-Party Bill).	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.04	Insurance Company Name	XON	130		O
IN1.05	Insurance Company Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only.	O
IN1.06	Insurance Co. Contact Person	XPN	48		NS
IN1.07	Insurance Co Phone Number	XTN	40		NS
IN1.08	Group Number	ST	50	Characters permitted include: A–Z and 0–9. If present, the Hub verifies that the value complies with rules above.	O
IN1.09	Group Name	XON	130		O
IN1.10	Insured's Group Emp ID	CX	12		NS
IN1.11	Insured's Group Emp Name	XON	130		NS
IN1.12	Plan Effective Date	DT	8		NS
IN1.13	Plan Expiration Date	DT	8		NS
IN1.14	Authorization Information	CM	55		NS
IN1.15	Plan Type	IS	3		NS
IN1.16	Name Of Insured	XPN	48		NS
IN1.17	Insured's Relationship To Patient	IS	2		NS
IN1.18	Insured's Date Of Birth	TS	26		NS
IN1.19	Insured's Address	XAD	106		NS
IN1.20	Assignment Of Benefits	IS	2		NS
IN1.21	Coordination Of Benefits	IS	2		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.22	Coord Of Ben. Priority	ST	2		NS
IN1.23	Notice Of Admission Flag	ID	2		NS
IN1.24	Notice Of Admission Date	DT	8		NS
IN1.25	Report Of Eligibility Flag	ID	2		NS
IN1.26	Report Of Eligibility Date	DT	8		NS
IN1.27	Release Information Code	IS	2		NS
IN1.28	Pre-Admit Cert (PAC)	ST	15		NS
IN1.29	Verification Date/Time	TS	26		NS
IN1.30	Verification By	XCN	60		NS
IN1.31	Type Of Agreement Code	IS	2		NS
IN1.32	Billing Status	IS	2		NS
IN1.33	Lifetime Reserve Days	NM	4		NS
IN1.34	Delay Before L.R. Day	NM	4		NS
IN1.35	Company Plan Code	IS	8		NS
IN1.36	Policy Number	ST	50		O
IN1.37	Policy Deductible	CP	12		NS
IN1.38	Policy Limit - Amount	CP	12		NS
IN1.39	Policy Limit - Days	NM	4		NS
IN1.40	Room Rate - Semi-Private	CP	12		NS
IN1.41	Room Rate - Private	CP	12		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.42	Insured's Employment Status	CE	60		NS
IN1.43	Insured's Sex	IS	1		NS
IN1.44	Insured's Employer Address	XAD	106		NS
IN1.45	Verification Status	ST	2		NS
IN1.46	Prior Insurance Plan ID	IS	8		NS
IN1.47	Coverage Type	IS	3	Valid values include: T = Third-party bill P = Patient bill C = Client bill If present, the Hub verifies that the value complies with rules above.	O
IN1.48	Handicap	IS	2		NS
IN1.49	Insured's ID Number	CX	12		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

ADT A29 (Patient Delete) Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A29 (Patient Delete) HL7 message. The purpose of this message type is to enable a partner application to delete an existing patient (via the Hub) from Care360 Labs & Meds. This can be used, for example, to correct an error in adding the information, to delete a duplicate patient record, or to purge the patient from Care360 Labs & Meds.

Notes:

- You cannot delete a patient from Care360 Labs & Meds after clinical entries (for example, lab results) have been associated with that patient, or if the patient is associated with an alias patient. If a delete cannot be performed due to either of these conditions, an error message is returned.
- All date timestamps are set to Coordinated Universal Time (UTC).

Message Segment Hierarchy

An ADT A29 message must follow the message segment hierarchy, as specified below:

MSH	Message Header	(Required; one per file)
EVN	Event Type	(Required)
PID	Patient Identification	(Required)
[PD1]	Additional Demographics	(Optional; not supported by the Hub)
PV1	Patient Visit Data	(Required)
[PV2]	Patient Visit—Additional Info.	(Optional; not supported by the Hub)
[{DB1}]	Disability Information	(Optional; not supported by the Hub)
[{OBX}]	Observation/Result	(Optional; not supported by the Hub)

In the hierarchy shown above, braces ({}) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional.

Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A29 (Patient Delete) message. Message segments supported by the Hub include the following:

- “[MSH—Message Header Segment](#)” on page 329.
- “[EVN—Event Type Segment](#)” on page 331.
- “[PID—Patient Identification Segment](#)” on page 331.
- “[PV1—Patient Visit Data Segment](#)” on page 334.

Note: ADT A29 message segments that are not supported by the Hub are *not* included in this section; for detailed specifications, refer to the HL7 2.3 Specification.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID ("MSH") and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7, and are the only values supported by Quest Diagnostics.	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O
MSH.04	Sending Facility	HD	180	The sending facility. Identifies the owner of the patient data and who initiated the patient demographic request. This value will be provided by MedPlus. Inbound: The Hub verifies that the field is populated. Outbound: No verification by the Hub.	R
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined by Quest Diagnostics for the requester. This value will be determined by the Client team and MedPlus. Inbound: The Hub verifies that the field is populated. Outbound: No verification by the Hub.	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC). The Hub verifies that this field is populated, and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Valid value: A29 (Delete Person Information).	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the lab system. The Hub verifies that this field is populated.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: • P = Production • T = Testing The Hub verifies that the value in this field is P or T.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3.	R
MSH.13	Sequence Number	NM	15		NS
MSH.14	Continuation Pointer	ST	180		NS
MSH.15	Accept Acknowledgment Type	ID	2		NS
MSH.16	Application Acknowledgment Type	ID	2		NS
MSH.17	Country Code	ID	2		NS
MSH.18	Character Set	ID	6		NS
MSH.19	Principal Language of Message	CE	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

EVN—Event Type Segment

The Event Type (EVN) segment is used to communicate necessary trigger event information to receiving applications.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
EVN.00	Segment Type ID	ST	4	Must be EVN .	R
EVN.01	Event Type Code	ID	3	The second component (trigger event) of MSH.09 (<i>Message Type</i>) should be used to transmit event type code information. This field contains the events corresponding to the trigger events described in this section. The Hub verifies that this field is populated with A29. Note: This field has been retained for backward compatibility only.	R
EVN.02	Recorded Date/Time	TS	26		NS
EVN.03	Date/Time Planned Event	TS	26		NS
EVN.04	Event Reason Code	IS	3		NS
EVN.05	Operator ID	XCN	60		NS
EVN.06	Event Occurred	TS	26		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.02	Patient ID	CX	40	This is the Care360 patient identifier. This field is used to uniquely identify a patient within Care360. When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Example: 2c92ba0f1b5b9f92011b5ba31407 0005	R
PID.03	Patient ID	CX	40	The primary identifier, or other identifiers used by the facility to identify a patient uniquely (for example, medical record number, billing number, birth registry, etc.). This is the patient identifier associated with the non-Care360 system and it is not always available within Care360.	O
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XPN	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the value complies with rules above.	R
PID.06	Mother's Maiden Name	XPN	48		NS
PID.07	Date/Time of Birth	TS	26	Date of birth (DOB), in YYYYMMDDHHMMSS The Hub verifies that the DOB is in this format.	O
PID.08	Sex	IS	1	Valid values for this field include: <ul style="list-style-type: none">• M = Male• F = Female• Blank The Hub verifies that one of these values is present in this field.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.09	Patient Alias	XPN	48	Patient alias name.	O
PID.10	Race	IS	1		NS
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O
PID.12	County Code	IS	4		NS
PID.13	Phone Number-Home	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example (extension and country code omitted): ^^^^^333^4445555^ Example with country code: ^^^^^1^333^4445555^ The Hub verifies that the value complies with rules above.	O
PID.14	Phone Number-Business	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with extension (country code omitted): ^^^^^333^4445555^999^ Example with extension and country code: ^^^^^1^333^4445555^999^ The Hub verifies that the value complies with rules above.	O
PID.15	Language - Patient	CE	60		NS
PID.16	Marital Status	IS	1		NS
PID.17	Religion	IS	3		NS
PID.18	Patient Account Number	CX	20		NS
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.20	Driver's Lic Num - Patient	DLN	25		NS
PID.21	Mother's Identifier	CX	20		NS
PID.22	Ethnic Group	IS	3		NS
PID.23	Birth Place	ST	60		NS
PID.24	Multiple Birth Indicator	ID	2		NS
PID.25	Birth Order	NM	2		NS
PID.26	Citizenship	IS	4		NS
PID.27	Veterans Military Status	CE	60		NS
PID.28	Nationality	CD	80		NS
PID.29	Patient Death Date & Time	TS	26		NS
PID.30	Patient Death Indicator	ID	1		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on a visit-specific basis. This segment can be used to send multiple-visit statistic records to the same patient account, or single-visit records to more than one account.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R
PV1.01	Set ID	SI	4	Will always be 1.	O
PV1.02	Patient Class	IS	1	Examples of valid values: • E = Emergency • I = Inpatient • O = Outpatient	R
PV1.03	Assigned Patient Location	PL	80		NS
PV1.04	Admission Type	IS	2		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.05	Preadmit Number	CX	20		NS
PV1.06	Prior Patient Location	PL	80		NS
PV1.07	Attending Doctor	XCN	60		NS
PV1.08	Referring Doctor	XCN	60		NS
PV1.09	Consulting Doctor	XCN	60		NS
PV1.10	Hospital Service	IS	3		NS
PV1.11	Temporary Location	PL	80		NS
PV1.12	Preadmit Test Indicator	IS	2		NS
PV1.13	Readmission Indicator	IS	2		NS
PV1.14	Admit Source	IS	3		NS
PV1.15	Ambulatory Status	IS	2		NS
PV1.16	VIP Indicator	IS	2		NS
PV1.17	Admitting Doctor	XCN	60		NS
PV1.18	Patient Type	IS	2		NS
PV1.19	Visit Number	CX	20		NS
PV1.20	Financial Class	FC	50		NS
PV1.21	Charge Price Indicator	IS	2		NS
PV1.22	Courtesy Code	IS	2		NS
PV1.23	Credit Rating	IS	2		NS
PV1.24	Contract Code	IS	2		NS
PV1.25	Contract Effective Date	DT	8		NS
PV1.26	Contract Amount	NM	12		NS
PV1.27	Contract Period	NM	3		NS
PV1.28	Interest Code	IS	2		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.29	Transfer to Bad Debt Code	IS	1		NS
PV1.30	Transfer to Bad Debt Date	DT	8		NS
PV1.31	Bad Debt Agency Code	IS	10		NS
PV1.32	Bad Debt Transfer Amount	NM	12		NS
PV1.33	Bad Debt Recovery Amount	NM	12		NS
PV1.34	Delete Account Indicator	IS	1		NS
PV1.35	Delete Account Date	DT	8		NS
PV1.36	Discharge Disposition	IS	3		NS
PV1.37	Discharged to Location	CM	25		NS
PV1.38	Diet Type	IS	2		NS
PV1.39	Servicing Facility	IS	2		NS
PV1.40	Bed Status	IS	1		NS
PV1.41	Account Status	IS	2		NS
PV1.42	Pending Location	PL	80		NS
PV1.43	Prior Temporary Location	PL	80		NS
PV1.44	Admit Date/Time	TS	26		NS
PV1.45	Discharge Date/Time	TS	26		NS
PV1.46	Current Patient Balance	NM	12		NS
PV1.47	Total Charges	NM	12		NS
PV1.48	Total Adjustments	NM	12		NS
PV1.49	Total Payments	NM	12		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.50	Alternate Visit ID	CX	20		NS
PV1.51	Visit Indicator	IS	1		NS
PV1.52	Other Healthcare Provider	XCN	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

ADT A31 (Patient Update) Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A31 (Patient Update) HL7 message. The purpose of this message type is to enable a partner application to modify an existing patient (via the Hub) in Care360 Labs & Meds.

Note: All date timestamps are set to Coordinated Universal Time (UTC).

Message Segment Hierarchy

An ADT A31 message must follow the message segment hierarchy, as specified below:

MSH	Message Header	(Required; one per file)
EVN	Event Type	(Required)
PID	Patient Identification	(Required)
[PD1]	Additional Demographics	(Optional)
[{NK1}]	Next of Kin /Associated Parties	(Optional)
PV1	Patient Visit Data	(Required)
[PV2]	Patient Visit—Additional Info.	(Optional; not supported by the Hub)
PID	Patient Identification	(Required)
[PD1]	Additional Demographics	(Optional)
[{NK1}]	Next of Kin /Associated Parties	(Optional; not supported by the Hub)
PV1	Patient Visit Data	(Required)
[PV2]	Patient Visit—Additional Info.	(Optional; not supported by the Hub)
[{DB1}]	Disability Information	(Optional; not supported by the Hub)
[{OBX}]	Observation/Result	(Optional; not supported by the Hub)
[{AL1}]	Allergy Information	(Optional; not supported by the Hub)
[{DG1}]	Diagnosis Information	(Optional)
[DRG]	Diagnosis Related Group	(Optional; not supported by the Hub)
[{PR1}	Procedures	(Optional; not supported by the Hub)
[{ROL}]	Role	(Optional; not supported by the Hub)
}		
[{GT1}]	Guarantor	(Optional; forwarded to portal if provided. The system can only handle one GT1 at this time. You can have 1 Guarantor with 2 insurances but not 2 Guarantors.)
[
{IN1}	Insurance	Optional; forwarded to portal if provided. The first IN1=Primary Insurance for Guarantor. The second IN1=Secondary Insurance for Guarantor (if provided). In order for the IN1 information to be stored by the portal, the IN1.47 field must be populated with a 'T' or a 'P'.)
[IN2]	Insurance Additional Info.	(Optional; not supported by the Hub)
[IN3]	Insurance Additional Info.	(Optional; not supported by the Hub)
}		
]		
[ACC]	Accident Information	(Optional; not supported by the Hub)
[UB1]	Universal Bill Information	(Optional; not supported by the Hub)
[UB2]	Universal Bill 92 Information	(Optional; not supported by the Hub)

In the hierarchy shown above, braces ({{}}) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional.

Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A31 (Patient Update) message. Message segments supported by the Hub include the following:

- “[MSH—Message Header Segment](#)” on page 339.
- “[EVN—Event Type Segment](#)” on page 341.
- “[PID—Patient Identification Segment](#)” on page 342.
- “[NK1—Next of Kin Segment](#)” on page 347
- “[PV1—Patient Visit Data Segment](#)” on page 349.
- “[PD1—Patient Additional Demographic Segment](#)” on page 351.
- “[DG1—Diagnosis Segment](#)” on page 353.
- “[GT1—Guarantor Segment](#)” on page 354.
- “[IN1—Insurance Segment](#)” on page 359.

Note: ADT A31 message segments that are not supported by the Hub are *not* included in this section; for detailed specifications, refer to the HL7 2.3 Specification.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Segment ID	Element Name	Type ^a	Length	Comments	Req'd ^b
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7, and are the only values supported by Quest Diagnostics.	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.04	Sending Facility	HD	180	The sending facility. Identifies the owner of the patient data and who initiated the patient demographic request. This value will be provided by MedPlus. Inbound: The Hub verifies that the field is populated. Outbound: No verification by the Hub.	R
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined for the requester. This value will be determined by the Client team and MedPlus. Inbound: The Hub verifies that the field is populated. Outbound: No verification by the Hub.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC). The Hub verifies that this field is populated, and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Valid value: A31 (Update Person Information).	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the lab system.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: <ul style="list-style-type: none">• P = Production• T = Testing The Hub verifies that the value in this field is P or T.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3.	R
MSH.13	Sequence Number	NM	15		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.14	Continuation Pointer	ST	180		NS
MSH.15	Accept Acknowledgment Type	ID	2		NS
MSH.16	Application Acknowledgment Type	ID	2		NS
MSH.17	Country Code	ID	2		NS
MSH.18	Character Set	ID	6		NS
MSH.19	Principal Language of Message	CE	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

