Dynamic Documentation

# End User Terminology

Dynamic Documentation

Section

- **Designated area of a note. The reference template is comprised of one or more sections.**

Subsection

- **Section nested within another section.**
  - A section can contain 0 to many subsections
  - A subsection cannot contain sections or subsections

Vitals & Measurements
is a subsection in the
Objective section

→

Objective ⟳ ⏎ ✕

Vitals & Measurements
T: 36.5 °C (Oral) RR: 16 BP: 120/80

Lab Results

Diagnostic Results

Section Display
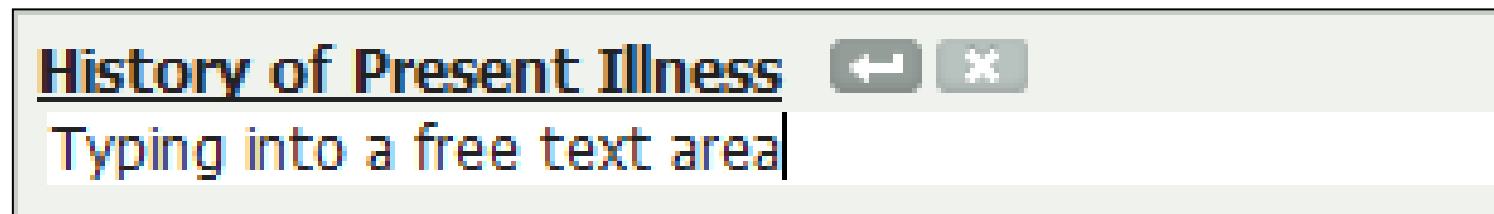
- ## **Title of a section.**
  - Serves as a target for section or subsection level floating buttons

Refresh

Insert free text area

Section display

Exclude from note

Chief Complaint
Shortness of breath
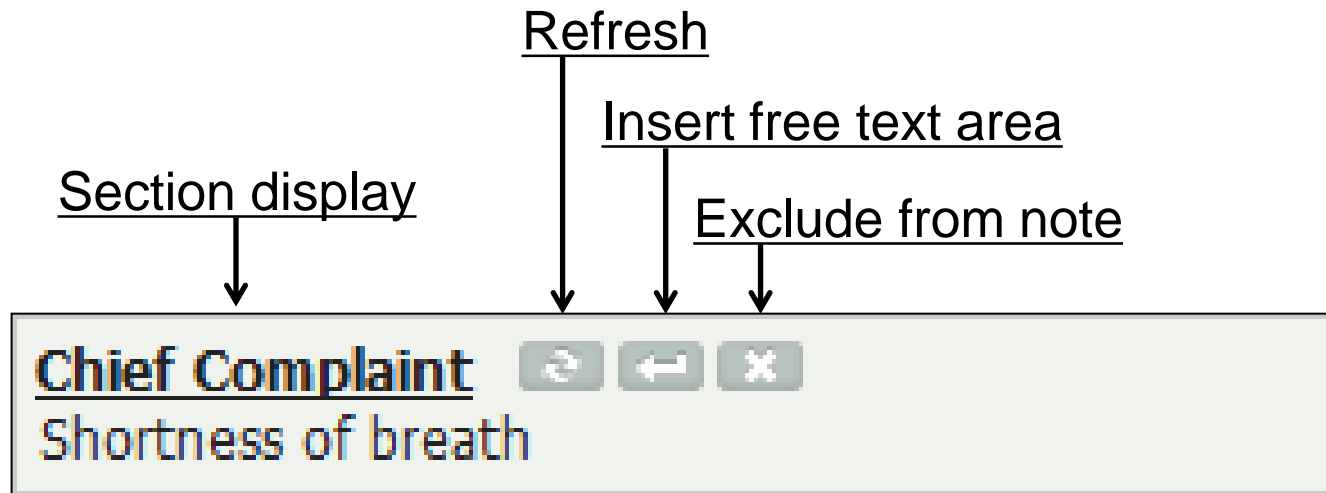
Free Text Area

- **Area within the note a user can input text.**
  - Can reside anywhere within a section or subsection

EMR Content Placeholder

- ## Area within the note where chart data is automatically displayed.

  - ### Can reside anywhere within a section or subsection

EMR Content
retrieved using a
filter and format →

Problem List/Past Medical History
Chronic
    Asthma
    Pneumonia
Historical
    No historical problems

Cerner

Smart Template Placeholder

- **Area within the note where result of running a Smart Template is automatically displayed**
  - Can reside anywhere within a section or subsection

Text built by a smart template

Lab Results

No qualifying data available

Preferences

Pref Maint

End User

- **List Tab>View>Customize**

Reference Template Terminology

Content

- **Reference data to serve these purposes:**
  - Basis for creating a new note
  - Filters data pulled in from the chart
  - Formats data pulled in from the chart

- **Content is made up of filters, formats, reference templates, and manifests**

Content
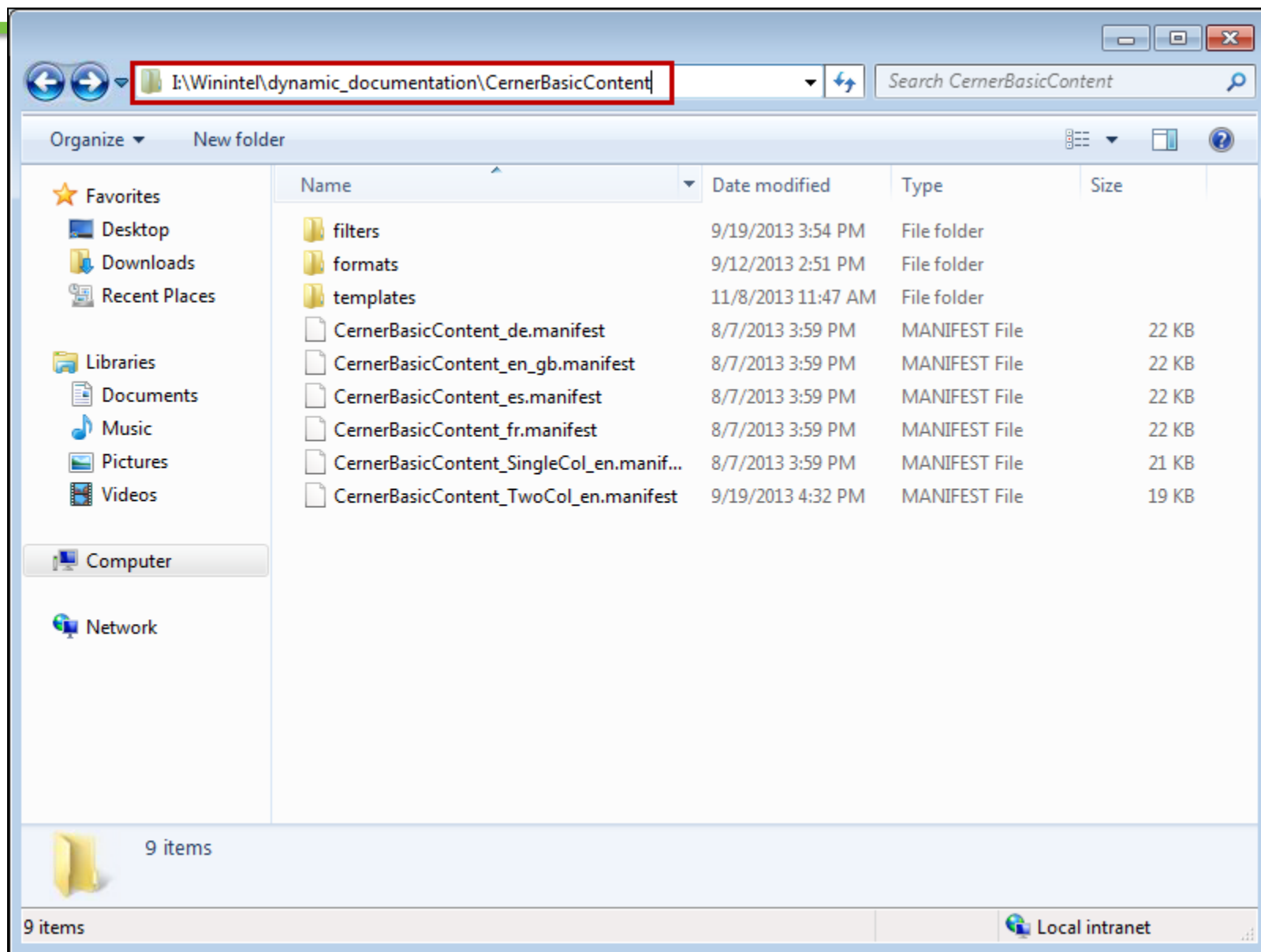
Manifest

- **An xml file that identifies which filters, formats, EMR Content associations, and reference templates shall be imported.**
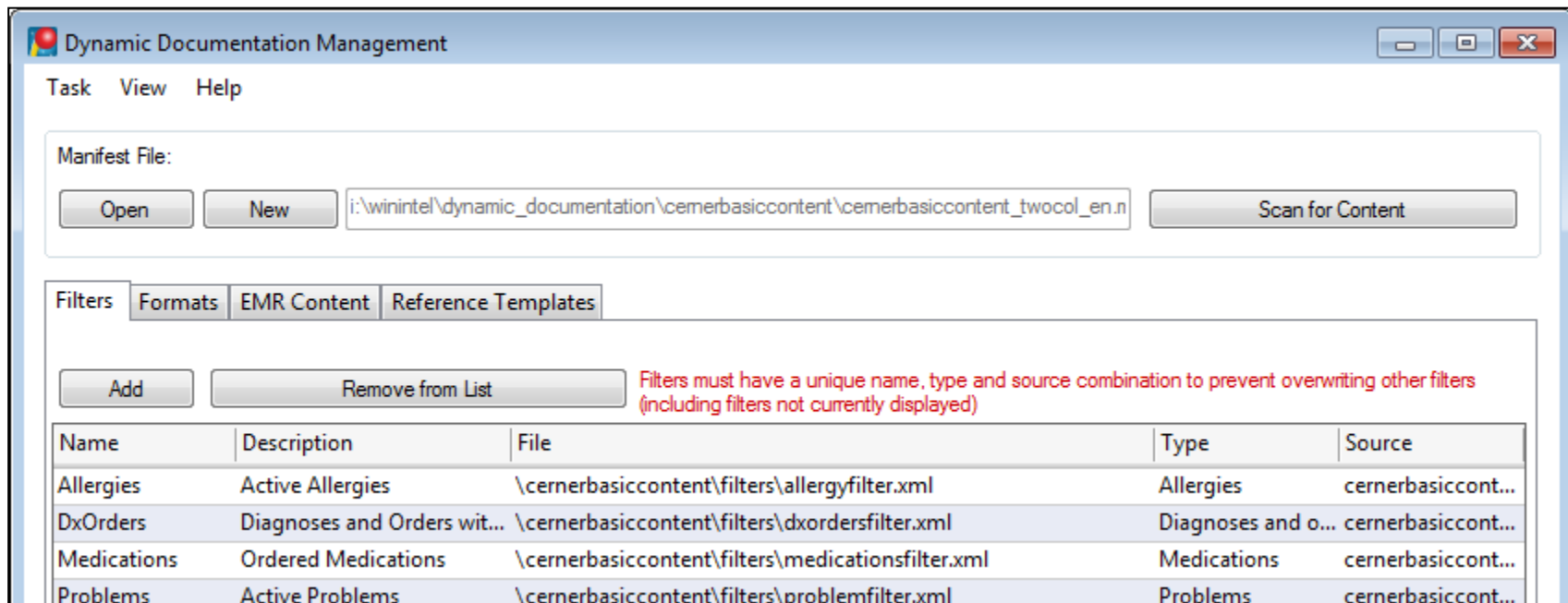
CernerBasicContent_de.manifest	8/7/2013 3:59 PM	MANIFEST File
CernerBasicContent_en_gb.manifest	8/7/2013 3:59 PM	MANIFEST File
CernerBasicContent_es.manifest	8/7/2013 3:59 PM	MANIFEST File
CernerBasicContent_fr.manifest	8/7/2013 3:59 PM	MANIFEST File
CernerBasicContent_SingleCol_en.manifest	8/7/2013 3:59 PM	MANIFEST File
CernerBasicContent_TwoCol_en.manifest	9/19/2013 4:32 PM	MANIFEST File

Cerner

Filter

- **An XML file that limits the amount of data pulled into the note.**

Format

- **An XSLT file that converts XML into XHTML displayed in the note.**

EMR Content

- **An association between a filter, a format, and a globally unique id.**

Reference Template

- **An XHTML file used to start a new note.**
  - Lays out sections
  - Defines section displays
  - Hover behavior
    - *Able to insert free text*
    - *Able to remove element*
    - *Location of buttons on hover*
  - Face-up free text areas