EVN—Event Type Segment

The Event Type (EVN) segment is used to communicate necessary trigger event information to receiving applications.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
EVN.00	Segment Type ID	ST	4	Must be EVN .	R
EVN.01	Event Type Code	ID	3	The second component (trigger event) of MSH.09 (<i>Message Type</i>) should be used to transmit event type code information. This field contains the events corresponding to the trigger events described in this section. Valid value: A28 or A31. Note: This field has been retained for backward compatibility only.	R
EVN.02	Recorded Date/Time	TS	26		NS
EVN.03	Date/Time Planned Event	TS	26		NS
EVN.04	Event Reason Code	IS	3		NS
EVN.05	Operator ID	XCN	60		NS
EVN.06	Event Occurred	TS	26		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Segment ID	Element Name	Type ^a	Length	Comments	Req'd ^b
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O
PID.02	Patient ID	CX	40	This is the Care360 patient identifier. This field is used to uniquely identify a patient within Care360. When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Example: 2c92ba0f1b5b9f92011b5ba31407 0005	R
PID.03	Patient ID	CX	40	The primary identifier, or other identifiers used by the facility to identify a patient uniquely (for example, medical record number, billing number, birth registry, etc.). This is the patient identifier associated with the non-Care360 system and it is not always available within Care360.	O
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XPN	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the value complies with rules above.	R
PID.06	Mother's Maiden Name	XPN	48		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.07	Date of Birth	TS	26	Date of birth (DOB), in YYYYMMDD The Hub verifies that the DOB is in this format.	O
PID.08	Sex	IS	1	<p>Possible values are listed below.</p> <ul style="list-style-type: none"> • M = Male • F = Female • O = Other • U = Unknown • A = Ambiguous • N = Not applicable • Z = Undifferentiated <p>The Hub does no validations on this field. If Care360 Labs & Meds does not support a value that is sent, that value appears as a blank in the user interface.</p>	O
PID.09	Patient Alias	XPN	48	Patient alias name.	O
PID.10	Race	CE	250	<p>This is a repeating field with a maximum of three instances allowed.</p> <p>For HL7 v2.3, values supported by Care360 Labs & Meds are listed below.</p> <ul style="list-style-type: none"> • W = White • B = Black • A = Asian • I = American Indian or Alaskan • O = Other <p>For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) race code set (http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.113883.6.238&code=1000-9) with a Concept Status Date of 09/26/2008.</p> <p>Because this is a repeating field, for a patient whose race is Apache (1010-8), White (2106-3), and Asian (2028-9), for example, you would send all three of the codes:</p> <p>1010-8^2106-3^2028-9</p> <p>The Hub does no validations on this field. However, if a value other than one of those in the CDC race code set is sent, the patient's race will not appear in the Care360 Labs & Meds user interface.</p>	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O
PID.12	County Code	IS	4		NS
PID.13	Phone Number-Home	XTN	40	<p>PID.13 is a repeating field that can accept Home phone number and Cell/Mobile phone number.</p> <ul style="list-style-type: none"> • If the Home phone number is sent, it must be the first occurrence. • If the Cell/Mobile phone number is sent, then <telecommunication equipment type (ID) > must equal CP. • If there is a Cell/Mobile phone number but no primary Home phone number, the first sequence must be blank (~). <p>The accepted length for each phone number is 20 numeric characters. No dashes or other separating characters are allowed.</p> <p>Example with home and cell phone (extension and country code omitted): ^^^^^333^4445555^ CP^777^8889999^</p> <p>Example with home and cell phone (including country code): ^^^^^1^333^4445555^ CP^^^^1^777^8889999^</p> <p>The Hub verifies that the value complies with rules above.</p>	O
PID.14	Phone Number-Business	XTN	40	<p>Accepted length of this field is 40 numeric characters. No dashes or other separating characters.</p> <p>Example with extension (country code omitted): ^^^^^333^4445555^999^</p> <p>Example with extension and country code: ^^^^^1^333^4445555^999^</p> <p>The Hub verifies that the value complies with rules above.</p>	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.15	Language - Patient	CE	250	Values supported by Care360 Labs & Meds are listed in “ Patient Language (PID.15) ” on page 411. This field uses the HL7 v3.0 field length of 250 rather than the HL7 v2.3 field length of 60. The Hub does no validations on this field. However, if a value other than those listed is sent, the patient's language will not appear in the Care360 Labs & Meds user interface.	O
PID.16	Marital Status	IS	1	Values supported by Care360 Labs & Meds are listed below. P = Polygamous W = Widowed D = Divorced M = Married A = Annulled S = Never Married L = Legally Separated I = Interlocutory T = Domestic Partner The Hub does no validations on this field. However, if a value other than those listed is sent, the patient's marital status will not appear in the Care360 Labs & Meds user interface.	O
PID.17	Religion	IS	3		NS
PID.18	Patient Account Number	CX	20		NS
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
PID.20	Driver's Lic Num - Patient	DLN	25		NS
PID.21	Mother's Identifier	CX	20		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.22	Ethnic Group	CE	250	<p>For HL7 v2.3, values supported by Care360 Labs & Meds are listed below.</p> <ul style="list-style-type: none"> • H = Hispanic • N = Non-Hispanic • U = Unknown <p>For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) ethnicity code set (http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.113883.6.238&code=2133-7) with a Concept Status Date of 09/26/2008.</p> <p>For example, for Mexican American, you would send ^2149-3.</p> <p>The Hub does no validations on this field. However, if a value other than those in the CDC ethnicity code set is sent, the patient's ethnicity will not appear in the Care360 Labs & Meds user interface.</p>	O
PID.23	Birth Place	ST	60		NS
PID.24	Multiple Birth Indicator	ID	2		NS
PID.25	Birth Order	NM	2		NS
PID.26	Citizenship	IS	4		NS
PID.27	Veterans Military Status	CE	60		NS
PID.28	Nationality	CD	80		NS
PID.29	Patient Death Date & Time	TS	26		NS
PID.30	Patient Death Indicator	ID	1		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

NK1—Next of Kin Segment

The Next of Kin (NK1) segment is used by all applications as the primary means of contacting the patient when the patient is not available.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
NK1.01	Segment Type ID	ST	4	Must be NK1 .	R
NK1.02	Name	XPN	48	<p>No more than 48 characters, including the delimiter between the last and first names. At least one character must be used for first and last name. A numeric value cannot be used as the first character of the last name.</p> <p><family name (ST) > ^ <given name (ST) > ^ <middle initial or name (ST) > ^ <suffix (e.g., JR or III) (ST) > ^ <prefix (e.g., DR) (ST) > ^ <degree (e.g., MD) (ST) > ^ <name type code (ID) ></p> <p>The Hub does no validations on this field.</p>	O
NK1.03	Relationship	CE	60	<p>Values supported by Care360 Labs & Meds are the same as the HL7 values for Family Relation Type Value Set (http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008).</p> <p>Send the abbreviation of the terminology for the patient contact relationship. For example, for neighbor, you would send NBOR; for step daughter, you would send STPDAU.</p> <p>The Hub does no validations on this field. However, if a value other than those listed in the Family Relation Type Value Set is sent, the patient's relationship with the next of kin will not appear in the Care360 Labs & Meds user interface.</p>	O
NK1.04	Address	XAD	106	<p>No more than 106 characters.</p> <p>Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only.</p> <p>The Hub does no validations on this field.</p>	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
NK1.05	Phone Number	XTN	40	<p>This is a repeating field that holds all of the phone numbers for the next of kin. All unique instances within NK1.05 are separated by a tilde (~).</p> <ul style="list-style-type: none"> The primary telephone number must be sent in the first sequence. If the primary telephone number is not sent, the first sequence must be blank (~). If the Cell/Mobile phone number is sent, then <telecommunication equipment type (ID) > must equal CP. <p>The accepted length for each phone number is 20 numeric characters. No dashes or other separating characters are allowed.</p> <p>Example with just cell/mobile phone: ~ CP^^^^^777^8889999^</p> <p>The Hub does no validations on this field.</p>	O
NK1.06	Business Phone Number	XTN	40	<p>Accepted length of this field is 20 numeric characters. No dashes or other separating characters.</p> <p>Example with extension (country code omitted): ^^^^^333^4445555^999^</p> <p>Example with extension and country code: ^^^^^1^333^4445555^999^</p> <p>The Hub does no validations on this field.</p>	O
NK1.07	Contact Role	CE	60	<p>Values supported by Care360 Labs & Meds are below. The default is PRS.</p> <p>AGNT = Agent CAREGIVER = Caregiver ECON = Emergency Contact GUARD = Guardian NOK = Next of Kin PRS = Personal</p> <p>The Hub does no validations on this field. However, if a value other than those listed is sent, the contact role will not appear in the Care360 Labs & Meds user interface.</p>	R
NK1.08- NK1.37					NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on a visit-specific basis. This segment can be used to send multiple-visit statistic records to the same patient account, or single-visit records to more than one account.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R
PV1.01	Set ID	SI	4	Will always be 1.	O
PV1.02	Patient Class	IS	1	Examples of valid values: • E = Emergency • I = Inpatient • O = Outpatient.	R
PV1.03	Assigned Patient Location	PL	80		NS
PV1.04	Admission Type	IS	2		NS
PV1.05	Preadmit Number	CX	20		NS
PV1.06	Prior Patient Location	PL	80		NS
PV1.07	Attending Doctor	XCN	60		NS
PV1.08	Referring Doctor	XCN	60		NS
PV1.09	Consulting Doctor	XCN	60		NS
PV1.10	Hospital Service	IS	3		NS
PV1.11	Temporary Location	PL	80		NS
PV1.12	Preadmit Test Indicator	IS	2		NS
PV1.13	Readmission Indicator	IS	2		NS
PV1.14	Admit Source	IS	3		NS
PV1.15	Ambulatory Status	IS	2		NS
PV1.16	VIP Indicator	IS	2		NS
PV1.17	Admitting Doctor	XCN	60		NS
PV1.18	Patient Type	IS	2		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.19	Visit Number	CX	20		NS
PV1.20	Financial Class	FC	50		NS
PV1.21	Charge Price Indicator	IS	2		NS
PV1.22	Courtesy Code	IS	2		NS
PV1.23	Credit Rating	IS	2		NS
PV1.24	Contract Code	IS	2		NS
PV1.25	Contract Effective Date	DT	8		NS
PV1.26	Contract Amount	NM	12		NS
PV1.27	Contract Period	NM	3		NS
PV1.28	Interest Code	IS	2		NS
PV1.29	Transfer to Bad Debt Code	IS	1		NS
PV1.30	Transfer to Bad Debt Date	DT	8		NS
PV1.31	Bad Debt Agency Code	IS	10		NS
PV1.32	Bad Debt Transfer Amount	NM	12		NS
PV1.33	Bad Debt Recovery Amount	NM	12		NS
PV1.34	Delete Account Indicator	IS	1		NS
PV1.35	Delete Account Date	DT	8		NS
PV1.36	Discharge Disposition	IS	3		NS
PV1.37	Discharged to Location	CM	25		NS
PV1.38	Diet Type	IS	2		NS
PV1.39	Servicing Facility	IS	2		NS
PV1.40	Bed Status	IS	1		NS
PV1.41	Account Status	IS	2		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.42	Pending Location	PL	80		NS
PV1.43	Prior Temporary Location	PL	80		NS
PV1.44	Admit Date/Time	TS	26		NS
PV1.45	Discharge Date/Time	TS	26		NS
PV1.46	Current Patient Balance	NM	12		NS
PV1.47	Total Charges	NM	12		NS
PV1.48	Total Adjustments	NM	12		NS
PV1.49	Total Payments	NM	12		NS
PV1.50	Alternate Visit ID	CX	20		NS
PV1.51	Visit Indicator	IS	1		NS
PV1.52	Other Healthcare Provider	XCN	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PD1—Patient Additional Demographic Segment

The Patient Additional Demographic (PD1) segment contains demographic information that is likely to change about the patient.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PD1.01	Living Dependency	IS	2		O
PD1.02	Living Arrangement	IS	2		O
PD1.03	Patient Primary Facility	XON	90		O
PD1.04	Patient Primary Care Provider Name & ID No.	XON	90		O
PD1.05	Student Indicator	IS	2		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PD1.06	Handicap	IS	2		O
PD1.07	Living Will	IS	2		O
PD1.08	Organ Donor	IS	2		O
PD1.09	Separate Bill	ID	2		O
PD1.10	Duplicate Patient	CX	2		O
PD1.11	Publicity Indicator	CE	1	<p>CE format:</p> <pre><identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) ></pre> <p>Valid values:</p> <ul style="list-style-type: none"> • Inbound: Y, N or blank • Outbound: Y, N, P or blank <p>Note: Hub will not edit to ensure valid values.</p>	O
PD1.12	Protection Indicator	ID	1	<p>Valid values: Inbound: Y, N or blank</p> <p>Notes:</p> <ul style="list-style-type: none"> • The patient consent fields will override what is currently defined in the Portal. • If this field is populated on Inbound feed, it will be ignored. The value in the Publicity Indicator field will be used to set both the disclose and access flags within Care360 Labs & Meds. <p>Outbound: Y, N, P or blank</p> <p>Note: Hub will not edit to ensure valid values.</p>	O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

DG1—Diagnosis Segment

The Diagnosis (DG1) segment contains patient diagnosis information.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
DG1.00	Segment Type ID	ST	4	Must be DG1 .	R
DG1.01	Set ID - Patient ID	SI	4	Used to number DG1 message segments sequentially beginning with 1.	O
DG1.02	Diagnosis Coding Method	ID	2		R
DG1.03	Diagnosis Code	CE	60	Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> sub-field1 = ICD-9 code sub-field3 = "I9" If field is populated, Hub verifies that sub-field3 (name of coding system)="I9."	O
DG1.04	Diagnosis Description	ST	40	Diagnosis name and description.	O
DG1.05	Diagnosis Date/Time	TS	26	Date/Time that the diagnosis was determined. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC).	O
DG1.06	Diagnosis Type	IS	2	Valid values: • A = Admitting • W = Working • F = Final	R
DG1.07	Major Diagnostic Category	CE	60		O
DG1.08	Diagnostic Related Group	CE	60		O
DG1.09	DRG Approval Indicator	ID	2		O
DG1.10	DRG Grouper Review Code	IS	2		O
DG1.11	Outlier Type	CE	60		O
DG1.12	Outlier Days	NM	3		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
DG1.13	Outlier Cost	CP	12		O
DG1.14	GrouperVersion and Type	ST	4		O
DG1.15	Diagnosis Priority	NM	2		O
DG1.16	Diagnosing Clinician	XCN	60		O
DG1.17	Diagnosis Classification	IS	3	Valid values: • C = Consultation • D = Diagnosis • M = Medication (antibiotic) • O = Other • R = Radiological scheduling (not using ICDA codes) • S = Sign and symptom • T = Tissue diagnosis • I = Invasive procedure not classified elsewhere (I.V., catheter, etc.)	O
DG1.18	Confidential Indicator	ID	1		O
DG1.19	Attestation Date/Time	TS	26		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

GT1—Guarantor Segment

The Guarantor (GT1) segment contains guarantor (for example, the person or the organization with financial responsibility for payment of a patient account) data for patient and insurance billing applications. This segment is applicable only for patient and insurance billing.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.00	Segment Type ID	ST	4	Must be GT1.	R
GT1.01	Set ID	SI	4	GT1 message segments should be numbered sequentially from 1.	R
GT1.02	Guarantor Number	CX	59		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.03	Guarantor Name	XPN	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the value complies with rules above.	R
GT1.04	Guarantor Spouse Name	XPN	48		NS
GT1.05	Guarantor Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O
GT1.06	Guarantor Ph Num-Home	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with country code and extension omitted: ^^^^^333^4445555 Example with country code: ^^^^^1^333^4445555	O
GT1.07	Guarantor Ph Num-Business	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with country code omitted: ^^^^^333^4445555^999^ Example with country code: ^^^^^1^333^4445555^999^	O
GT1.08	Guarantor Date/Time Of Birth	TS	26	The date and time of the guarantor's birth. Format: YYYYMMDDHHMMSS The Hub verifies that the date/time is in this format.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.09	Guarantor Sex	IS	1	Valid values for this field include: • M = Male • F = Female • Blank The Hub verifies that one of these values is present in this field.	O
GT1.10	Guarantor Type	IS	2		NS
GT1.11	Guarantor Relationship	IS	2	Describes relations to patient. Valid values: • 1 = Self • 2 = Spouse • 8 = Dependent • Blank	O
GT1.12	Guarantor SSN	ST	11	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
GT1.13	Guarantor Date-Begin	DT	8		NS
GT1.14	Guarantor Date-End	DT	8		NS
GT1.15	Guarantor Priority	NM	2		NS
GT1.16	Guarantor Employer Name	XPN	130	Employer name. No more than 130 characters wide. Alphanumeric data only.	O
GT1.17	Guarantor Employer Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O
GT1.18	Guarantor Employer Phone Number	XTN	40		NS
GT1.19	Guarantor Employee ID Number	CX	20		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.20	Guarantor Employment Status	IS	2		NS
GT1.21	Guarantor Organization Name	XON	130		NS
GT1.22	Guarantor Billing Hold Flag	ID	1		NS
GT1.23	Guarantor Credit Rating Code	CE	80		NS
GT1.24	Guarantor Death Date And Time	TS	26		NS
GT1.25	Guarantor Death Flag	ID	1		NS
GT1.26	Guarantor Charge Adjustment Code	CE	80		NS
GT1.27	Guarantor Household Annual Income	CP	10		NS
GT1.28	Guarantor Household Size	NM	3		NS
GT1.29	Guarantor Employer ID Number	CX	20		NS
GT1.30	Guarantor Marital Status Code	IS	1		NS
GT1.31	Guarantor Hire Effective Date	DT	8		NS
GT1.32	Employment Stop Date	DT	8		NS
GT1.33	Living Dependency	IS	2		NS
GT1.34	Ambulatory Status	IS	2		NS
GT1.35	Citizenship	IS	4		NS
GT1.36	Primary Language	CE	60		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
GT1.37	Living Arrangement	IS	2		NS
GT1.38	Publicity Indicator	CE	80		NS
GT1.39	Protection Indicator	ID	1		NS
GT1.40	Student Indicator	IS	2		NS
GT1.41	Religion	IS	3		NS
GT1.42	Mother's Maiden Name	XPN	48		NS
GT1.43	Nationality	CE	80		NS
GT1.44	Ethnic Group	IS	3		NS
GT1.45	Contact Person's Name	XPN	48		NS
GT1.46	Contact Person's Telephone Number	XTN	40		NS
GT1.47	Contact Reason	CE	80		NS
GT1.48	Contact Relationship	IS	2		NS
GT1.49	Job Title	ST	20		NS
GT1.50	Job Code/Class	JCC	20		NS
GT1.51	Guarantor Employer's Organ. Name	XON	130		NS
GT1.52	Handicap	IS	2		NS
GT1.53	Job Status	IS	2		NS
GT1.54	Guarantor Financial Class	FC	50		NS
GT1.55	Guarantor Race	IS	1		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

IN1—Insurance Segment

The Insurance (IN1) segment contains insurance policy coverage information necessary to produce properly pro-rated and patient and insurance bills. This segment is applicable only for insurance billing.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.00	Segment Type ID	ST	4	Must be IN1.	R
IN1.01	Set ID	SI	4	IN1 message segments should be numbered sequentially from 1.	R
IN1.02	Insurance Plan ID	CD	50	The Hub verifies that the field is populated.	R
IN1.03	Insurance Company ID	CX	59	This is the QDI Bill mnemonic. Note: Required only if IN1.47 = T(Third-Party Bill).	O
IN1.04	Insurance Company Name	XON	130		O
IN1.05	Insurance Company Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only.	O
IN1.06	Insurance Co. Contact Person	XPN	48		NS
IN1.07	Insurance Co. Phone Number	XTN	40		NS
IN1.08	Group Number	ST	50	Characters permitted include: A–Z and 0–9. If present, the Hub verifies that the value complies with rules above.	O
IN1.09	Group Name	XON	130		O
IN1.10	Insured's Group Emp ID	CX	12		NS
IN1.11	Insured's Group Emp Name	XON	130		NS
IN1.12	Plan Effective Date	DT	8		NS
IN1.13	Plan Expiration Date	DT	8		NS
IN1.14	Authorization Information	CM	55		NS
IN1.15	Plan Type	IS	3		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.16	Name Of Insured	XPN	48		NS
IN1.17	Insured's Relationship To Patient	IS	2		NS
IN1.18	Insured's Date Of Birth	TS	26		NS
IN1.19	Insured's Address	XAD	106		NS
IN1.20	Assignment Of Benefits	IS	2		NS
IN1.21	Coordination Of Benefits	IS	2		NS
IN1.22	Coord Of Ben. Priority	ST	2		NS
IN1.23	Notice Of Admission Flag	ID	2		NS
IN1.24	Notice Of Admission Date	DT	8		NS
IN1.25	Report Of Eligibility Flag	ID	2		NS
IN1.26	Report Of Eligibility Date	DT	8		NS
IN1.27	Release Information Code	IS	2		NS
IN1.28	Pre-Admit Cert (PAC)	ST	15		NS
IN1.29	Verification Date/Time	TS	26		NS
IN1.30	Verification By	XCN	60		NS
IN1.31	Type Of Agreement Code	IS	2		NS
IN1.32	Billing Status	IS	2		NS
IN1.33	Lifetime Reserve Days	NM	4		NS
IN1.34	Delay Before L.R. Day	NM	4		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
IN1.35	Company Plan Code	IS	8		NS
IN1.36	Policy Number	ST	50		O
IN1.37	Policy Deductible	CP	12		NS
IN1.38	Policy Limit - Amount	CP	12		NS
IN1.39	Policy Limit - Days	NM	4		NS
IN1.40	Room Rate - Semi-Private	CP	12		NS
IN1.41	Room Rate - Private	CP	12		NS
IN1.42	Insured's Employment Status	CE	60		NS
IN1.43	Insured's Sex	IS	1		NS
IN1.44	Insured's Employer Address	XAD	106		NS
IN1.45	Verification Status	ST	2		NS
IN1.46	Prior Insurance Plan ID	IS	8		NS
IN1.47	Coverage Type	IS	3	Valid values include: • T = Third-party bill • P = Patient bill • C = Client bill If present, the Hub verifies that the value complies with rules above.	O
IN1.48	Handicap	IS	2		NS
IN1.49	Insured's ID Number	CX	12		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

ADT A39 (Patient Merge) Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A39 (Patient Merge) HL7 message. The purpose of this message type is to enable a partner application to merge two patient records (via the Hub) in Care360 Labs & Meds. This can be used, for example, to merge two patient records for the same patient who was incorrectly filed under two separate PIDs.

Note: All date timestamps are set to Coordinated Universal Time (UTC).

Message Segment Hierarchy

An ADT A39 message must follow the message segment hierarchy, as specified below:

MSH	Message Header	(Required; one per file)
EVN	Event Type	(Required)
{ PID	Patient Identification—Correct	(Required)
[PD1]	Additional Demographics	(Optional)
MRG	Merge Information	(Required)
PID	Patient Identification—Incorrect	(Required-Inbound Only)
[PV1]	Patient Visit	(Optional; not supported by the Hub)
}		

In the hierarchy shown above, braces ({}) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional.

Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A39 (Patient Merge) message. Message segments supported by the Hub include the following:

- “[MSH—Message Header Segment](#)” on page 363.
- “[EVN—Event Type Segment](#)” on page 365.
- “[PID—Patient Identification Segment —Correct](#)” on page 365.
- “[PD1—Patient Additional Demographic Segment](#)” on page 368.
- “[MRG—Merge Patient Information Segment](#)” on page 369.
- “[PID—Patient Identification Segment—Incorrect](#)” on page 371.

Note: ADT A39 message segments that are not supported by the Hub are *not* included in this section; for detailed specifications, refer to the HL7 2.3 Specification.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID ("MSH") and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7, and are the only values supported by Quest Diagnostics.	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O
MSH.04	Sending Facility	HD	180	The sending facility. Identifies the owner of the patient data and who initiated the patient demographic request. This value will be provided by MedPlus. Inbound: The Hub verifies that the field is populated. Outbound: No verification by the Hub.	R
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined by Quest Diagnostics for the requester. This value will be determined by the Client team and MedPlus. Inbound: The Hub verifies that the field is populated. Outbound: No verification by the Hub.	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC). The Hub verifies that this field is populated, and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Valid value: A39 (Merge Person Information).	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the lab system. The Hub verifies that this field is populated.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: • P = Production • T = Testing The Hub verifies that the value in this field is P or T.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3.	R
MSH.13	Sequence Number	NM	15		NS
MSH.14	Continuation Pointer	ST	180		NS
MSH.15	Accept Acknowledgment Type	ID	2		NS
MSH.16	Application Acknowledgment Type	ID	2		NS
MSH.17	Country Code	ID	2		NS
MSH.18	Character Set	ID	6		NS
MSH.19	Principal Language of Message	CE	60		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

EVN—Event Type Segment

The Event Type (EVN) segment is used to communicate necessary trigger event information to receiving applications.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
EVN.00	Segment Type ID	ST	4	Must be EVN.	R
EVN.01	Event Type Code	ID	3	The second component (trigger event) of MSH.09 (<i>Message Type</i>) should be used to transmit event type code information. This field contains the events corresponding to the trigger events described in this section. Valid value: A39. Note: This field has been retained for backward compatibility only.	R
EVN.02	Recorded Date/Time	TS	26		NS
EVN.03	Date/Time Planned Event	TS	26		NS
EVN.04	Event Reason Code	IS	3		NS
EVN.05	Operator ID	XCN	60		NS
EVN.06	Event Occurred	TS	26		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment—Correct

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.00	Segment Type ID	ST	4	Must be PID.	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.02	Patient ID	CX	40	This is the Care360 patient identifier. This field is used to uniquely identify a patient within Care360. When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Example: 2c92ba0f1b5b9f92011b5ba31407 0005	R
PID.03	Patient ID	CX	40	The primary identifier, or other identifiers used by the facility to identify a patient uniquely (for example, medical record number, billing number, birth registry, etc.). This is the patient identifier associated with the non-Care360 system and it is not always available within Care360.	O
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XPN	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	R
PID.06	Mother's Maiden Name	XPN	48		NS
PID.07	Date/Time of Birth	TS	26	Date of birth (DOB), in YYYYMMDDHHMMSS The Hub verifies that the DOB is in this format.	O
PID.08	Sex	IS	1	Valid values for this field include: <ul style="list-style-type: none">• M = Male• F = Female• Blank The Hub verifies that one of these values is present in this field.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.09	Patient Alias	XPN	48	Patient alias name.	O
PID.10	Race	IS	1		NS
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	O
PID.12	County Code	IS	4		NS
PID.13	Phone Number-Home	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example (extension and country code omitted): ^^^^^333^4445555^ Example with country code: ^^^^^1^333^4445555^	O
PID.14	Phone Number-Business	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with extension (country code omitted): ^^^^^333^4445555^999^ Example with extension and country code: ^^^^^1^333^4445555^999^	O
PID.15	Language - Patient	CE	60		NS
PID.16	Marital Status	IS	1		NS
PID.17	Religion	IS	3		NS
PID.18	Patient Account Number	CX	20		NS
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
PID.20	Driver's Lic Num - Patient	DLN	25		NS
PID.21	Mother's Identifier	CX	20		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.22	Ethnic Group	IS	3		NS
PID.23	Birth Place	ST	60		NS
PID.24	Multiple Birth Indicator	ID	2		NS
PID.25	Birth Order	NM	2		NS
PID.26	Citizenship	IS	4		NS
PID.27	Veterans Military Status	CE	60		NS
PID.28	Nationality	CD	80		NS
PID.29	Patient Death Date & Time	TS	26		NS
PID.30	Patient Death Indicator	ID	1		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PD1—Patient Additional Demographic Segment

The Patient Additional Demographic (PD1) segment contains demographic information that is likely to change about the patient.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PD1.01	Living Dependency	IS	2		O
PD1.02	Living Arrangement	IS	2		O
PD1.03	Patient Primary Facility	XON	90		O
PD1.04	Patient Primary Care Provider Name & ID No.	XON	90		O
PD1.05	Student Indicator	IS	2		O
PD1.06	Handicap	IS	2		O
PD1.07	Living Will	IS	2		O
PD1.08	Organ Donor	IS	2		O
PD1.09	Separate Bill	ID	2		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PD1.10	Duplicate Patient	CX	2		O
PD1.11	Publicity Indicator	CE	1	<p>CE format:</p> <pre><identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) ></pre> <p>Valid values:</p> <ul style="list-style-type: none"> • Inbound: Y, N or blank • Outbound: Y, N, P or blank <p>Note: Hub will not edit to ensure valid values.</p>	O
PD1.12	Protection Indicator	ID	1	<p>Valid values:</p> <ul style="list-style-type: none"> • Inbound: Y, N or blank • Outbound: Y, N, P or blank <p>Notes:</p> <ul style="list-style-type: none"> • If this field is populated on Inbound feed, it will be ignored. The value in the Publicity Indicator field will be used to set both the disclose and access flags within Care360 Labs & Meds. • Hub will not edit to ensure valid values. 	O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

MRG—Merge Patient Information Segment

The Merge Patient Information (MRG) segment provides receiving applications with information necessary to initiate the merging of patient data, as well as groups of records.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MRG.00	Segment Type ID	ST	4	Must be MRG .	R
MRG.01	Prior Patient ID - Internal	CX	20	The internal prior patient identifier. This field contains a list of potential “old” numbers to match. Only one old number can be merged with one new number in a transaction.	O
MRG.02	Prior Alternate Patient ID	CX	20	The prior alternate patient identifier.	O
MRG.03	Prior Patient Account Number	CX	20	The prior patient account number.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MRG.04	Prior Patient ID - External	CX	40	The external prior patient identifier. Note: Must not contain the same value as PID.02.	R
MRG.05	Prior Visit Number	CX	20	The prior visit number.	O
MRG.06	Prior Alternate Visit ID	CX	20	The prior alternate visit number.	O
MRG.07	Prior Patient Name	XPN	48	<p>The prior name of the patient. This field is not used to change a patient name.</p> <p>No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name.</p> <p>Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only.</p> <p>The Hub verifies that the value complies with rules above.</p>	R

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment—Incorrect

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Note: This segment is used on inbound transactions **only**.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1. Must be set to 2 to identify incorrect person information. The Hub verifies that the value complies with rules above.	R
PID.02	Patient ID	CX	40		NS
PID.03	Patient ID	CX	40		NS
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XPN	48		NS
PID.06	Mother's Maiden Name	XPN	48		NS
PID.07	Date/Time of Birth	TS	26	Date of birth (DOB), in YYYYMMDDHHMMSS The Hub verifies that the DOB is in this format.	O
PID.08	Sex	IS	1	Valid values for this field include: <ul style="list-style-type: none">• M = Male• F = Female• Blank The Hub verifies that one of these values is present in this field.	O
PID.09	Patient Alias	XPN	48	Patient alias name.	O
PID.10	Race	IS	1		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	O
PID.12	County Code	IS	4		NS
PID.13	Phone Number-Home	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example (extension and country code omitted): ^^^^^333^4445555^ Example with country code: ^^^^^1^333^4445555^	O
PID.14	Phone Number-Business	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with extension (country code omitted): ^^^^^333^4445555^999^ Example with extension and country code: ^^^^^1^333^4445555^999^	O
PID.15	Language - Patient	CE	60		NS
PID.16	Marital Status	IS	1		NS
PID.17	Religion	IS	3		NS
PID.18	Patient Account Number	CX	20		NS
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
PID.20	Driver's Lic Num - Patient	DLN	25		NS
PID.21	Mother's Identifier	CX	20		NS
PID.22	Ethnic Group	IS	3		NS
PID.23	Birth Place	ST	60		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.24	Multiple Birth Indicator	ID	2		NS
PID.25	Birth Order	NM	2		NS
PID.26	Citizenship	IS	4		NS
PID.27	Veterans Military Status	CE	60		NS
PID.28	Nationality	CD	80		NS
PID.29	Patient Death Date & Time	TS	26		NS
PID.30	Patient Death Indicator	ID	1		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

SIU (Patient Schedule) Message Segment Specifications

This section provides detailed specifications for each segment of an SIU (Schedule Information Unsolicited) HL7 message. The purpose of this message type is to enable a partner application to submit patient scheduling data (via the Hub) to launch workflows in Care360 Labs & Meds. This can be used, for example, to gather pre-visit data, medication history, or to check patient eligibility.

Notes:

- The system is designed to process only one appointment per message. If multiple appointments are sent in the same message, the system will only process the first appointment.
- All date timestamps are set to Coordinated Universal Time (UTC).

Message Segment Hierarchy

An SIU message must follow the message segment hierarchy, as specified below:

MSH	Message Header	(Required; one per file)
SCH	Schedule Activity Information	(Required; one per file)
[{NTE}]	Notes	(Optional; multiple per SCH)
[{PID}]	Patient Identification	(Required; one per file)
[PV1]	Patient Visit Data	(Optional; one per PID)
[PV2]	Patient Visit Data - Additional Information	(Optional; one per PID)
[{OBX}]	Observation Result	(Optional; multiple per PID)
[{DG1}]	Diagnosis	(Optional; multiple per PID)
{RGS}	Resource Group Segment	(Required; multiple per file. Hub only uses the first
		segment sent.)
[{AIS}]	Appt info - Services	(Optional; multiple per RGS)
[{NTE}]	Notes	(Optional; multiple per AIS)
[{AIG}]	Appt info - General resources	(Optional; multiple per RGS)
[{NTE}]	Notes	(Optional; multiple per AIG)
[{AIL}]	Appt info - Location	(Optional; not supported by the Hub)
[{NTE}]	Notes	(Optional; multiple per AIL)
[{AIP}]	Appt info - Personnel Resource	(Optional; multiple per RGS. Hub only uses the
		first segment sent.)
[{NTE}]	Notes	(Optional; multiple per AIP)
}		

In the hierarchy shown above, braces ({}) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional.

Message Segment Specifications

This section provides detailed specifications for each segment of an SIU (Schedule Information Unsolicited) message. Message segments supported by the Hub include the following:

- “[MSH—Message Header Segment](#)” on page 375.
- “[SCH—Schedule Activity Information Segment](#)” on page 377.
- “[PID—Patient Identification Segment](#)” on page 382.
- “[PV1—Patient Visit Data Segment](#)” on page 385.