  - EMR content placeholders
  - Standard/smart template placeholders

Reference Template

Reference Template

Import Process

Import Process – Install Content Package

- Code Warehouse/Winintel/dynamic_documentation/Cerner BasicContent

Manifests

Name
filters
formats
templates
CernerBasicContent_de.manifest
CernerBasicContent_en_gb.manifest
CernerBasicContent_es.manifest
CernerBasicContent_fr.manifest
CernerBasicContent_SingleCol_en.manifest
CernerBasicContent_TwoCol_en.manifest

Filters

Name
AllergyFilter
chiefcomplaintfilter
DxOrdersFilter
FamilyHistory
HPIFilter
IPFilter
MedicationsFilter
PEFilter
ProblemFilter
ProceduresFilter

Reference Templates

Name
AdmissionHP_en
AdmissionHP_SingleCol_en
ConsultNote_en
ConsultNote_SingleCol_en
DischargeNote_en
DL12 AdmissionHP_en
EDNote_en
EDNote_SingleCol_en
FreeTextNote_en
ICU Progress Note_en

Formats

Name
Allergy_en.xslt
ChiefComplaint_en.xslt
DxCodes_en.xslt
DxOrder_en.xslt
FamilyHistory_en.xslt
Meds_en.xslt

Import Process

- **Open Dyn Doc Management**
- **Open Manifest**
- **Choose correct content**
  - Choose correct language (_en for English)
  - Single column or two column
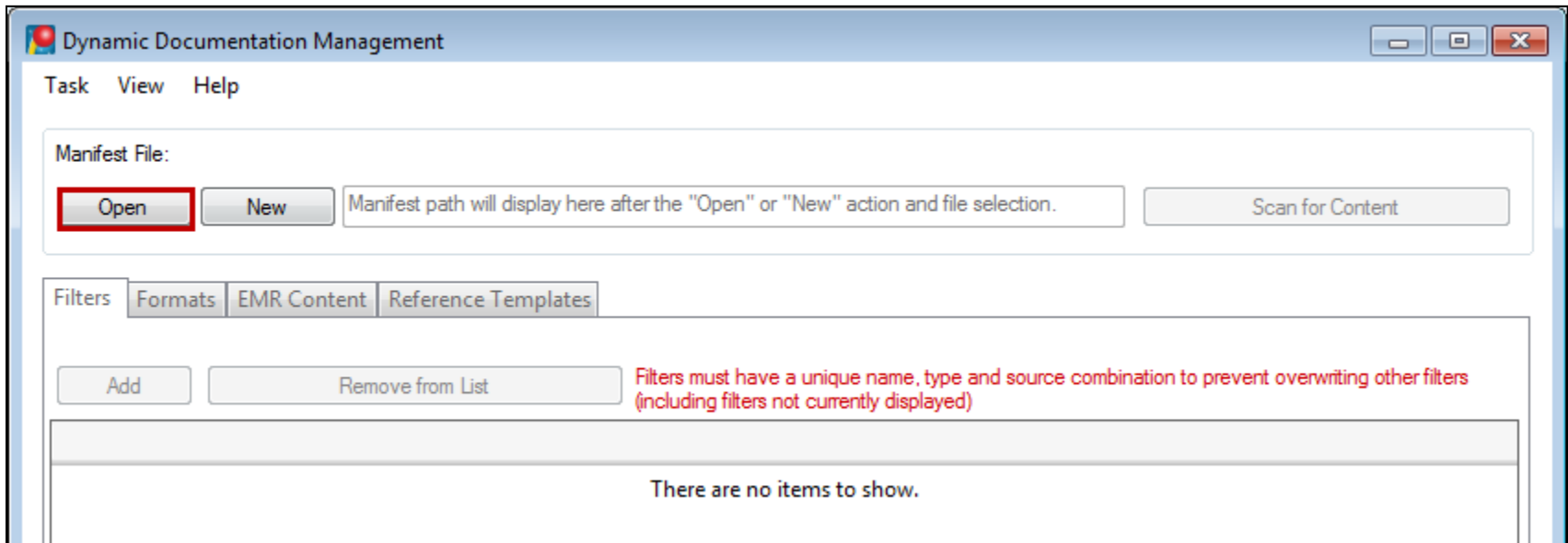
Import Process