- “DG1—Diagnosis Segment” on page 388.
- “RGS—Resource Group Segment” on page 390.
- “AIS—Appointment Information—Services Segment” on page 390.
- “AIG—Appointment Information—General Resources Segment” on page 391.
- “AIL—Appointment Information—Location Segment” on page 392.
- “AIP—Appointment Information—Personnel Resource Segment” on page 393.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7, and are the only values supported by Quest Diagnostics.	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O
MSH.04	Sending Facility	HD	180	The sending facility. Identifies the owner of the patient data and who initiated the patient demographic request. This value will be provided by MedPlus. Inbound: The Hub verifies that the field is populated. Outbound: No verification by the Hub.	R
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined by Quest Diagnostics for the requester. This value will be determined by the Client team and MedPlus. Inbound: The Hub verifies that the field is populated. Outbound: No verification by the Hub.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC). The Hub verifies that this field is populated, and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Acceptable values for this field: <ul style="list-style-type: none">• SIU^S12 = New Appt• SIU^S14 = Modify Appt• SIU^S15 = Cancel Appt• SIU^S17 = Delete Appt	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the lab system.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: <ul style="list-style-type: none">• P = Production• T = Testing The Hub verifies that the value in this field is P or T.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3.	R
MSH.13	Sequence Number	NM	15		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

SCH—Schedule Activity Information Segment

The Schedule Activity Information (SCH) segment is used to communicate necessary schedule activity information to receiving applications.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
SCH.00	Segment Type ID	ST	4	Must be SCH .	R
SCH.01	Placer Appointment ID	EI	75	<p>This field contains the placer application's permanent identifier for the appointment request (and the scheduled appointment itself, when it has been confirmed as a booked slot by the filler application). The first component is a string that identifies an individual appointment request, or a booked appointment.</p> <p>Format: <entity identifier (ST) > ^ <namespace ID (IS) > ^ <universal ID (ST) > ^ <universal ID type (ID) ></p> <p>Notes:</p> <ul style="list-style-type: none"> • This is the unique identifier for an appointment. It is created for a new (S12) and the same value should be sent for any subsequent updates, cancels or deletes (S14, S15, S17). • The 1st sub component is the unique id and the 2nd sub component is the system responsible for creating the id (namespace). • The 1st and 2nd sub components must be populated. 	R
SCH.02	Filler Appointment ID	EI	75		C
SCH.03	Occurrence Number	NM	5		C
SCH.04	Placer Group Number	EI	75		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
SCH.05	Schedule ID	CE	200	<p>This field contains an identifier code for the schedule in which this appointment is (or will be) booked. This field is provided for instances in which filler applications maintain multiple schedules, and when a particular resource or set of resources is controlled by more than one of those schedules.</p> <p>Format: Components: <identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) ></p>	O
SCH.06	Event Reason	CE	200	<p>This field contains an identifier code for the reason that the notification event was triggered. This field may contain a code describing the cancel reason, the delete reason, the discontinue reason, the add reason, the block reason or any other code describing the reason that a specific event will occur.</p> <p>Format: Components: <identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) ></p>	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
SCH.07	Appointment Reason	CE	200	<p>This field contains an identifier code for the reason that the appointment is to take place. This field may contain a Universal Service Identifier describing the observation/test/battery/procedure or other activity that is to take place during the requested appointment, similar to the Universal Service Identifier defined for the OBR segment in the Order Entry chapter. It may also contain a site-specific code describing a pre-defined set of reasons that an appointment may be set to occur. This code can be based on local and/or universal codes.</p> <p>Format: Components: <identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) ></p> <p>The following identifier codes are valid:</p> <ul style="list-style-type: none"> • ROUTINE = Routine appointment - default if not valued. • WALKIN = A previously unscheduled walk-in visit. • CHECKUP = A routine check-up, such as an annual physical. • FOLLOWUP = A follow up visit from a previous appointment. • EMERGENCY = Emergency appointment. 	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
SCH.08	Appointment Type	CE	200	<p>This field contains the identifier code for the type of appointment.</p> <p>Format: Components: <identifier (ST) > ^ <text (ST) > ^ <name of coding system (ST) > ^ <alternate identifier (ST) > ^ <alternate text (ST) > ^ <name of alternate coding system (ST) ></p> <p>The following identifier codes are valid:</p> <ul style="list-style-type: none"> • NORMAL = Routine schedule request type - default if not valued. • TENTATIVE = A request for a tentative (for example, "penciled in") appointment. • COMPLETE = A request to add a completed appointment, used to maintain records of completed appointments that did not appear in the schedule (for example, STAT, walk-in, etc.). 	O
SCH.09	Appointment Duration	NM	20		O
SCH.10	Appointment Duration Units	CE	200		O
SCH.11	Appointment Timing Quantity	TQ	200	This field contains the scheduled appointment's timing and quantity, as scheduled by the filler application.	R
SCH.12	Placer Contact Person	XCN	48	This field identifies the person responsible for requesting the scheduling of a requested appointment. Most often, this person will be the same person responsible for executing the appointment.	O
SCH.13	Placer Contact Phone Number	XTN	40		O
SCH.14	Placer Contact Address	XAD	106		O
SCH.15	Placer Contact Location	PL	80		O
SCH.16	Filler Contact Person	XCN	48	This field identifies the person responsible for the scheduling of the requested appointment. Most often, this person will be the same person responsible for maintaining the schedule and for reviewing appointment requests.	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
SCH.17	Filler Contact Phone Number	XTN	40		O
SCH.18	Filler Contact Address	XAD	106		O
SCH.19	Filler Contact Location	PL	80		O
SCH.20	Entered by Person	XCN	48	This field identifies the person responsible for entering the request for the scheduling of an appointment. It is included to provide an audit trail of persons responsible for the request. This person may be someone other than the placer contact person, who is responsible for entering orders and requests.	R
SCH.21	Entered by Phone Number	XTN	40		O
SCH.22	Entered by Location	PL	80		O
SCH.23	Parent Placer Appointment ID	EI	75		O
SCH.24	Parent Filler Appointment ID	EI	75		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
SCH.25	Filler Status Code	CE	200	<p>This field contains a code describing the status of the appointment with respect to the filler application.</p> <p>The following identifier codes are valid:</p> <ul style="list-style-type: none"> • PENDING = Appointment has not yet been confirmed. • WAITLIST = Appointment has been placed on a waiting list for a particular slot, or set of slots. • BOOKED = The indicated appointment is booked. • STARTED = The indicated appointment has begun and is currently in progress. • COMPLETE = The indicated appointment has completed normally (was not discontinued, canceled, or deleted). • CANCELLED = The indicated appointment was stopped from occurring (canceled prior to starting). • DC = The indicated appointment was discontinued (DC'ed while in progress, discontinued parent appointment, or discontinued child appointment). • DELETED = The indicated appointment was deleted from the filler application. • BLOCKED = The indicated time slot(s) is(are) blocked. • OVERBOOK = The appointment has been confirmed; however it is confirmed in an overbooked state. 	O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.00	Segment Type ID	ST	4	Must be PID .	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.01	Set ID - Patient ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O
PID.02	Patient ID	CX	40	This is the Care360 patient identifier. This field is used to uniquely identify a patient within Care360. When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Example: 2c92ba0f1b5b9f92011b5ba31407 0005	R
PID.03	Patient ID	CX	40	The primary identifier, or other identifiers used by the facility to identify a patient uniquely (for example, medical record number, billing number, birth registry, etc.). This is the patient identifier associated with the non-Care360 system and it is not always available within Care360.	O
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XPN	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	R
PID.06	Mother's Maiden Name	XPN	48		NS
PID.07	Date/Time of Birth	TS	26	Date of birth (DOB). Format: YYYYMMDDHHMMSS The Hub verifies that the DOB is in this format.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.08	Sex	IS	1	Valid values for this field include: • M = Male • F = Female • Blank The Hub verifies that one of these values is present in this field.	O
PID.09	Patient Alias	XPN	48	Patient alias name.	O
PID.10	Race	IS	1		NS
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	O
PID.12	County Code	IS	4		NS
PID.13	Phone Number-Home	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example (extension and country code omitted): ^^^^^333^4445555^ Example with country code: ^^^^^1^333^4445555^	O
PID.14	Phone Number-Business	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with extension (country code omitted): ^^^^^333^4445555^999^ Example with extension and country code: ^^^^^1^333^4445555^999^	O
PID.15	Language - Patient	CE	60		NS
PID.16	Marital Status	IS	1		NS
PID.17	Religion	IS	3		NS
PID.18	Patient Account Number	CX	20		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
PID.20	Driver's Lic Num - Patient	DLN	25		NS
PID.21	Mother's Identifier	CX	20		NS
PID.22	Ethnic Group	IS	3		NS
PID.23	Birth Place	ST	60		NS
PID.24	Multiple Birth Indicator	ID	2		NS
PID.25	Birth Order	NM	2		NS
PID.26	Citizenship	IS	4		NS
PID.27	Veterans Military Status	CE	60		NS
PID.28	Nationality	CD	80		NS
PID.29	Patient Death Date & Time	TS	26		NS
PID.30	Patient Death Indicator	ID	1		NS

a. For a description of the HL7 data types, see [“Data Type Specifications”](#) on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on a visit-specific basis. This segment can be used to send multiple-visit statistic records to the same patient account, or single-visit records to more than one account.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R
PV1.01	Set ID - PV1	SI	4	This field is used to number PV1 message segments sequentially starting with 1.	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.02	Patient Class	IS	1	Examples of valid values: • E = Emergency • I = Inpatient • O = Outpatient.	R
PV1.03	Assigned Patient Location	PL	80		NS
PV1.04	Admission Type	IS	2		NS
PV1.05	Preadmit Number	CX	20		NS
PV1.06	Prior Patient Location	PL	80		NS
PV1.07	Attending Doctor	XCN	60		NS
PV1.08	Referring Doctor	XCN	60		NS
PV1.09	Consulting Doctor	XCN	60		NS
PV1.10	Hospital Service	IS	3		NS
PV1.11	Temporary Location	PL	80		NS
PV1.12	Preadmit Test Indicator	IS	2		NS
PV1.13	Readmission Indicator	IS	2		NS
PV1.14	Admit Source	IS	3		NS
PV1.15	Ambulatory Status	IS	2		NS
PV1.16	VIP Indicator	IS	2		NS
PV1.17	Admitting Doctor	XCN	60		NS
PV1.18	Patient Type	IS	2		NS
PV1.19	Visit Number	CX	20		NS
PV1.20	Financial Class	FC	50		NS
PV1.21	Charge Price Indicator	IS	2		NS
PV1.22	Courtesy Code	IS	2		NS
PV1.23	Credit Rating	IS	2		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.24	Contract Code	IS	2		NS
PV1.25	Contract Effective Date	DT	8		NS
PV1.26	Contract Amount	NM	12		NS
PV1.27	Contract Period	NM	3		NS
PV1.28	Interest Code	IS	2		NS
PV1.29	Transfer to Bad Debt Code	IS	1		NS
PV1.30	Transfer to Bad Debt Date	DT	8		NS
PV1.31	Bad Debt Agency Code	IS	10		NS
PV1.32	Bad Debt Transfer Amount	NM	12		NS
PV1.33	Bad Debt Recovery Amount	NM	12		NS
PV1.34	Delete Account Indicator	IS	1		NS
PV1.35	Delete Account Date	DT	8		NS
PV1.36	Discharge Disposition	IS	3		NS
PV1.37	Discharged to Location	CM	25		NS
PV1.38	Diet Type	IS	2		NS
PV1.39	Servicing Facility	IS	2		NS
PV1.40	Bed Status	IS	1		NS
PV1.41	Account Status	IS	2		NS
PV1.42	Pending Location	PL	80		NS
PV1.43	Prior Temporary Location	PL	80		NS
PV1.44	Admit Date/Time	TS	26		NS
PV1.45	Discharge Date/Time	TS	26		NS

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
PV1.46	Current Patient Balance	NM	12		NS
PV1.47	Total Charges	NM	12		NS
PV1.48	Total Adjustments	NM	12		NS
PV1.49	Total Payments	NM	12		NS
PV1.50	Alternate Visit ID	CX	20		NS
PV1.51	Visit Indicator	IS	1		NS
PV1.52	Other Healthcare Provider	XCN	60		NS

a. For a description of the HL7 data types, see [“Data Type Specifications”](#) on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

DG1—Diagnosis Segment

The Diagnosis (DG1) segment contains patient diagnosis information.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
DG1.00	Segment Type ID	ST	4	Must be DG1 .	R
DG1.01	Set ID - Patient ID	SI	4	Used to number DG1 message segments sequentially beginning with 1.	R
DG1.02	Diagnosis Coding Method	ID	2		R
DG1.03	Diagnosis Code	CE	60	Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> sub-field1 = ICD-9 code sub-field3 = "I9" If field is populated, Hub verifies that sub-field3 (name of coding system) = "I9."	O
DG1.04	Diagnosis Description	ST	40	Diagnosis name and description.	O
DG1.05	Diagnosis Date/Time	TS	26	Date/Time that the diagnosis was determined. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC).	O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
DG1.06	Diagnosis Type	IS	2	Valid values: A = Admitting W = Working F = Final	R
DG1.07	Major Diagnostic Category	CE	60		O
DG1.08	Diagnostic Related Group	CE	60		O
DG1.09	DRG Approval Indicator	ID	2		O
DG1.10	DRG Grouper Review Code	IS	2		O
DG1.11	Outlier Type	CE	60		O
DG1.12	Outlier Days	NM	3		O
DG1.13	Outlier Cost	CP	12		O
DG1.14	Grouper Version and Type	ST	4		O
DG1.15	Diagnosis Priority	NM	2		O
DG1.16	Diagnosing Clinician	XCN	60		O
DG1.17	Diagnosis Classification	IS	3	Valid values: C = Consultation D = Diagnosis M = Medication (antibiotic) O = Other R = Radiological scheduling (not using ICDA codes) S = Sign and symptom T = Tissue diagnosis I = Invasive procedure not classified elsewhere (I.V., catheter, etc.)	O
DG1.18	Confidential Indicator	ID	1		O
DG1.19	Attestation Date/Time	TS	26		O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

RGS—Resource Group Segment

The Resource Group (RGS) segment contains resource group information.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
RGS.00	Segment Type ID	ST	4	Must be RGS .	R
RGS.01	Segment Action Code	ID	3	This field contains the action to be taken when updating or modifying information in this segment from previously sent interface transactions. This field is conditionally required for all updating or modifying trigger events Valid values: <ul style="list-style-type: none">• A = Add/Insert• D = Delete• U = Update	C
RGS.02	Resource Group ID	CE	200	This field contains an identifier code describing the group of resources following this RGS segment.	O

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

AIS—Appointment Information—Services Segment

The Appointment Information—Services (AIS) segment contains information about various kinds of services that can be scheduled. Services included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application. Services not controlled by a schedule are not identified on a schedule request using this segment.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
AIS.00	Segment Type ID	ST	4	Must be AIS .	R
AIS.01	Set ID - AIS	SI	4		R
AIS.02	Segment Action Code	ID	3		C
AIS.03	Universal Service Identifier	CE	200		R
AIS.04	Start Date/Time	TS	26		C
AIS.05	Start Date/Time Offset	NM	20		C
AIS.06	Start Date/Time Units	CE	200		C

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
AIS.07	Duration	NM	20		O
AIS.08	Duration Units	CE	200		O
AIS.09	Allow Substitution Code	IS	10		C
AIS.10	Filler Status Code	CE	200		C

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

AIG—Appointment Information—General Resources Segment

The Appointment Information—General Resources (AIG) segment contains information about various kinds of resources (other than those with specifically defined segments in this chapter) that can be scheduled. Resources included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application. Resources not controlled by a schedule are not identified on a schedule request using this segment. Resources described by this segment are general kinds of resources, such as equipment, that are identified with a simple identification code.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
AIG.00	Segment Type ID	ST	4	Must be AIG .	R
AIG.01	Set ID - AIG	SI	4		R
AIG.02	Segment Action Code	ID	3		C
AIG.03	Resource ID	CE	200		C
AIG.04	Resource Type	CE	200		R
AIG.05	Resource Group	CE	200		O
AIG.06	Resource Quantity	NM	5		O
AIG.07	Resource Quantity Units	CE	200		O
AIG.08	Start Date/Time	TS	26		C
AIG.09	Start Date/Time Offset	NM	20		C
AIG.10	Start Date/Time Offset Units	CE	200		C
AIG.11	Duration	NM	20		O

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
AIG.12	Duration Units	CE	200		O
AIG.13	Allow Substitution Code	IS	10		C
AIG.14	Filler Status Code	CE	200		C

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

AIL—Appointment Information–Location Segment

The Appointment Information–Location (AIL) segment contains information about location resources (meeting rooms, operating rooms, examination rooms, or other locations) that can be scheduled. Resources included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application. Resources not controlled by a schedule are not identified on a schedule request using this segment. Location resources are identified with this specific segment because of the specific encoding of locations used by the HL7 specification.

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
AIL.01	Set ID - AIL	SI	4	Must be AIL .	R
AIL.02	Segment Action Code	ID	1		C
AIL.03	Location Resource ID	PL	80		C
AIL.04	Location Type	CE	200		R
AIL.05	Location Group	CE	200		NS
AIL.06	Start Date/Time	TS	26		C
AIL.07	Start Date/Time Offset	NM	20		C
AIL.08	Start Date/Time Offset Units	CE	200		C
AIL.09	Duration	NM	20		NS
AIL.10	Duration Units	CE	200		NS
AIL.11	Allow Substitution Code	IS	10		C
AIL.12	Filler Status Code	CE	200		NS

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

AIP—Appointment Information—Personnel Resource Segment

The Appointment Information—Personnel Resource (AIP) segment contains information about the personnel types that can be scheduled. Personnel included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application. Personnel not controlled by a schedule are not identified on a schedule request using this segment. The types of personnel described on this segment include any healthcare provider in the institution controlled by a schedule (for example: technicians, physicians, nurses, surgeons, anesthesiologists, or CRNAs).

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
AIP.01	Set ID - AIP	SI	4	Must be AIP .	R
AIP.02	Segment Action Code	ID	1		C
AIP.03	Personnel Resource ID	XCN	80	<p>This field contains the ID number and name of the person being requested or scheduled for an appointment. This field is used to identify a specific person being requested, or a specific person who has been scheduled as a resource for an appointment. If the specific person is not known, but the type of resource is, AIP-3-resource role is used to identify the type of personnel resource required or scheduled.</p> <p>Components: <ID number (ST)> ^ <family name (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (ST)> ^ <source table (IS)> ^ <assigning authority (HD)> ^ <name type (ID)> ^ <identifier check digit (ST)> ^ <code identifying the check digit scheme employed (ID)> ^ <identifier type code (IS)> ^ <assigning facility ID (HD)></p> <p>Subcomponents of assigning authority: <namespace ID (IS)> & <universal ID (ST)> & <universal ID type (ID)></p> <p>Subcomponents of assigning facility ID: <namespace ID (IS)> & <universal ID (ST)> & <universal ID type (ID)>"</p> <p>Notes:</p> <ul style="list-style-type: none"> • This field is required if the AIP segment is present. • Two valid values for source table: NPI, UPIN. 	R

Segment ID	Element Name	Type^a	Length	Comments	Req'd^b
AIP.04	Resource Role	CE	200	This field identifies the role of the personnel requested/scheduled for an appointment. For requests, if a specific person is not identified in the AIP-3-personnel resource ID field, then this field identifies the type of person that should be scheduled by the filler application. At a minimum, the AIP-4-resource role identifier component should be valued. Components: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)>	R
AIP.05	Resource Group	CE	200	This field identifies the requested resource as a member of the indicated group. If, in a Schedule Request Message (SRM), no specific resource is requested, but an AIP-4-resource role is requested, the AIP-5-resource group field can be used to further qualify the type of resource being requested.	O
AIP.06	Start Date/Time	TS	26		C
AIP.07	Start Date/Time Offset	NM	20		C
AIP.08	Start Date/Time Offset Units	CE	200		C
AIP.09	Duration	NM	20		O
AIP.10	Duration Units	CE	200		C
AIP.11	Allow Substitution Code	IS	10		C
AIP.12	Filler Status Code	CE	200		C

a. For a description of the HL7 data types, see “[Data Type Specifications](#)” on page 300.

b. R = Required, O = Optional, C = Conditional, NS = Not Supported.

Sample Care360 Patient Demographic Messages

Following are several sample patient demographic messages, formatted according to the [“Care360 Patient Demographic Message Format Requirements”](#) on page 299 and the corresponding message segment specifications (Patient Add, Patient Delete, Patient Update, or Patient Merge).

Sample 1—Add Patient

```
MSH|^~\&|sending
application|DemographicDemo||DemographicDemoOrg|20061211153336||A28|msgCo
ntrolID123|P|2.3
EVN|A28|199608190820
PID|1|pid123|^^^LH||Wally^SHERRY^M||20000101153336|U|PETRY^SHERRY|2056-
0~2056-0|4690 Parkway
Dr.^Mason^OH^45040^USA|a2|^CP^^86^999^9999999^99999|^^^^^513^9999999^|E
NG^text^Census^EGL^alttext^Census2|M||1-FOUND|444669999|||2148-
5^text^Census^2149-3^alttext^Census
NK1|1|FORESMAN^HEIDI^^II^Mr^Ba|Sister|7th
St^^Austin^TX^78704^USA|^^^^^235^1320440^65~^^^^^204^5551212||AGENT
PV1|1|O
GT1|1|88|Smith^John^M^JR^MD||3710 Emery Lake Ln^Street
line2^Cincinnati^OH^45010|^^^1^513^8888888^1234|^^^1^238^4444444^5678|1
9960708112233|M|I|8|287889999||||ABC Inc.^Limited^M|4567 Kelly
Drive^address line 2^Oxford^OH^45068|5556677777|4556|FT|Guarantor
Organization
IN1|1|INSID123^Insurance Plan ABC|INSCOID123|insuranceco|1800 Insurance
Rd.^Detroit^MI^45777|||^555^6667777^1234|3433|name|||||^19960707|||||
|||||||||||||||||||||T
```

Sample 2—Delete Patient

```
MSH|^~\&|SecondSub|DemographicDemo||DemographicDemoOrg|20070321000000||A2
9|1|P|2.3
EVN|A29|199608190820
PID|1|pid666|NEWMRN-
2^^^LH||Wally^SHERRY^1^^DR|dkdk|20000101000000|F|PETRY^SHERRY||B|a2|^^^1
^513^8888888^9999|^^^1^520^6666666^7777|a5||X|1-FOUND
PV1|1|O
```

Sample 3—Update Patient

```
MSH|^~\&|sending
application|DemographicDemo||DemographicDemoOrg|20061211153336||A31|msgCo
ntrolID123|P|2.3
EVN|A31|199608190820
PID|1|pid123|^^^LH||Wally^SHERRY^M||20000101153336|U|PETRY^SHERRY|2056-
0~2056-0|4690 Parkway
Dr.^Mason^OH^45040^USA|a2|^CP^^86^999^9999999^99999|^^^^^513^9999999^|E
NG^text^Census^EGL^alttext^Census2|M||1-FOUND|444669999|||2148-
5^text^Census^2149-3^alttext^Census
NK1|1|FORESMAN^HEIDI^^II^Mr^Ba|Sister|7th
St^^Austin^TX^78704^USA|^^^^^235^1320440^65~^^^^^204^5551212||AGENT
PV1|1|O
```

GT1|1|88|Smith^John^M^JR^DR^MD||3710 Emery Lake
 Ln^^Cincinnati^OH^45010|^~^1^513^8888888^1234|^~^1^238^4444444^5678|199
 6070800000|M|I|8|444556666||||ABC Inc.^EFG^M|4567 Kelly
 Drive^^Oxford^OH^45068|5556667777|4556|FT|organization
 IN1|1|INSID123^Insurance Plan ABC|INSCOID123|insuranceco|1800 Insurance
 Rd.^~Detroit^MI^45777||^~^1^555^6667777^1234|3433|name|||||^19960707||||
 |||||||||||||||||||||||T

Sample 4—Merge Patient

MSH|^~\&|SecondSub|DemographicDemo||DemographicDemoOrg|20061211153336||A3
 9|A39M|P|2.3
 EVN|A39|199608190820
 PID|1|ABC|NEWMRN-2||Wally^SHERRY^^Dr|dkdk|20000101|F|||4690 Parway
 Dr.^~Mason^OH^45040|a2|^~^1^226^1111111^2222|^~^1^222^5555555^6666|||||
 287-87-8787
 MRG||||pid666|||Johnson^William^L
 PID|2|||||19681121|M||3710 Emery Lake Lane^~Mason^OH^45040|||||||999-
 99-9999

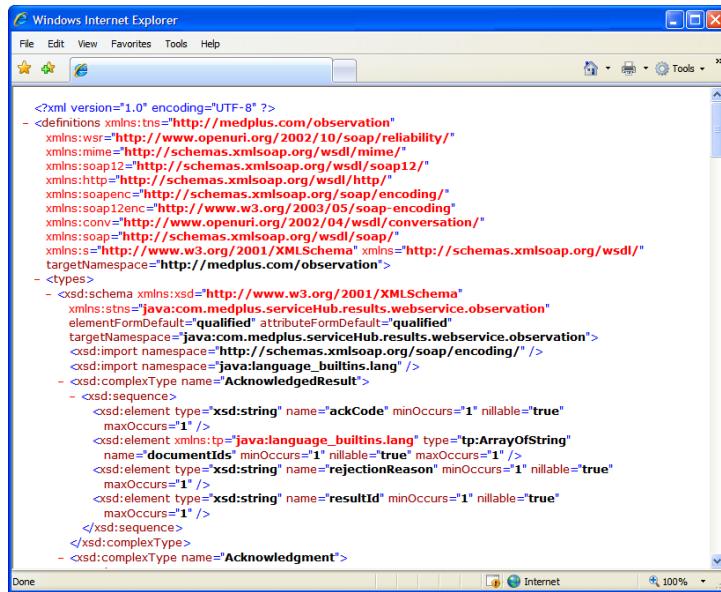
Sample 5—Schedule Patient

MSH|^~\&||QA_PD_ACCT||C360PD_PA1|20090624094442||SIU^S12|MSGID-
 SIUWith2DG1|P|2.3
 SCH|APPID^1^2|FILL|1|||ID^REASON|ROUTINE^TEXT|NORMAL^NTEXT|||^^^200902190
 94442^20090219094442|IGNORE||ADDR^IGNORE||^Ignored^Person||||12^ENTERED^F
 IRST^MIDDLE|
 PID|1|pid123|^~^LH||Wally^SHERRY^M||20000101153336|F|PETRY^SHERRY||4690
 Parkway
 Dr.^~Mason^OH^45040^USA|a2|^~^86^999^9999999^99999|~~~~~513^9999998|a5||
 |1-FOUND|444669999
 PV1|1|O|123^456^789|E|preadmit|pri/loc^bed^what|^~PETRY^D|PETRY^Brihema|12
 34pb^bhetan^padma^m^Dr^M.D^LastName^FirstName^M|Y|Y|ER||Y||1|^~|a|i1996
 706|77|Y|Y|||19960708|77|11|9|e19960708||77|7|19960708|06|home^1998|N|
 MA|C|I|pendloc|||199709090800||77|77|77|77
 DG1|1||CODEID^DIAGCODE^I9|DESCIGNORED|20090219094442|A|||||||||ID123^Smi
 th^Sue^Jane^JR^DR^MD|C|Y
 DG1|22||CODE222^DIAGCODE2^I9|DESCIGNORED2|20090119094442|A|||||||||ID456
 ^Smith^Sam^Jeff^DR^MD|M|N
 RGS|U|GRPID
 AIG|6540|D|17|21|10~6||9|19921016105139|2345|1|4642311657498.431564|4|CON
 FIRM|CANCELLED
 AIP|1|D|ID345^Resource^Rita^Edna^DR^MD^UPIN|ROLE|7

Chapter 16

Document Routing Services API Reference

• • • • •



The screenshot shows a Microsoft Internet Explorer window displaying an XML schema (XSD) file. The title bar reads "Windows Internet Explorer". The main content area shows the XML code for the schema, which defines various types and elements related to document routing services. The schema includes imports from other XML namespaces and defines complex types like "Acknowledgment" and "DocumentId". The code is color-coded for readability, with tags in blue and attributes in green.

```
<?xml version="1.0" encoding="UTF-8" ?>
- <definitions xmlns:tns="http://medplus.com/observation"
  xmlns:ws = "http://www.openuri.org/2002/10/soap/reliability/"
  xmlns:mime = "http://schemas.xmlsoap.org/wsdl/mime/"
  xmlns:soap12 = "http://schemas.xmlsoap.org/wsdl/soap12/"
  xmlns:http = "http://schemas.xmlsoap.org/wsdl/http/"
  xmlns:soapenc = "http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:soap12enc = "http://www.w3.org/2003/05/soap-encoding"
  xmlns:conv = "http://www.openuri.org/2002/04/wsdl/conversation/"
  xmlns:soap = "http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:s = "http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/"*
targetNamespace="http://medplus.com/observation">
- <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:tns="java:com.medplus.serviceHub.results.webservice.observation"
  elementFormDefault="qualified" attributeFormDefault="qualified"
  targetNamespace="java:com.medplus.serviceHub.results.webservice.observation">
<xsd:import namespace="http://schemas.xmlsoap.org/soap/encoding/" />
<xsd:import namespace="java:language_builtins.lang" />
- <xsd:complexType name="AcknowledgedResult">
- <xsd:sequence>
  <xsd:element type="xsd:string" name="ackCode" minOccurs="1" nullable="true"
    maxOccurs="1" />
  <xsd:element xmlns:tp="java:language_builtins.lang" type="tp:ArrayOfString"
    name="documentIds" minOccurs="1" nullable="true" maxOccurs="1" />
  <xsd:element type="xsd:string" name="rejectionReason" minOccurs="1" nullable="true"
    maxOccurs="1" />
  <xsd:element type="xsd:string" name="resultId" minOccurs="1" nullable="true"
    maxOccurs="1" />
</xsd:sequence>
</xsd:complexType>
- <xsd:complexType name="Acknowledgment">
```

In This Chapter:

- About the Document Routing Service API Reference 398
- Document Routing Service—API 399

About the Document Routing Service API Reference

This section provides details about the Document Routing Services API calls provided by Care360 Hub Information Services. The Document Routing Services component of Care360 Hub Information Services provides operations for the Hub to receive transcription documents (encounter notes) from a third party and send them to Care360 Labs & Meds.

The Document Routing Service accepts messages that are posted via https. The messages contain the XML transcription document. For information on obtaining the xsd schema, see [“Accessing the Transcription Service .xsd Document”](#) on page 400.

For details about the Document Routing Service APIs, see [“Document Routing Service—API”](#) on page 399.

Note: An authorized user name and password are required for accessing the Document Routing Service.

Document Routing Service—API

This section provides details on the methods and objects provided by each service within the Document Routing Service. The Document Routing Service uploads transcription documents (encounter notes), validates the documents, and then sends them to Care360 Labs & Meds.

Document Routing Methods

The following is a brief overview of each method provided by the Document Routing Service—Web service. (Usage details for each method are provided in the following section, “[Document Routing Method Details](#)”.)

- **getProviderAccounts.** Returns a list of provider accounts.
- **routeDocuments.** Uploads a transcription (encounter note) to a predefined location (typically Care360 Labs & Meds).

Document Routing Method Details

The Document Routing Service—API provides the methods described in the following table.

Method	Description
getProviderAccounts	<p>Summary</p> <p>Returns a list of the provider accounts that are associated with the Hub account for the authorized user.</p> <p>Usage</p> <p>Returns the list of provider accounts in an array of ProviderAccount objects. The providerAccountName and providerName in these objects can be used when requesting document routing, to request document routing for a subset of provider accounts. Returns an empty list if no provider accounts are associated with the calling user.</p> <p>Preconditions</p> <ul style="list-style-type: none">• The Hub account (care site), user, and provider account are configured properly in Hub Information Services—Administration. <p>Method Signature</p> <p><code>ProviderAccount[] getProviderAccounts() throws SOAPException</code></p>
routeDocuments	<p>Summary</p> <p>Uploads a transcription (encounter note) to a pre-defined location (typically Care360 Labs & Meds).</p> <p>Usage</p> <p>Used to send transcriptions to the Care360 Labs & Meds.</p> <p>Preconditions</p> <ul style="list-style-type: none">• The Hub account (care site), user, and provider account are configured properly in Hub Information Services—Administration.

Method	Description
	Method Signature binaryRequest xsi:type="xsd:base64Binary"

Document Routing Objects

The Document Routing Services—API provides the objects described in the following table.

Object	Description/Attributes	Data Type	Req'd? ^a
binaryRequest	Contains the Base64 encoded Clinical Document wrapped in an XML message.		
DocumentRouting Response	Represents the response elements for a document routing request. This includes the Hub transaction ID and any validation errors that occur. Responses include: transactionUID —The transaction uid is the unique identifier for this request as generated and assigned by the Hub.	String	O

a. R = Required, O = Optional, C = Conditional.

Accessing the Transcription Service .xsd Document

To access the .xsd schema for the Transcription Service, use your browser to access the Hub Information Toolkit (HIT) via the URL shown below. Using the ClinicalDocument.xsd file that you obtain, you can build a client application to access the Web service.

Download the HIT

1. Access the Care360 Hub Customer Center Web site at the following URL:
<http://custcenter.medplus.com/tech-support/hubcenter/>
2. When prompted, type your *username* and *password*, and then press Enter.
For future reference, record your *username* and *password* in the spaces below:
Username: _____
Password: _____
3. From the *Resources* area, click the *HIT* link.
4. When prompted, click *Save As*, and then locate the desired download directory on your hard disk.
5. Unzip the HIT contents.

Chapter 17

Care360 SSO and Web Services Site

Care360 SINGLE SIGN ON AND WEB SERVICES



Welcome to the reference site for connecting to Care360. This site is designed to provide resources to vendors who are implementing applications which will connect with care360 for Single Sign On and for Web Services.

Support:

Contacts

Product Support Group (PSG): 800-595-0179

WSDL

Stage: <https://portal.care180.com/care360-services/UserSummaryWebService?WSDL>

Production: <https://portal.care360.com/care360-services/UserSummaryWebService?WSDL>

Documentation

[Universal LO&R 3.1.pdf \(PDF, 5.69 MB\)](#)

The documentation for creating and understanding the linking done through Single Sign On and Web Service is contained here.

Resources:

Applications

[Example-SSO-Care360-stage-8-21-09.zip \(ZIP, 210 KB\)](#)

The executable connects through Single Sign On to the Care360 *stage* environment.

Code

[Example-SSO-Care360-stage-src-8-15-09.zip \(ZIP, 980 KB\)](#)

This is the source code for *Example SSO - Care360 Stage* in C# (Requires ComponentSpace Trial/License).

XSD Files

[ADT-A31.xsd](#)

In This Chapter:

- About the Care360 SSO and Web Services Site 402
- Accessing the Care360 SSO and Web Services Site 403
- About the Sample Application 404
- About the WSDL Interface Documents 405
- About the Sample Code 406

About the Care360 SSO and Web Services Site

The Care360 Labs & Meds SSO and Web Services site is a companion to the Universal Lab Orders and Results Programmer Reference that provides additional support to vendors who are developing partner applications to interact with Care360 Labs & Meds. The Web site provides sample code, documentation, and other tools and resources that can be used to understand how to develop a partner application to interact with Care360 Labs & Meds via SSO and Web Services.

This chapter provides an overview of each of the tools provided on the Care360 Labs & Meds SSO and Web Services site, as well information about accessing the site online.

Note: For information about linking a partner application to Care360 Labs & Meds, see Chapter 11, “Linking to Care360 Labs & Meds” on page 227.

Accessing the Care360 SSO and Web Services Site

The *Example SSO - Care360 Stage* application—in addition to a number of other resources for partners who are developing applications to interact with Care360 Labs & Meds—is available for download from the Care360 Labs & Meds SSO and Web Services site. The Example SSO application, as well as the complete source code, are provided as individual .zip files, and require a valid *username* and *password* (provided by Quest Diagnostics) for access.

In addition to providing access to the Example SSO application, the Care360 SSO and Web Services site provides additional Care360 Labs & Meds-related information and resources, such as the following:

- **Support.** Contact information for various members of the Care360 Labs & Meds support team, URLs for the WSDL documents for the stage and production environments, and a PDF version of this Programmer Reference.
- **Resources.** Downloads of the latest *Example SSO - Care360 Stage* sample application and source code.

Download the Sample Application and Source Code

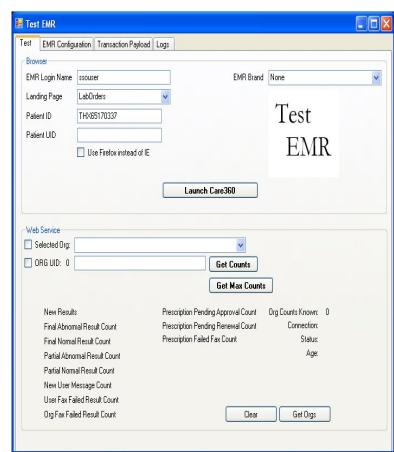
1. Access the Care360 SSO and Web Services site at the following URL:
<http://custcenter.medplus.com/tech-support/portalcenter/>
2. When prompted, type your *username* and *password*, and then press Enter.
3. From the *Resources* area, do the following:
 - To download the sample application, click the *Example-SSO-Care360-stage* link. When prompted, click *Save*, and then locate the desired download directory on your hard disk.
 - To download the sample source code, click the *Example-SSO-Care360-stage-src* link. When prompted, click *Save*, and then locate the desired download directory on your hard disk.
4. Unzip the contents of the sample application and source code files.
For an overview of the file contents, see “[About the Sample Application](#)” on page 404.