- **Opening the Manifest populates the Filters, Formats, EMR Content and Reference Templates tabs**
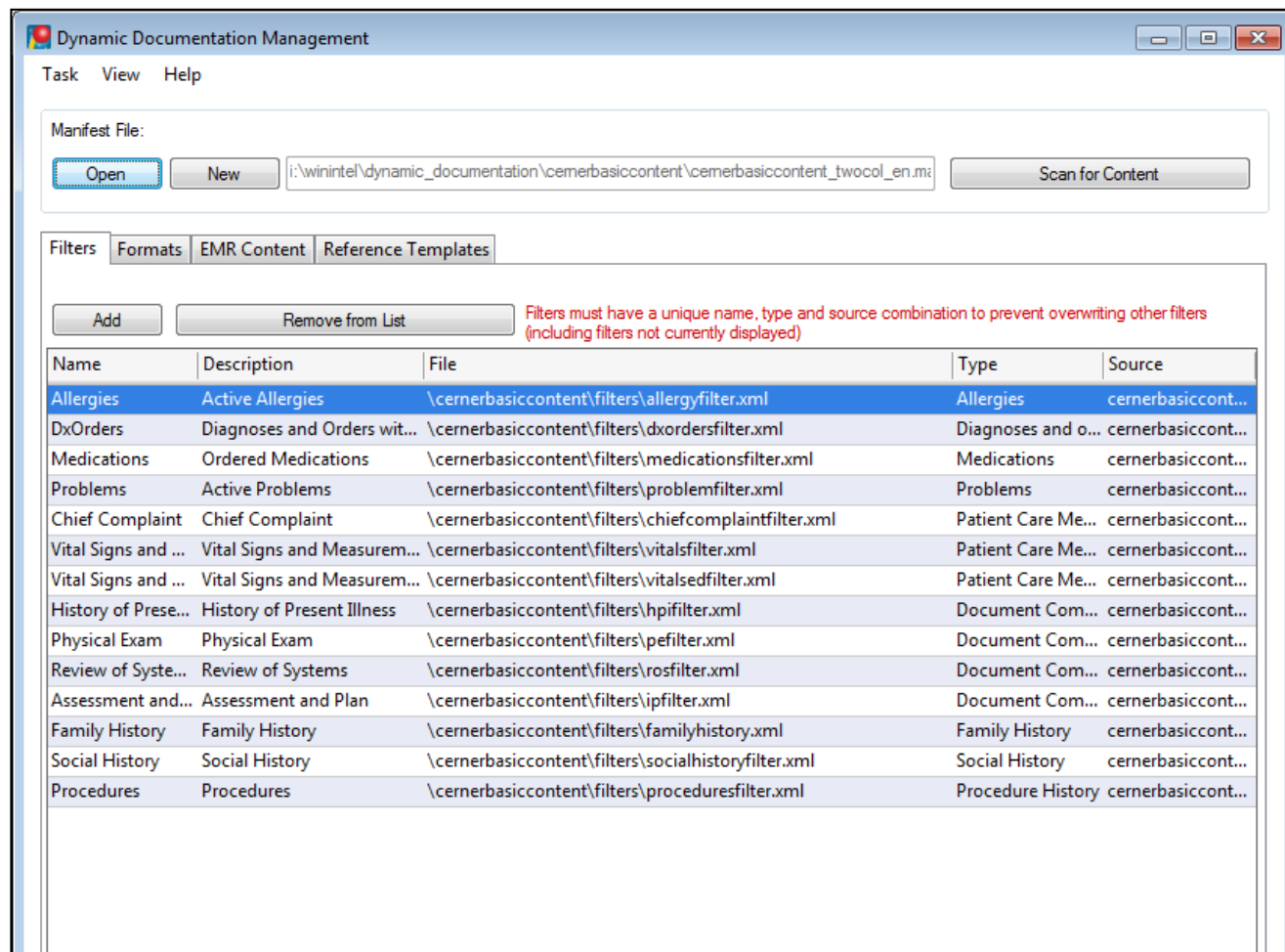
Import Process – Copy Manifest

- **If making Customizations, recommended to Copy Manifest to avoid content being deleted by future content installs**

- **Dyndocmgmt.exe>Task>Copy Manifest**

- **Choose a different location**

- **Need at least 2012.01.14 code level**
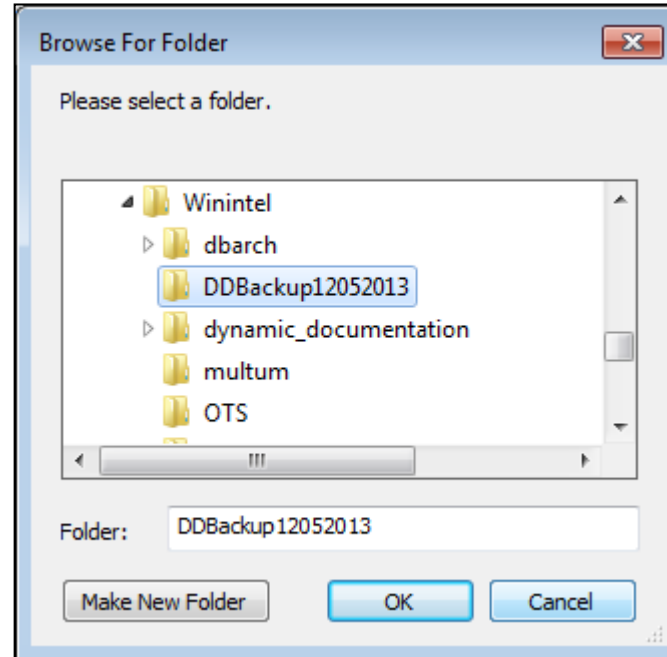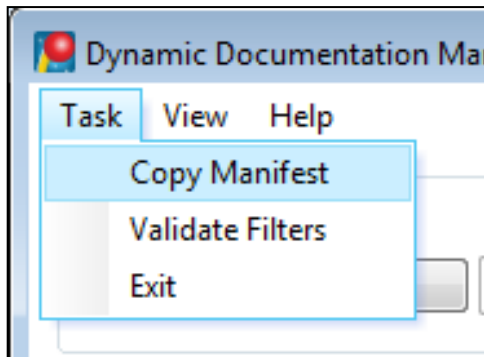
Import Process – Validate Filters

- **Concept CKIs are used by the system to query for EMR content. These must be mapped in the event set hierarchy, if a concept CKI used in a filter is not mapped, the system will detect it and display a failure to retrieve content error.**
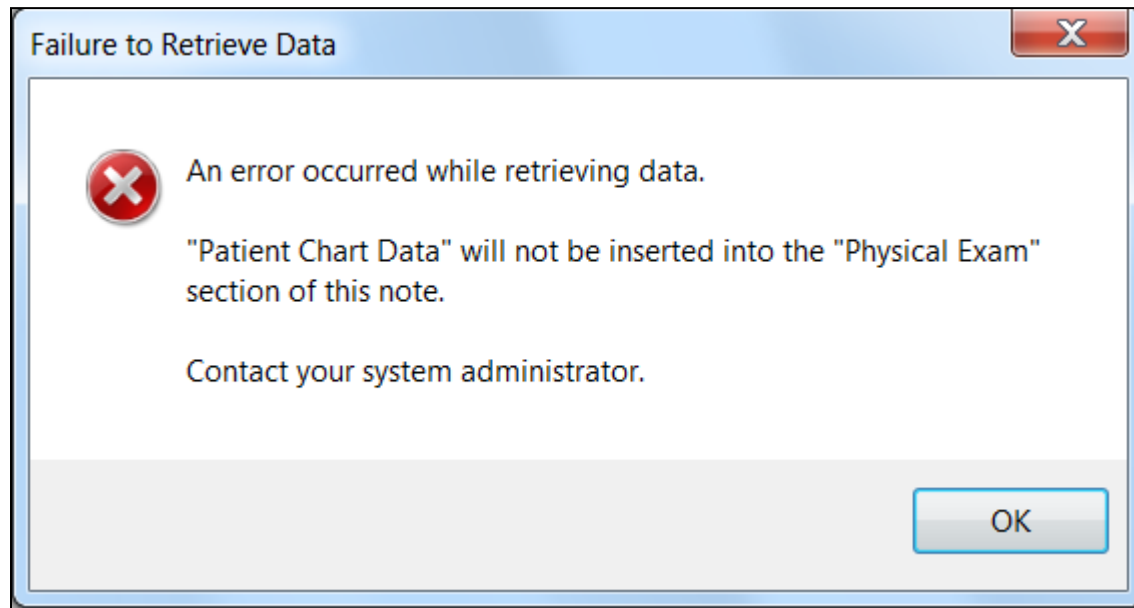
Import Process – Validate Filters