About the Sample Application

The Care360 Labs & Meds SSO and Web Services site provides the resources described in this section for partner application developers. In addition to the information provided here, additional details of each of these resources are provided in a Readme file included with each sample application.

Example SSO Application

The Care360 Labs & Meds SSO and Web Services site provides the *Example SSO - Care360 Stage* executable client application (shown below), for linking to Care360 Labs & Meds via SSO in the Care360 Labs & Meds Staging environment. Once connected, the Example SSO - Care360 Stage application demonstrates the use of the User Summary Web services for retrieving user data, and the Branding options for linking to Care360 Labs & Meds with specific product branding displayed.



This sample application can be used to help understand SSO workflow, as well as to verify responses to User Summary requests. It can also be used to help troubleshoot issues; for example, to determine whether a problem exists within a vendor application (or message format), as opposed to within Care360 Labs & Meds itself.

Sample Source Code

The Care360 Labs & Meds SSO and Web Services site also provides code samples and supporting project files (as applicable) to demonstrate the working Example SSO - Care360 Stage application. (For more information about the sample code, see “[About the Sample Code](#)” on page 406.)

About the WSDL Interface Documents

In order to utilize a Web service, you must develop a Web service client application. A client application created for accessing the User Summary Web service is referred to as a *static* Web service client, because the client knows where the Web service is located without looking up the service in a UDDI registry. The client calls the Web services via a known service URL to obtain the WSDL file that describes the Web services.

A WSDL interface document describes all of the information that is needed by a Web service client to interact with the associated Web service. The WSDL document includes the URL to locate the associated Web services. Once you have located the Web service, or after you have obtained the WSDL, you can build a Web service client application that uses the Web service to perform the desired functions.

The following section describes the process for obtaining the WSDL documents for User Summary Web services.

Note: You must have a valid user name and password (issued by Quest Diagnostics) in order to access the WSDL interface documents. For the Care360 Labs & Meds Production environment, a user name and password will be issued once your application has been developed, tested, and certified.

Accessing the User Summary Services WSDL Document

To access the WSDL service description for the User Summary Services, use your browser to access the corresponding URL shown below. Using the WSDL that you obtain, you can build a client application to access the Web service.

Staging Environment

To access the User Summary Services in the Care360 Labs & Meds Staging environment, used to develop, test, and certify your Web service application, access the following link:

<https://portal.care180.com/Care360-services/UserSummaryWebService?WSDL>

Production Environment

Once you have developed, tested, and certified your Web service client application in the Care360 Labs & Meds Staging environment, you can then update the application to work in the Care360 Labs & Meds Production environment. Connecting a Web service client to the Care360 Labs & Meds Production environment is similar to connecting to the Staging environment (the exposed interfaces are equivalent).

Note: Client applications developed against the Staging environment WSDL documents can also be used to access the Care360 Labs & Meds Production environment, and vice versa; the WSDL content is identical in both environments.

To access the User Summary Services in the Production environment, access the following link:

<https://portal.Care360.com/Care360-services/UserSummaryWebService?WSDL>

About the Sample Code

The Care360 Labs & Meds SSO and Web Services site provides sample source code to illustrate recommended coding practices for interacting with the various SSO and Web services provided by Care360 Labs & Meds. Though the samples are specific to a particular SSO function or Web service, they help illustrate general programming practices that can be used with any of the SSO functions or Web services provided by Care360 Labs & Meds.

A Readme file is included with the sample application, describing the application and how it is to be used. In addition, detailed comments are provided throughout the sample code to illustrate the implementation of key functions.

Quest Diagnostics Disclaimer

All sample code referenced in this Programmer Reference and the Care360 Labs & Meds SSO and Web Services site is provided for example purposes only, and it may need to be modified to work in your environment. It is provided “as is,” without warranty of any kind, or support, from Quest Diagnostics.

Third-Party Disclaimer

Quest Diagnostics has a software license to use a library written by ComponentSpace. It is used by the sample application to create assertions and other SAML features in C#. In order to use the sample application, a third-party application developer must download and install the ComponentSpace library for SAML (version 1.1).

For more information, refer to the following ComponentSpace Web site:

<http://www.componentspace.com/saml.net.aspx>

Appendices

About This Section

This section includes the following appendix:

- Appendix A, “Patient Demographic Reference Data” on page 409.

Appendix A

Patient Demographic Reference Data

.....

In This Appendix:

- [About Patient Demographic Reference Data](#) 410
- [Patient Language \(PID.15\)](#) 411

About Patient Demographic Reference Data

This appendix lists patient demographic data that is accepted by Care360 Labs & Meds and that is not available in total from other sources (such as the official HL7 web site, Centers for Disease Control and Prevention (CDC) web site, etc.).

This patient demographic data is used in “[ADT A28 \(Patient Add\) Message Segment Specifications](#)” on page 303 and “[ADT A31 \(Patient Update\) Message Segment Specifications](#)” on page 338.

For patient language (PID.15), Care360 Labs & Meds supports a subset of the ISO 639-2 languages. For more information, see “[Patient Language \(PID.15\)](#)” on page 411.

Patient Language (PID.15)

The patient languages supported by Care360 Labs & Meds are a subset of the ISO 639-2 languages provided by the Library of Congress (http://www.loc.gov/standards/iso639-2/php/code_list.php).

Send the ISO 639-2 code (not the full name) for the language. For example, for Japanese, you would send jpn.

ISO 639-2 Code	English Name
eng	English
spa	Spanish
ara	Arabic
chi	Chinese
fre	French
cpf	French Creole
ger	German
gre	Greek
hin	Hindi
ita	Italian
jpn	Japanese
kor	Korean
per	Persian
pol	Polish
por	Portuguese
rus	Russian
sgn	Sign Language
tgl	Tagalog
urd	Urdu
vie	Vietnamese
abk	Abkhazian
ace	Achinese
ach	Acoli
ada	Adangme
ady	Adygei

ISO 639-2 Code	English Name
aar	Afar
afr	Afrikaans
ain	Ainu
aka	Akan
alb	Albanian
gsw	Alemannic
ale	Aleut
amh	Amharic
anp	Angika
arg	Aragonese
arp	Arapaho
arw	Arawak
arm	Armenian
rup	Aromanian
asm	Assamese
ava	Avaric
awa	Awadhi
aym	Aymara
aze	Azerbaijani
ast	Bable
ban	Balinese
bal	Baluchi
bam	Bambara
bas	Basa
bak	Bashkir
baq	Basque
bej	Beja
bel	Belarusian
bem	Bemba
ben	Bengali

ISO 639-2 Code	English Name
bho	Bhojpuri
bik	Bikol
bis	Bislama
byn	Blin
nob	Bokmål, Norwegian
bos	Bosnian
bra	Braj
bre	Breton
bug	Buginese
bul	Bulgarian
bua	Buriat
bur	Burmese
cad	Caddo
cat	Catalan
ceb	Cebuano
khm	Central Khmer
cha	Chamorro
che	Chechen
chr	Cherokee
chy	Cheyenne
nya	Chichewa
chn	Chinook jargon
cho	Choctaw
chk	Chuukese
chv	Chuvash
rar	Cook Islands Maori
cop	Coptic
cor	Cornish
cos	Corsican
cre	Cree

ISO 639-2 Code	English Name
mus	Creek
crp	Creoles and pidgins
cpe	Creoles and pidgins, English based
cpp	Creoles and pidgins, Portuguese-based
crh	Crimean Turkish
hrv	Croatian
cze	Czech
dak	Dakota
dan	Danish
dar	Dargwa
del	Delaware
chp	Dene Suline
din	Dinka
div	Divehi
doi	Dogri
dgr	Dogrib
dua	Duala
dut	Dutch
dyu	Dyula
dzo	Dzongkha
frs	Eastern Frisian
bin	Edo
efi	Efik
eka	Ekajuk
myv	Erzya
epo	Esperanto
est	Estonian
ewe	Ewe
ewo	Ewondo
fan	Fang

ISO 639-2 Code	English Name
fat	Fanti
fao	Faroese
fij	Fijian
fil	Filipino
fin	Finnish
fon	Fon
fur	Friulian
ful	Fulah
gaa	Ga
gla	Gaelic
car	Galibi Carib
glg	Galician
lug	Ganda
gay	Gayo
gba	Gbaya
geo	Georgian
gil	Gilbertese
gon	Gondi
gor	Gorontalo
grb	Grebo
kal	Greenlandic
grn	Guarani
guj	Gujarati
gwi	Gwich'in
hai	Haida
hat	Haitian Creole
hau	Hausa
haw	Hawaiian
heb	Hebrew
her	Herero

ISO 639-2 Code	English Name
hil	Hiligaynon
hmo	Hiri Motu
hmn	Hmong
hun	Hungarian
hup	Hupa
iba	Iban
ice	Icelandic
ibo	Igbo
ilo	Iloko
smn	Inari Sami
ind	Indonesian
inh	Ingush
iku	Inuktitut
ipk	Inupiaq
gle	Irish
jav	Javanese
kac	Jingpho
jrb	Judeo-Arabic
jpr	Judeo-Persian
kbd	Kabardian
kab	Kabyle
xal	Kalmyk
kam	Kamba
kan	Kannada
kau	Kanuri
pam	Kapampangan
kaa	Kara-Kalpak
krc	Karachay-Balkar
krl	Karelian
kas	Kashmiri

ISO 639-2 Code	English Name
csb	Kashubian
kaz	Kazakh
kha	Khasi
kik	Kikuyu
kmb	Kimbundu
kin	Kinyarwanda
kom	Komi
kon	Kongo
kok	Konkani
kos	Kosraean
kpe	Kpelle
kum	Kumyk
kur	Kurdish
kru	Kurukh
kut	Kutenai
kua	Kwanyama
kir	Kyrgyz
lad	Ladino
lah	Lahnda
lam	Lamba
lao	Lao
lav	Latvian
lez	Lezghian
lim	Limburgish
lin	Lingala
lit	Lithuanian
nds	Low German
dsb	Lower Sorbian
loz	Lozi
lub	Luba-Katanga

ISO 639-2 Code	English Name
lua	Luba-Lulua
lui	Luiseno
smj	Lule Sami
lun	Lunda
luo	Luo (Kenya and Tanzania)
lus	Lushai
ltz	Luxembourgish
mac	Macedonian
mad	Madurese
mag	Magahi
mai	Maithili
mak	Makasar
mlg	Malagasy
may	Malay
mal	Malayalam
mlt	Maltese
mnc	Manchu
mdr	Mandar
man	Mandingo
mni	Manipuri
glv	Manx
mao	Maori
arn	Mapuche
mar	Marathi
chm	Mari
mah	Marshallese
mwr	Marwari
mas	Masai
men	Mende
mic	Micmac

ISO 639-2 Code	English Name
min	Minangkabau
mwl	Mirandese
moh	Mohawk
mdf	Moksha
lol	Mongo
mon	Mongolian
mos	Mossi
nqo	N'Ko
nau	Nauru
nav	Navajo
ndo	Ndonga
nap	Neapolitan
new	Nepal Bhasa
nep	Nepali
nia	Nias
niu	Niuean
nog	Nogai
nde	North Ndebele
frr	Northern Frisian
sme	Northern Sami
nso	Northern Sotho
nor	Norwegian
nno	Norwegian Nynorsk
iii	Nuosu
nym	Nyamwezi
byn	Nyankole
nyo	Nyoro
nzi	Nzima
oji	Ojibwa
ori	Oriya

ISO 639-2 Code	English Name
orm	Oromo
osa	Osage
oss	Ossetian
pau	Palauan
pag	Pangasinan
pap	Papiamento
pus	Pashto
pon	Pohnpeian
pan	Punjabi
que	Quechua
raj	Rajasthani
rap	Rapanui
rum	Romanian
roh	Romansh
rom	Romany
run	Rundi
smo	Samoan
sad	Sandawe
sag	Sango
san	Sanskrit
sat	Santali
srd	Sardinian
sas	Sasak
sco	Scots
sel	Selkup
srp	Serbian
srr	Serer
shn	Shan
sna	Shona
scn	Sicilian

ISO 639-2 Code	English Name
sid	Sidamo
bla	Siksika
snd	Sindhi
sin	Sinhala
sms	Skolt Sami
den	Slave (Athapascan)
slo	Slovak
slv	Slovenian
som	Somali
snk	Soninke
sot	Sotho, Southern
nbl	South Ndebele
alt	Southern Altai
sma	Southern Sami
srn	Sranan Tongo
suk	Sukuma
sun	Sundanese
sus	Susu
swa	Swahili
ssw	Swati
swe	Swedish
syr	Syriac
tah	Tahitian
tgk	Tajik
tmh	Tamashek
tam	Tamil
tat	Tatar
tel	Telugu
ter	Tereno
tet	Tetum

ISO 639-2 Code	English Name
tha	Thai
tib	Tibetan
tig	Tigre
tir	Tigrinya
tem	Timne
tiv	Tiv
tli	Tlingit
tpi	Tok Pisin
tkl	Tokelau
tog	Tonga (Nyasa)
ton	Tonga (Tonga Islands)
tsi	Tsimshian
tso	Tsonga
tsn	Tswana
tum	Tumbuka
tur	Turkish
tuk	Turkmen
tvl	Tuvalu
tyv	Tuvanian
twi	Twi
udm	Udmurt
ukr	Ukrainian
umb	Umbundu
und	Undetermined
hsb	Upper Sorbian
uig	Uyghur
uzb	Uzbek
vai	Vai
ven	Venda
vot	Votic

ISO 639-2 Code	English Name
wln	Walloon
war	Waray
was	Washo
wel	Welsh
fry	Western Frisian
wal	Wolaytta
wol	Wolof
xho	Xhosa
sah	Yakut
yao	Yao
yap	Yapese
yid	Yiddish
yor	Yoruba
zap	Zapotec
zza	Zazaki
zen	Zenaga
zha	Zhuang
zul	Zulu
zun	Zuni

Glossary

• • • • •

Account ID

A unique identifier for a care site that uses Quest Diagnostics laboratory services. This is the identifier used by Quest Diagnostics for billing each care site.

Admission Discharge Transfer (ADT)

A type of HL7 message used to communicate patient details to external applications. Patient Administration (ADT) messages are used to exchange the patient state within a health care facility. ADT messages keep patient demographic and visit information synchronized across health care systems. (*See Health Level Seven (HL7).*)

Ambulatory Care

Healthcare services provided without the patient being admitted to a facility. Also called outpatient care. The services of ambulatory care centers, hospital outpatient departments, physicians' offices, urgent care centers, and home healthcare services fall under this heading provided that the patient remains at the facility less than 24 hours. No overnight stay in a hospital is required.

Benefits

Specific areas of plan coverages (for example, outpatient visits, hospitalization, or pharmaceuticals) that make up the range of medical services that a payer markets to its subscribers.

Clinical Data Compendium (CDC)

A current collection of all reference data—for example, test codes, diagnosis codes, and Ask at Order Entry (AOE) questions—needed to create a complete and valid electronic order for submission to a Quest Diagnostics or to a third-party laboratory system.

Coverage

Services provided within a given health or pharmacy care plan. Healthcare and drug benefit services provided or authorized by the payer's medical staff or payment for healthcare services.

Diagnosis

The identification of a disease or condition through analysis and examination by a physician.

Electronic Health Record (EHR)-Lab Interoperability and Connectivity Specification (ELINCS)

A messaging specification intended to standardize the electronic reporting of test results from clinical laboratories to electronic health record (EHR) systems. It is specific to the U.S. Realm and based on the 2.5.1 version of HL7, but includes additional constraints.

Electronic Medical Record (EMR)

Technology that meets provider needs for real-time data access and evaluation in medical care. In concert with clinical workstations, point-of-care devices, and clinical data repository technologies, the EMR provides the means for longitudinal data storage and access. The result will be increased efficiency, reduced cost, and improved quality of care.

Eligibility

A person entitled to receive benefits for healthcare services.

Emergency

Sudden unexpected onset of illness or injury which requires the immediate care and attention of a qualified physician, and which, if not treated immediately, would jeopardize or impair the health of an individual.

Health Level Seven (HL7)

A data interchange transaction protocol for healthcare technology applications that simplifies the ability of different vendor-supplied IS systems to assure inter operability. Although not a software program in itself, HL7 requires that each healthcare software vendor program HL7 interfaces for its products.

Hospital

Any facility duly licensed, certified, and operated as a hospital. Does not include a convalescent facility, nursing home, or any institution or part thereof which is used principally as a convalescence facility, rest facility, nursing facility, or facility for the aged.

Hospital Information System (HIS)

The common term for the computer hardware and software that provides the support of the hospital.

Hub Account

A unique account established using Hub Information Services—Administration to enable an authorized external system (for example, EMR vendor) to interact with Care360 Hub Information Services.

Hub ID

A unique identifier assigned by Quest Diagnostics to each EMR system that is registered to receive lab results on behalf of a Quest Diagnostics account. This is the identifier given to EMR vendors (such as Web-based EMRs) that retrieve results for several accounts, as well as standalone EMRs that retrieve results for a single account. *See also Account ID.*

Interface

The code written and the specifications and protocols used for the electronic data exchange between Surescripts and the participants' and/or vendors' computing environments.

Logical Observation Identifiers Names and Codes (LOINC)

An industry database that is used to facilitate the exchange of pooling results for clinical care, outcomes management and research. LOINC codes are universal identifiers for laboratory and other clinical observations.