- **DynDocMgmt.exe can be used to identify unmapped concept CKIs by navigating to Task > Validate Filters.**
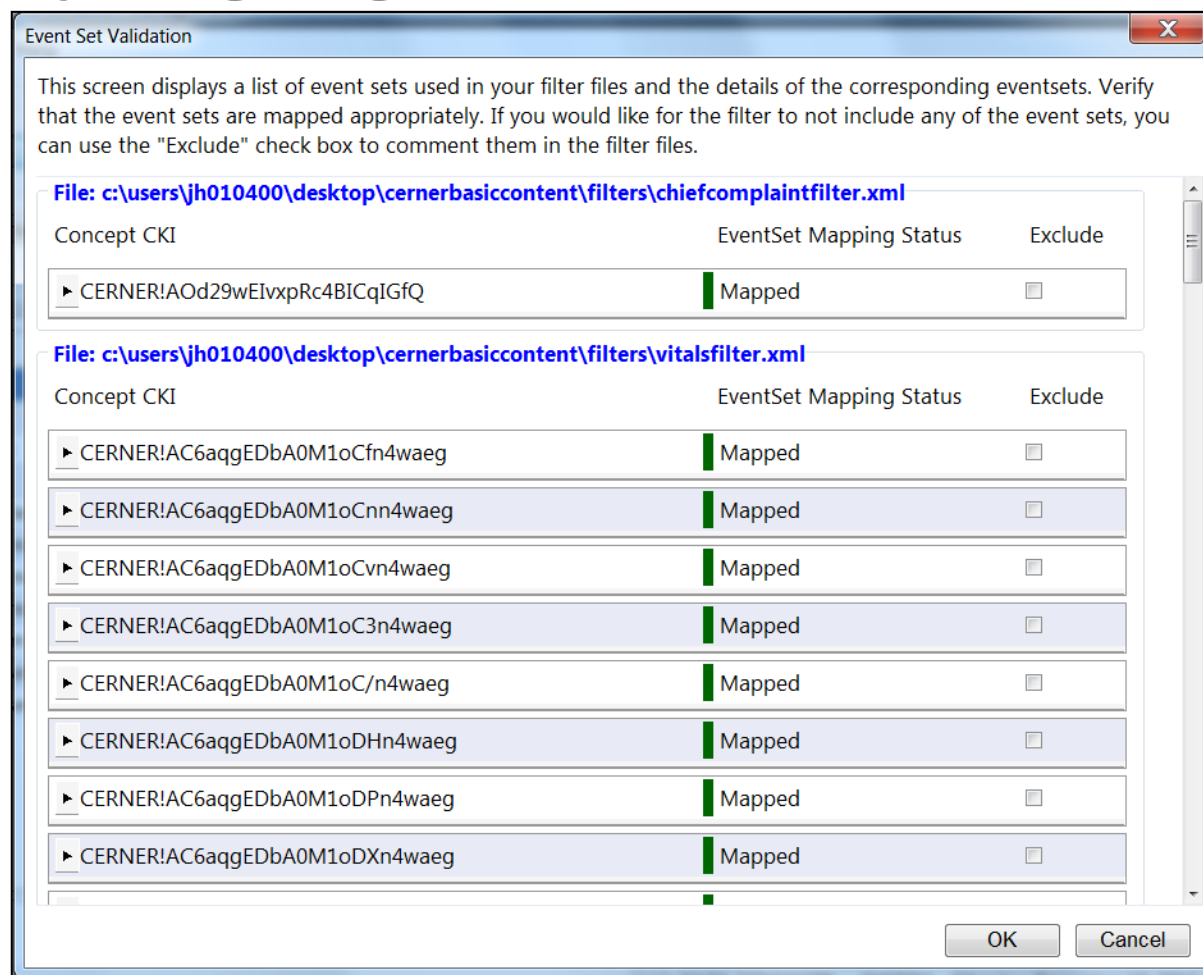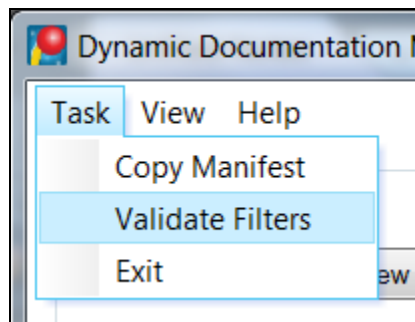
Import Process – Validate Filters

- **If an unmapped concept CKI is identified there are two options:**
  - Check the exclude checkbox and click OK, the system will no longer query for that concept CKI.
  - Map the concept

Import Process – Mapping Concepts

- **ConceptMap.exe**
  - Open the bin file
  - Find the concept cki to map on the left
  - Pick a primitive event set on the right
  - Click Map
- **Cycle servers 200 and 389**
- **Close and reopen Validate Filters Dialog**
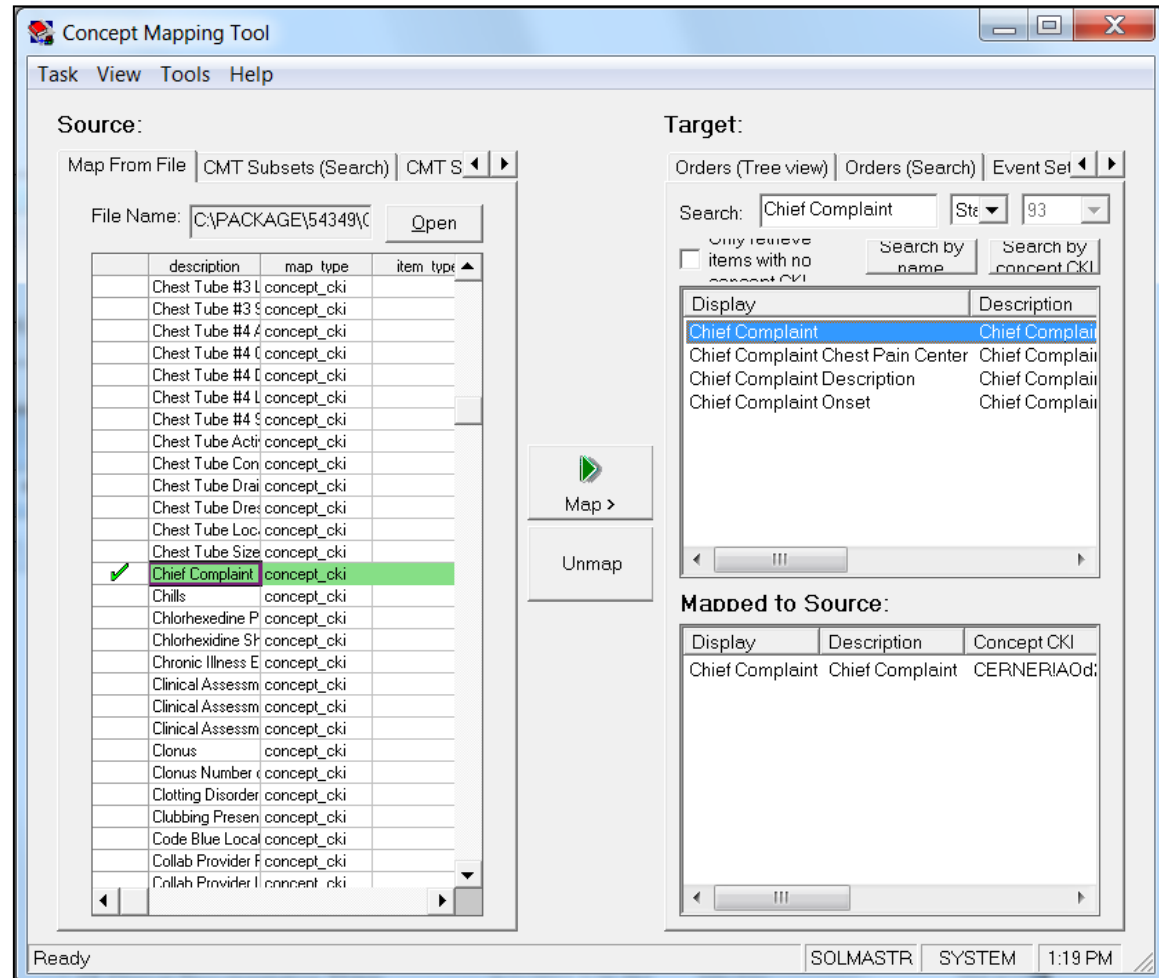
Import Process

- **Click Import**

- **If no errors, content immediately available in PowerChart**

- **If content was previously imported, these items will be overwritten:**
  - Reference templates with the same name and source
  - EMR Content with the same reference UUID.
  - Formats with the same filename and source.
  - Filters with the same type, title, and source.

Import Process – Common Errors

■ **Common Import Errors**

- The content refers to a smart template CKI that does not exist in codeset 16529

- An EMR content entry refers to a filter or format either not present in the manifest or not present in the system

- A reference template uses an EMR content placeholder either not present in the manifest or not present in the system

- Syntax error in a filter or format

- Server 389 is not running

Failure to Import

An error occurred while importing data.

Contact your system administrator.