Management Information System (MIS)

The common term for the computer hardware and software that provides the support of managing the plan.

Master Files

Files containing a current collection of all reference data needed to create a complete and valid electronic order for a specific laboratory (either a Quest Diagnostics laboratory or a third-party laboratory). Master files are converted to the Quest Diagnostics CDC format for use within the *Lab Orders* component.

Master Patient/Member Index

An index or file with a unique identifier for each patient or member that serves as a key to a patient's or member's health record.

Patient Consent

The written or verbal permission given by a patient for the release and use of their personal information.

Payor

The party or group an individual contracts with to cover healthcare services, unless the patient is paying out-of-pocket. This is sometimes referred to as a "third-party payor."

Physician Practice Management System (PPMS) Technology Provider

A physician practice management system company who supports medical office administration with applications and support.

Provider

An organization that provides information or data to Care360 Hub Information Services. Organizations can include reference labs, esoteric labs, hospitals, payers, radiology clinics, clearinghouses, pharmacies, or PBMs. Also referred to as *service provider*.

Provider Account

An organization that uses the services of a provider, such as a physician's office, an IPA, a clinic, or a hospital. The provider account uniquely defines the organization, allowing accurate distribution of data to an authorized entity.

Quality

Can be defined as a measure of the degree to which delivered health services meet established professional standards and judgments of value to the consumer. Quality may also be seen as the degree to which actions taken or not taken impact the likelihood of beneficial health outcomes and minimize risk and other undesired outcomes, given the existing state of medical science and art.

Request ID

A unique identifier that references a specific request for lab results made by an EMR system and received by Care360 Hub Information Services. This identifier is assigned to a request upon receipt of the request message. The Request ID is unique across all Care360 Hub Information Services accounts.

SAML Browser/Artifact

A data exchange model by which SAML messages are created by an issuer (EMR), and an artifact (small string token) is transmitted to the consumer (Care360 Labs & Meds). The consumer is then responsible for making a call back to the issuer site with the artifact, so that the issuer can retrieve the actual SAML message for processing.

SAML Browser/POST

A data exchange model by which SAML messages are digitally signed and transmitted from the issuer (EMR) to the consumer (Care360 Labs & Meds) via the user's Web browser, or through some HTTP connection simulating a browser. The consumer does not make a callback request to the issuer, and is able to verify the SAML message using the provided signature.

Security Assertion Markup Language (SAML)

An XML standard for exchanging authentication and authorization data between security domains (that is, between an identity provider and a service provider). SAML is a product of the OASIS Security Services Technical Committee.

Service Scope

The account-based scope defined by a request for lab results. Specifically, this scope definition provides the EMR vendor the capability of receiving results for every registered care site account associated with a specific Hub ID, or, alternatively, receiving results for specific accounts as defined by their account IDs.

Single Sign-On (SSO)

The practice of facilitating user login to a single site or application, and then allowing that same user access to another site or application without requiring the user to enter a second set of user credentials (*User ID* and *Password*).

SOAP

An XML-based protocol for exchanging information in a decentralized, distributed environment. It provides an envelope that defines a framework for describing what is in a message and how to process it, encoding rules for expressing application-defined datatypes, and a convention for representing remote procedure calls and responses.

Subscriber

An individual who is a member of a benefits plan. For example, in the case of family coverage, one adult is ordinarily the subscriber. A spouse and children would ordinarily be dependents.

Technology Provider

A healthcare technology company that develops applications to support physicians with practice management, electronic prescribing, electronic medical records, or similar office automation products.

Test In Question (TIQ)

A test that was not completed because insufficient information was available (for example, if the physician sent two specimens but ordered only one test).

Test Not Performed (TNP)

A test that was not performed because it was cancelled or because it was not possible for the lab to perform the test (for example, if the amount of specimen collected was not sufficient or viable).

Textual Results

Clinical results that are received in a textual (non-discrete) format, such as radiology results, cardiology results, etc.

Third-Party Payment

Payment or reimbursement amounts that are established by third-party drug programs for prescriptions and services dispensed to recipients.

Time Scope

The time-based scope defined by a request for lab results. Specifically, this scope definition allows the EMR vendor to receive the latest (previously unretrieved) results, or, alternatively, to receive results ordered within a specific time frame.

Transcribed Document

Any content that has been dictated by a clinician and subsequently transcribed into a document. This could include discharge summaries, operative notes (Op), surgical notes, history and physicals notes (H&P), physician referral notes, etc. The message format structure for a transcribed document is typically an HL7 MDM message type.

UDDI

Universal Description, Discovery, and Integration is an XML-based specification for a registry of businesses and the Web services they offer. By providing the necessary translations, it enables software to automatically discover Web services and integrate with them.

User

An administrator who is authorized to access Hub Information Services—Administration to perform management tasks, or an authorized account used by a vendor to interact with Care360 Hub Information Services.

Vendor

An organization that connects to providers to distribute information or data to their customers. Customers of vendors typically include physicians' offices, IPAs, clinics, and hospitals. Also referred to as *EMR vendor*.

WSDL

Web Services Description Language lets developers expose the syntax of a Web service. Using an XML format, it describes network services as a set of endpoints operating on messages containing either document- or procedure-oriented information. The operations and messages are described abstractly and then bound to a concrete network protocol and message format to define the endpoints.

XML

Extensible Markup Language has become the standard for defining data interchange formats on the internet. It is similar to HyperText Markup Language (HTML) in that it uses tags to encode information. But whereas HTML tells browsers how to display information, XML defines values for the information. XML also lets users create their own tags.

XML Parser

A software application that processes an XML document. An XML parser reads the XML document, checks its syntax, reports any errors, and allows programmatic access to the document's contents. An XML document is considered "well-formed" if it is syntactically correct, meaning no errors are reported by the parser when the document is processed.

Index



A

Abbreviations and acronyms [xvi](#)
Account (*see* Hub account)
Account ID, definition [425](#)
ackOrder method, description [100](#)
AckOrdersobject, description [101](#)
Add patient, sample patient demographic message [395](#)
Admission Discharge Transfer (ADT), definition [425](#)
ADT A28 (Patient Add) message specifications [303–327](#)
ADT A29 (Patient Delete) message specifications [328–337](#)
ADT A31 (Patient Update) message specifications [338–361](#)
ADT A39 (Patient Merge) message specifications [362–373](#)
ADT message segment requirements
 DG1 fields [319–320, 353–354](#)
 PD1 fields [317–318, 351–352, 368–369](#)
ADT SIU (Schedule Information Unsolicited) message specifications [374–394](#)
AIG, field requirements (patient demographic) [391–392](#)
AIL, field requirements (patient demographic) [392](#)
AIP, field requirements (patient demographic) [393–394](#)
AIS, field requirements (patient demographic) [390–391](#)
Alternate Specimen Data dataset, Master Files [45](#)
Ambulatory Care, definition [425](#)
Analyte Details dataset, Master Files [43](#)
API (application programming interface)
 Document Routing Services [399–400](#)
 Patient Demographic Services [293–295](#)
 Physician Query API [187–188](#)
 Physician Query overview [186](#)
 Retrieve Order Services [99–101](#)
 Submit Clinical Content Services [193–195](#)
 Submit Clinical Content Services overview [192](#)
 User Summary Services [287–290](#)
Application, sample EMR [404](#)

B

Batch mode, patient demographic integration [262](#)
Benefits, definition [425](#)
Billing Procedure Code dataset, Master Files [35](#)

Bill-To dataset, Master Files [24–25](#)
Bill-To Edit dataset, Master Files [26–27](#)
Bill-To Edit List dataset, Master Files [28](#)
Bill-To Eligibility dataset, Master Files [28](#)
binaryRequest object, description [400](#)

C

Care360 ELINCS Result HL7 specification
 overview [140](#)
Care360 Hub Information Services [4](#)
Care360 Labs & Meds
 access directly [237](#)
 access via SSO [236](#)
 linking and SSO [228](#)
 overview [4](#)
 Production environment [405](#)
 Staging environment [405](#)
 UI customization [xii, 228, 268](#)
Care360 Order HL7 specification
 message segment requirements [57–64](#)
 overview [56](#)
Care360 Patient Demographic HL7 specification
 message segment requirements [299–302](#)
 overview [298](#)
Care360 Prescription Order CCR specification
 overview [244](#)
Care360 Result HL7 specification
 message segment requirements [107](#)
 overview [106](#)
Care360 Result HL7 v2.5.1 specification, message segment requirements [141](#)
Care360 SSO and Web Services site
 overview [402](#)
 sample code [406](#)
 URL [403](#)
Care360 Textual Results HL7 specification
 message segment requirements [165–170](#)
 overview [164](#)
Care360 Transcribed Document HL7 specification
 message segment requirements [199](#)
 overview [198](#)
Carriage return [60, 107, 142](#)
CCR, sample messages [256–261](#)
Client application, sample [404](#)
Client Bill-To dataset, Master Files [23](#)
Client dataset, Master Files [19–22](#)
Client NPP # dataset, Master Files [49](#)
Client UPIN dataset, Master Files [43](#)
Client-Specific Code XREF dataset, Master Files [45](#)

- Client-Specific Order Code dataset, Master Files [40–41](#)
- Clinical Data Compendium (CDC) definition [425](#)
- Clinical Significance Data dataset, Master Files [46](#)
- Code, sample [406](#)
- Common Order segment (*see* ORC)
- Conditional, definition [299](#)
- Connectivity
- future options [9](#)
 - orders, results, and Master Files [9](#)
 - patient demographic [262](#)
- Contact, Customer support [403](#)
- Container dataset, Master Files [36](#)
- ContentData object, description [194](#)
- ContentRequest object, description [194](#)
- ContentResponse object, description [195](#)
- Copyright text, customizing [268](#)
- Coverage, definition [425](#)
- Customer Center, overview [402](#)
- Customer support, contact [403](#)
- Customization, Care360 Labs & Meds UI [268](#)
- ## D
- Datasets, Master Files (*see* Master Files)
- Delete patient, sample patient demographic message [395](#)
- DemographicRequest object, description [295](#)
- DemographicResponse object, description [295](#)
- Demographics (*see* Patient demographic integration)
- DG1
- field requirements (demographics) [319–320, 353–354](#)
 - field requirements (order) [90–91](#)
 - field requirements (patient demographic) [388–389](#)
 - segment requirements (order) [58](#)
- Diagnosis segment (*see* DG1)
- Diagnosis, definition [425](#)
- Document Routing Services
- API [399–400](#)
 - methods [399](#)
 - objects [400](#)
 - overview [398](#)
- Documentation
- conventions [xv](#)
 - related [xviii](#)
- DocumentRoutingResponse object, description [400](#)
- DOS Billing Procedure Code dataset, Master Files [35](#)
- DOS Container dataset, Master Files [36](#)
- DOS Methodology dataset, Master Files [36](#)
- DOS Minimum Volume dataset, Master Files [37](#)
- DOS Performing Site dataset, Master Files [46](#)
- DOS Preferred Requirement dataset, Master Files [37](#)
- DOS Reject Hemolysis dataset, Master Files [38](#)
- DOS Reject Lipemia dataset, Master Files [38](#)
- DOS Reject Thaw Other dataset, Master Files [39](#)
- DOS Specimen Stability dataset, Master Files [39](#)
- DOS Transport Temperature dataset, Master Files [40](#)
- Download
- Hub Implementation Toolkit (HIT) [400](#)
 - Sample EMR application [403](#)
- ## E
- Electronic Medical Record (EMR), definition [426](#)
- Eligibility, definition [426](#)
- ELINCS
- definition [426](#)
 - sample messages [160–161](#)
- ELINCS Result message segment requirements
- MSH fields [146–147](#)
 - NTE fields [155](#)
 - OBR fields [152–155](#)
 - OBX fields [155–157](#)
 - ORC fields [150–151](#)
 - PID fields [148–150](#)
 - SPM fields [157–159](#)
- ELINCS Results, Care360 HL7 specification [140](#)
- Emergency, definition [426](#)
- EMR
- sample application, downloading [403](#)
 - sample application, overview [404](#)
- Ethnic group, patient demographic element
- ADT A28 [312](#)
 - ADT A31 [346](#)
- Event Type segment (*see* EVN)
- EVN
- field requirements (transcribed document) [208](#)
 - segment requirements (transcribed document) [200](#)
- EVN field requirements (patient demographic)
- ADT A28 [306–307](#)
 - ADT A29 [331](#)
 - ADT A31 [341](#)
 - ADT A39 [365](#)
- ## F
- Formatting requirements, linking [229](#)
- Fuzzy matching
- details [264](#)
 - patient demographic integration [263](#)
- ## G
- Generic order echo (*see* Order echo)
- getCounts method, description [287](#)
- getCountsByOrg method, description [288](#)
- getOrders method, description [99](#)
- getOrgs method, description [288](#)
- getProviderAccounts method, description [399](#)
- GT1
- field requirements (order) [77–81](#)
 - field requirements (patient demographic) [320–324, 354–358](#)
 - segment requirements (order) [58](#)
- Guarantor segment (*see* GT1)
- ## H
- Hand Written Order dataset, Master Files [49](#)
- HL7 (Health Level 7)
- Care360 CCR specification [244](#)

HL7 (Health Level 7), *continued*

- Care360 Patient Demographic Specification 298
- Care360 Result Specification 106
- Care360 Textual Results specification 164
- Care360 Transcribed Document HL7 Specification 198–224
- definition 426
- newline character 60, 107, 142
- order message segment requirements 57–64
- patient demographic message segment requirements 299–302
- result message segment requirements 107
- textual results message segment requirements 165–170
- Transcribed Document message segment requirements 199
- Hold, PSC order 66
- Hospital Information System (HIS), definition 426
- Hospital, definition 426
- Hub account, definition 426
- Hub ID, definition 426
- Hub Implementation Toolkit (HIT) downloading 400
- Hub Information Services 4
- Hub production environment
 - Patient Demographic Services 296
 - Physician Query Services 189
 - Retrieve Order Services 102
 - Submit Clinical Content Services 196
- Hub staging environment
 - Patient Demographic Services 296
 - Physician Query Services 189
 - Retrieve Order Services 102
 - Submit Clinical Content Services 196

I

- Identifier object, description 188
- IN1
 - field requirements (order) 73–77
 - field requirements (patient demographic) 324–327, 359–361
 - segment requirements (order) 58
- Initialize SSO connection 235
- Insurance segment (*see* IN1)
- Interface, definition 427

L

- Lab Orders page, linking to 228, 229
- Labs & Meds (*see* Care360 Labs & Meds)
- Language, patient demographic element
 - ADT A28 310
 - ADT A31 345
 - values for Care360 Labs & Meds 411–423
- LCP/MN CPT To ICD9 dataset, Master Files 34
- LCP/MN Service To CPT dataset, Master Files 33
- Line feed 60, 107, 142
- Linking
 - available functions 228
 - formatting requirements 229
 - overview 228–237
 - process walkthrough 235
- Logical Observation Identifiers Names and Codes (LOINC), definition 427
- Logo, customizing 268

M

- Management Information System (MIS), definition 427
- Master Files
 - Alternate Specimen Data dataset 45
 - Analyte Details dataset 43
 - Bill-To dataset 24–25
 - Bill-To Edit dataset 26–27
 - Bill-To Edit List dataset 28
 - Bill-To Eligibility dataset 28
 - Client Bill-To dataset 23
 - Client dataset 19–22
 - Client NPP # dataset 49
 - Client UPIN dataset 43
 - Client-Specific Code XREF dataset 45
 - Client-Specific Order Code dataset 40–41
 - Clinical Significance Data dataset 46
 - datasets 15–16
 - definition 427
 - DOS Billing Procedure Code dataset 35
 - DOS Container dataset 36
 - DOS Methodology dataset 36
 - DOS Minimum Volume dataset 37
 - DOS Performing Site dataset 46
 - DOS Preferred Requirement dataset 37
 - DOS Reject Hemolysis dataset 38
 - DOS Reject Lipemia dataset 38
 - DOS Reject Thaw Other dataset 39
 - DOS Specimen Stability dataset 39
 - DOS Transport Temperature dataset 40
 - Hand Written Order dataset 49
 - LCP/MN CPT To ICD9 dataset 34
 - LCP/MN Service To CPT dataset 33
 - Medical Manager Updates dataset 49
 - Order Code Alias dataset 44
 - Order Code AOE dataset 31
 - Order Code Component dataset 32
 - Order Code dataset 29–30
 - overview 14
 - Performing Site Code dataset 42–43
 - Reference Ranges dataset 47
 - retrieving data files 53
 - sample data files 50–52
 - Setup Days dataset 47
 - Setup Times dataset 48
 - Temperatures dataset 44
 - Turnaround Times dataset 48
 - Worklist Components dataset 43
- Master Patient/Member Index, definition 427
- MDM, sample messages 224
- Medical Manager Updates dataset, Master Files 49
- Merge patient, sample patient demographic message 396
- Message Header segment (*see* MSH)
- Messages, sample
 - CCR 256–261
 - ELINCS 160–161
 - MDM 224
 - ORM 94
 - ORU 132–134, 183
 - patient demographic 395–396
 - result XML 136
- Methodology dataset, Master Files 36
- Methods
 - ackOrder 100

- Methods, *continued*
- getCounts 287
 - getCountsByOrg 288
 - getOrder 99
 - getOrgs 288
 - getProviderAccounts 399
 - routeDocuments 399
 - submitBatchADTMessage 294
 - submitClinicalContent 193
 - submitRealTimeADTMessage 293
- Minimum Volume dataset, Master Files 37
- MRG field requirements (patient demographic) 369–370
- MSH
- field requirements (order) 65–67
 - field requirements (patient demographic ADT A28) 304–306
 - field requirements (patient demographic ADT A29) 329–330
 - field requirements (patient demographic ADT A31) 339–341
 - field requirements (patient demographic ADT A39) 363–364
 - field requirements (patient demographic ADT SIU) 375–376
 - field requirements (result ELINCS) 146–147
 - field requirements (result) 112–114
 - field requirements (textual results) 171–173
 - field requirements (transcribed document) 205–207
 - segment requirements (order) 58
 - segment requirements (radiology results) 165
 - segment requirements (result) 107
 - segment requirements (transcribed document) 199, 200
- N**
- Never, definition 108
- New Results page, linking to 228
- Newline character 60, 107, 142
- Next of kin, patient demographic element
- ADT A28 313–314
 - ADT A31 347–348
- NK1
- field requirements (patient demographic ADT A28) 313–314
 - field requirements (patient demographic ADT A31) 347–348
- Not required, definition 165
- Not supported, definition 61, 143, 167, 299
- Notes and Comments segment (*see* NTE)
- NTE
- field requirements (order) 93
 - field requirements (result ELINCS) 155
 - field requirements (result) 131
 - field requirements (textual results) 182
 - field requirements (transcribed document) 223
 - segment requirements (order) 59
 - segment requirements (textual results) 166
 - segment requirements (transcribed document) 201
- O**
- Objects
- AckOrders 101
- Objects, *continued*
- binaryRequest 400
 - ContentData 194
 - ContentRequest 194
 - ContentResponse 195
 - DemographicRequest 295
 - DemographicResponse 295
 - DocumentRoutingResponse 400
 - Identifier 188
 - OrderMessage 101
 - OrderRequest 101
 - OrderResponse 101
 - PhysicianQueryRequest 188
 - PhysicianQueryResponse 188
 - WSOrg 290
 - WSOrgData 289
 - WSUserSummaryCounts 289
 - WSUserSummaryData 288
- OBR
- field requirements (order) 85–89
 - field requirements (result ELINCS) 152–155
 - field requirements (result) 122–127
 - field requirements (textual results) 175–180
 - field requirements (transcribed document) 217–219
 - segment requirements (order) 58
 - segment requirements (textual results) 166
 - segment requirements (transcribed document) 200
- Observation Request segment (*see* OBR)
- Observation Result Detail segment (*see* OBX)
- OBX
- field requirements (order) 91–92
 - field requirements (result ELINCS) 155–157
 - field requirements (result) 127–131
 - field requirements (textual results) 180–181
 - field requirements (transcribed document) 221–223
 - segment requirements (order) 58
 - segment requirements (textual results) 166
 - segment requirements (transcribed document) 201
- Optional, definition 299
- ORC
- field requirements (order) 82–84
 - field requirements (result ELINCS) 150–151
 - field requirements (result) 120–122
 - field requirements (transcribed document) 213–214
 - segment requirements (order) 58
 - segment requirements (transcribed document) 200
- Order Code Alias dataset, Master Files 44
- Order Code AOE dataset, Master Files 31
- Order Code Component dataset, Master Files 32
- Order Code dataset, Master Files 29–30
- Order Echo
- availability with Care360 Labs & Meds 228
 - definition xii
 - overview 240
 - process walkthrough 240, 242
- Order message segment requirements
- DG1 fields 90–91
 - DG1 segment 58
 - GT1 fields 77–81

Order message segment requirements, *continued*

- GT1 segment 58
- IN1 fields 73–77
- IN1 segment 58
- MSH fields 65–67
- MSH segment 58
- NTE fields 93
- NTE segment 59
- OBR fields 85–89
- OBR segment 58
- OBX fields 91–92
- OBX segment 58
- ORC fields 82–84
- ORC segment 58
- PID fields 67–70, 114–117
- PID segment 58
- PV1 fields 70–73, 117–120
- PV1 segment 58

OrderMessage object, description 101

OrderRequest object, description 101

OrderResponse object, description 101

Orders

- Care360 HL7 specification 56
- Care360 Prescription Order CCR specification 244
- Master Files 14
- message segment requirements 57–64
- Prescription 244
- PSC Hold 66

Organizational trust, establishing for SSO 275

ORM, sample messages 94

ORU, sample messages 132–134, 183

Outbound patient demographic integration

- overview 262
- process walkthrough 267

Overviews

- Care360 ELINCS Result HL7 specification 140
- Care360 Labs & Meds UI customization 268
- Care360 Order HL7 specification 56
- Care360 Patient Demographic HL7 specification 298
- Care360 Prescription Order CCR specification 244
- Care360 Result HL7 specification 106
- Care360 SSO and Web Services site 402
- Care360 Textual Results HL7 specification 164
- Care360 Transcribed Document HL7 specification 198
- Linking and SSO 228–237
- Master Files 14
- Order Echo 240
- outbound patient demographic integration 262
- patient demographic integration 262
- SSO implementation 274
- Universal Lab Orders and Results 4
- User Summary Services 238

P

Pass Through, definition 108

Patient Consent, definition 427

Patient contact relationship (*see* Next of kin, patient demographic element)

Patient context, maintaining 230

Patient demographic

- ADT A28 (Patient Add) message specifications 303–327

Patient demographic, *continued*

- ADT A29 (Patient Delete) message specifications 328–337
- ADT A31 (Patient Update) message specifications 338–361
- ADT A39 (Patient Merge) message specifications 362–373
- ADT SIU (Schedule Information Unsolicited) message specifications 374–394
- ethnic group (ADT A28) 312
- ethnic group (ADT A31) 346
- language (ADT A28) 310
- language (ADT A31) 345
- language values supported by Care360 Labs & Meds 411–423
- message segment requirements 299–302
- next of kin relationship 347
- race (ADT A28) 309
- race (ADT A31) 343
- sample messages 395–396

Patient demographic integration

- availability with Care360 Labs & Meds 228
- batch mode 262
- definition xii
- methods 263
- overview 262
- process walkthrough 266
- real-time mode 262

Patient demographic message segment requirements

- AIG fields (ADT SIU) 391–392
- AIL fields (ADT SIU) 392
- AIP fields (ADT SIU) 393–394
- AIS fields (ADT SIU) 390–391
- DG1 fields (ADT SIU) 388–389
- EVN fields (ADT A28) 306–307
- EVN fields (ADT A29) 331
- EVN fields (ADT A31) 341
- EVN fields (ADT A39) 365
- GT1 fields (ADT A28) 320–324
- GT1 fields (ADT A31) 354–358
- INI fields (ADT A28) 324–327
- INI fields (ADT A31) 359–361
- MRG fields (ADT A39) 369–370
- MSH fields (ADT A28) 304–306
- MSH fields (ADT A29) 329–330
- MSH fields (ADT A31) 339–341
- MSH fields (ADT A39) 363–364
- MSH fields (ADT SIU) 375–376
- NKI fields (ADT A28) 313–314
- NKI fields (ADT A31) 347–348
- PID fields (ADT A28) 307–312
- PID fields (ADT A29) 331–334
- PID fields (ADT A31) 342–346
- PID fields (ADT A39) 365–368, 371–373
- PID fields (ADT SIU) 382–385
- PV1 fields (ADT A28) 315–317
- PV1 fields (ADT A29) 334–337
- PV1 fields (ADT A31) 349–351
- PV1 fields (ADT SIU) 385–388
- RGS fields (ADT SIU) 390–390
- SCH fields (ADT SIU) 377–382

Patient Demographic Services

- access the WSDL 296
- API 293–295
- methods 293

- Patient Demographic Services, *continued*
 - objects 294–295
 - overview 292
- Patient demographics, Care360 HL7 specification 298
- Patient Identifier segment (*see* PID)
- Patient Visit Data segment (*see* PV1)
- Payor, definition 427
- PD1
 - field requirements (patient demographic ADT A28) 317–318
 - field requirements (patient demographic ADT A31) 351–352
 - field requirements (patient demographic ADT A39) 368–369
- Performing Site Code dataset, Master Files 42–43
- Performing Site dataset, Master Files 46
- Physician Practice Management System (PPMS) Technology Provider, definition 427
- Physician Query API
 - access the WSDL 189
 - API 187–188
 - methods 187
 - objects 188
 - overview 186
- PhysicianQueryRequest object, description 188
- PhysicianQueryResponse object, description 188
- PID
 - field requirements (order) 67–70, 114–117
 - field requirements (patient demographic ADT A28) 307–312
 - field requirements (patient demographic ADT A29) 331–334
 - field requirements (patient demographic ADT A31) 342–346
 - field requirements (patient demographic ADT A39) 365–368, 371–373
 - field requirements (patient demographic ADT SIU) 382–385
 - field requirements (result elincs) 148–150
 - field requirements (textual results) 173–175
 - field requirements (transcribed document) 208–210
 - segment requirements (order) 58
 - segment requirements (textual results) 165
 - segment requirements (transcribed document) 200
- PID-only matching
 - details 263
 - patient demographic integration 263
- Preferred Requirement dataset, Master Files 37
- Process walkthrough
 - Linking and SSO 235
 - Order Echo 240, 242
 - outbound patient demographic integration 267
 - patient demographic integration 266
 - Universal Lab Orders and Results 5
 - User Summary Services 239
- Production environment
 - Care360 Labs & Meds 405
 - Hub, Patient Demographic Services 296
 - Hub, Physician Query Services 189
 - Hub, Retrieve Order Services 102
 - Hub, Submit Clinical Content Services 196
- Provider account, definition 427
- Provider, definition 427
- PSC Hold Order, MSH segment 66
- PV1
 - field requirements (order) 70–73, 117–120
 - field requirements (patient demographic ADT A28) 315–317
 - field requirements (patient demographic ADT A29) 334–337
 - field requirements (patient demographic ADT A31) 349–351
 - field requirements (patient demographic ADT SIU) 385–388
 - field requirements (transcribed document) 210–213
- segment requirements (order) 58
- segment requirements (transcribed document) 200
- R**
- Race, patient demographic element
 - ADT A28 309
 - ADT A31 343
- Real-time mode, patient demographic integration 262
- Reference Ranges dataset, Master Files 47
- Reject Hemolysis dataset, Master Files 38
- Reject Lipemia dataset, Master Files 38
- Reject Thaw Other dataset, Master Files 39
- Related documentation xviii
- Request ID, definition 428
- Required, definition 299
- Requirements, link formatting 229
- Result message segment requirements
 - MSH fields 112–114
 - NTE fields 131
 - OBR fields 122–127
 - OBX fields 127–131
 - ORC fields 120–122
- Results
 - Care360 HL7 specification 106
 - message segment requirements 107
 - retrieving result files 135
- Results HL7 v2.5.1, message segment requirements 141
- Retrieve
 - Master Files 53
 - results 135
- Retrieve Order Services
 - access the WSDL 102
 - API 99–101
 - methods 99
 - objects 101
 - overview 98
- RGS field requirements (patient demographic) 390
- routeDocuments method, description 399
- S**
- SAML
 - definition 428
 - implementing for SSO 276–278
 - Oasis specification 274
- SAML Browser/Artifact, definition 428
- SAML Browser/POST, definition 428

- Sample
 CCR messages 256–261
 ELINCS messages 160–161
 EMR application 403
 Master Files 50–52
 MDM messages 224
 ORM messages 94
 ORU messages 132–134, 183
 patient demographic messages 395–396
 result (XML) messages 136
 SSO and Web services code 406
 SCH field requirements (patient demographic) 377–382
 Schedule patient, sample patient demographic message 396
 Schema, result XML 135
 Service Scope, definition 428
 Setup Days dataset, Master Files 47
 Setup Times dataset, Master Files 48
 SFT
 field requirements (transcribed document) 207
 segment requirements (transcribed document) 200
 Single Sign-On (*see* SSO)
 SOAP, definition 428
 Software segment (*see* SFT)
 Source code, EMR Sample application 404
 Specimen Stability dataset, Master Files 39
 SPM, field requirements (result ELINCS) 157–159
 SSO
 definition 428
 establishing organizational trust 275
 implementing 274
 implementing SAML 276–278
 initializing connection 235
 overview 228–237
 process walkthrough 235
 Staging environment
 Care360 Labs & Meds 405
 Patient Demographic Services 296
 Physician Query Services 189
 Retrieve Order Services 102
 Submit Clinical Content Services 196
 Submit Clinical Content Services
 access the WSDL 196
 API 193–195
 methods 193
 objects 194–195
 overview 192
 submitBatchADTMessage method,
 description 294
 submitClinicalContent method, description 193
 submitRealTimeADTMessage method,
 description 293
 Subscriber, definition 429
 Support, contact 403
- T**
- Technology Provider, definition 429
 Temperatures dataset, Master Files 44
 Test EMR application 404
 Test In Question (TIQ), definition 429
 Test Not Performed (TNP), definition 429
 Textual Results
 Care360 HL7 specification 164
- Textual Results, *continued*
 definition 429
 message segment requirements 165–170
 Textual Results message segment requirements
 MSH fields 171–173
 MSH segment 165
 NTE fields 182
 NTE segment 166
 OBR fields 175–180
 OBR segment 166
 OBX fields 180–181
 OBX segment 166
 PID fields 173–175
 PID segment 165
 Third-Party Payment, definition 429
 Time Scope, definition 429
 Timing/Quantity segment (*see* TQ1 or TQ2)
 TQ1
 field requirements (transcribed document) 215
 segment requirements (transcribed document) 200
 TQ2
 field requirements (transcribed document) 216
 segment requirements (transcribed document) 200
 Transcribed Document
 definition 429
 Transcribed Document HL7 specification 198–224
 Transcribed document message segment requirements
 EVN fields 208
 EVN segment 200
 MSH fields 205–207
 MSH segment 200
 NTE fields 223
 NTE segment 201
 OBR fields 217–219
 OBR segment 200
 OBX fields 221–223
 OBX segment 201
 ORC fields 213–214
 ORC segment 200
 PID fields 208–210
 PID segment 200
 PV1 fields 210–213
 PV1 segment 200
 SFT fields 207
 SFT segment 200
 TQ1 fields 215
 TQ1 segment 200
 TQ2 fields 216
 TQ2 segment 200
 TXA fields 220–221
 TXA segment 200
 Transcription Message (*see* Transcribed Document HL7 specification)
 Transcription segment (*see* TXA)
 Transport Temperature dataset, Master Files 40
 Trust, organizational 275
 Turnaround Times dataset, Master Files 48
 TXA, field requirements (transcribed document) 220–221
 TXA, segment requirements (transcribed document) 200

U

- UDDI (Universal Description, Discovery, and Integration), definition [429](#)
- UI customization (*see* Care360 Labs & Meds UI customization)
- Universal Lab Orders [xii](#)
- Universal Lab Orders and Results
 - overview [4](#)
 - process walkthrough [5](#)
- Universal Lab Results [xii](#)
- Update patient, sample patient demographic message [395](#)
- User Interface Customization (*see* Care360 Labs & Meds UI Customization)
- User Summary Services
 - access the WSDL [405](#)
 - API [287–290](#)
 - availability with Care360 Labs & Meds [228](#)
 - definition [xii](#)
 - methods [287](#)
 - objects [288–290](#)
 - overview [238, 286](#)
 - process walkthrough [239](#)
- User, definition [429](#)

V

- Vendor, definition [430](#)

W

- Walkthrough, process (*see* Process walkthrough)
- Worklist Components dataset, Master Files [43](#)
- WSDL (Web Services Description Language)
 - definition [430](#)
 - patient demographic connectivity [262](#)
 - Patient Demographic Services WSDL documents [296](#)
 - Physician Query Services WSDL documents [189](#)
 - Retrieve Order Services WSDL documents [102](#)
 - Submit Clinical Content Services WSDL documents [196](#)
 - User Summary Services WSDL documents [405](#)
- WSOrg object, description [290](#)
- WSOrgData object, description [289](#)
- WSUserSummaryCounts object, description [289](#)
- WSUserSummaryData object, description [288](#)

X

- XML
 - definition [430](#)
 - sample result messages [136](#)
- XML Parser, definition [430](#)
- XML Schema, results [135](#)

We'd Like to Hear From You

.....

After you have had a chance to use the Manuals and/or Help for this product, please take a moment to give us your comments. Respond to the questions below, and return this form (or send comments via e-mail) to MedPlus at your convenience. Thank you!

- What product are you using? (Please provide version number)

- What documentation do you refer to most often?

Manuals Help

- What chapters or topics do you refer to most often?

- How often do you expect to refer to the Manuals?

Often Occasionally Never

The Reference Guide?

Often Occasionally Never

The Help?

Often Occasionally Never

- How is the level of detail in the Manuals?

Too little Just right Too much

In the Reference Guide?

Too little Just right Too much

In the Help?

Too little Just right Too much

- Does the documentation adequately explain how to get started using the product?

Yes No

If not, what information is missing?

- How do you normally search for information in the Manuals and/or Help?
 Scan Table of Contents Index
- Was there an index entry you looked for in the Manuals or Help but couldn't find?
 Yes No
If so, what was it? _____
- Did you find any errors in the Manuals, Reference Guide, or Help?
 Yes No
If so, please list the page number or topic, and describe the error:

- Any other comments about the documentation?

Please tell us about yourself (optional)

Name: _____

Title/position: _____

Company name: _____

Address: _____

Country: _____

Phone: _____

E-mail: _____

May we contact you for additional feedback?

Yes No

Send your comments to MedPlus

Please send your comments in any of the following ways:

By Mail:

MedPlus, Inc.
Attn: Technical Communications Manager
4690 Parkway Drive
Mason, OH 45040 USA

By Fax:

(800) 381-4048

By E-mail:

Doc@MedPlus.com



Quest Diagnostics
3 Giralta Farms
Madison, NJ 07940

www.QuestDiagnostics.com