Failure log located at c:\program files\cerner\temp\req969506.txt

OK

Cerner
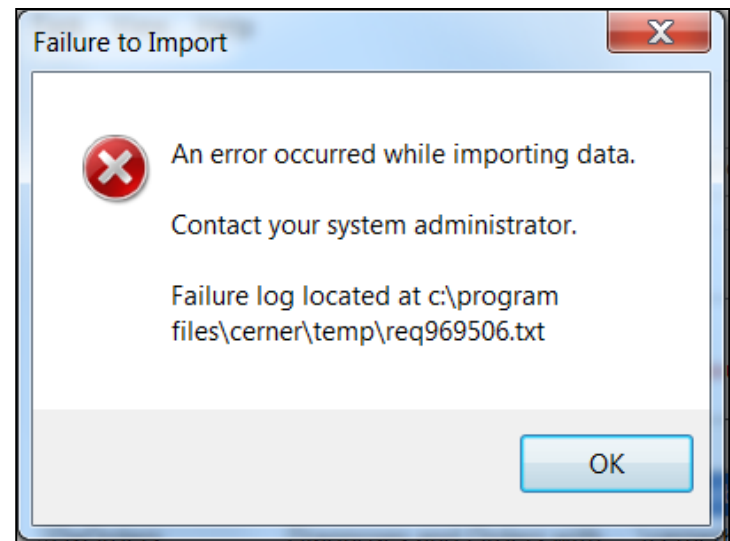
Import Process – Common Errors

- If no content is imported, users see error in Powerchart.
- Just installing content is not enough, need to import
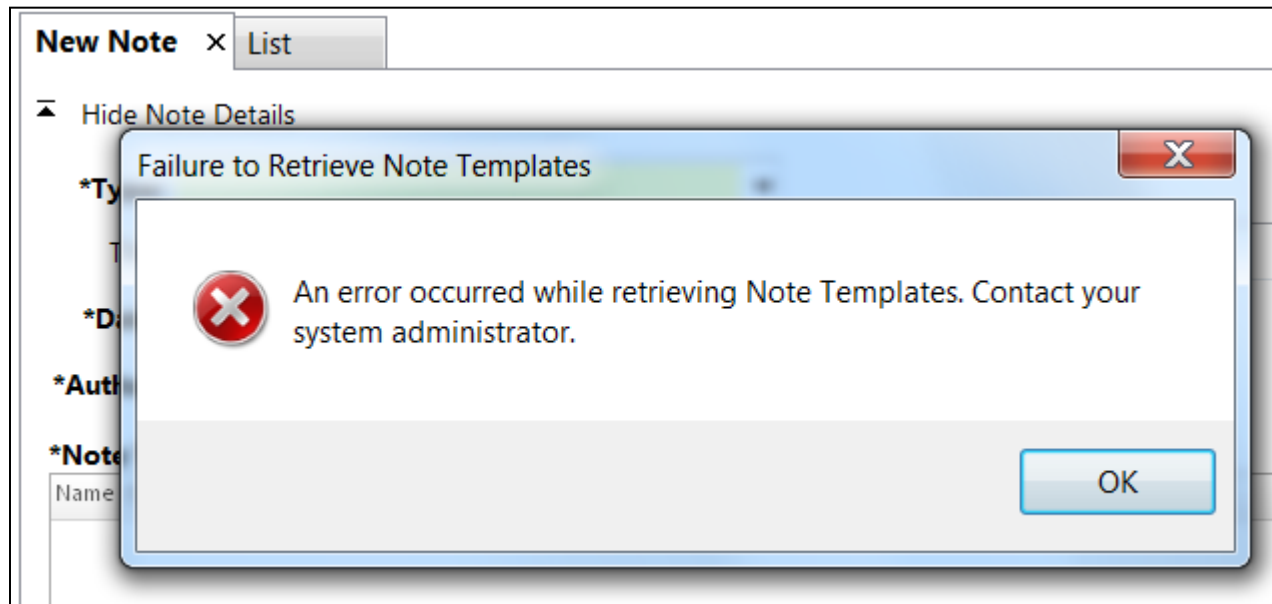
Make up of a Reference Template

Make up of a Reference Template

■ **Overview of the XHTML in a reference template**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html SYSTEM "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xmlns:dd="DynamicDocumentation">
<head><title></title></head>
<body>
<div style="font-family:tahoma,arial; font-size:12px;">
```

```xml
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!10157-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Family History</span></span>
    <div class="ddemrcontent" dd:contenttype="FAMILYHX" dd:referenceuuid="1F1618D1-D181-4E00-9B64-51F4895E7626"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!11369-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Immunizations</span></span>
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!30954-2">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Lab Results</span></span>
    <div class="blocksmarttemplate ddremovable" dd:btnfloatingstyle="float-right" dd:template_cki="CKI.CODEVALUE!19880257"> </div>
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>
```

Make up of a Reference Template

- Encoding – if not specified defaults to UTF-8, used by i18n clients

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html SYSTEM "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xmlns:dd="DynamicDocumentation">
<head><title></title></head>
<body>
<div style="font-family:calibri,tahoma,arial; font-size:14px;">
```

Cerner

Makeup of a Reference Template

- **DOCTYPE – must be some form of XHTML**

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html SYSTEM "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xmlns:dd="DynamicDocumentation">
<head><title></title></head>
<body>
<div style="font-family:calibri,tahoma,arial; font-size:14px;">
```

Makeup of a Reference Template

- **HTML – must include "DynamicDocumentation" namespace**

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html SYSTEM "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xmlns:dd="DynamicDocumentation">
<head><title></title></head>
<body>
<div style="font-family:calibri,tahoma,arial; font-size:14px;">
```

Cerner

Makeup of a Reference Template

- **HEAD, TITLE – required to be valid XHTML, not displayed in Millennium.**

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html SYSTEM "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xmlns:dd="DynamicDocumentation">
<head><title></title></head>
<body>
<div style="font-family:calibri,tahoma,arial; font-size:14px;">
```

Cerner

Makeup of a Reference Template

- **A section comprised of a section display and an emr content placeholder**

```
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!10157-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Family History</span></span>
    <div class="ddemrcontent" dd:contenttype="FAMILYHX" dd:referenceuuid="1F1618D1-D181-4E00-9B64-51F4895E7626"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!11369-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Immunizations</span></span>
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!30954-2">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Lab Results</span></span>
    <div class="blocksmarttemplate ddremovable" dd:btnfloatingstyle="float-right" dd:template_cki="CKI.CODEVALUE!19880257">
        <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>
```

Makeup of a Reference Template

- **A section comprised of a section display and a face-up free text area.**

```
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!10157-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Family History</span></span>
    <div class="ddemrcontent" dd:contenttype="FAMILYHX" dd:referenceuuid="1F1618D1-D181-4E00-9B64-51F4895E7626"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!11369-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Immunizations</span></span>
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!30954-2">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Lab Results</span></span>
    <div class="blocksmarttemplate ddremovable" dd:btnfloatingstyle="float-right" dd:template_cki="CKI.CODEVALUE!19880257"> 
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>
```

Makeup of a Reference Template

- **A section comprised of a section display, smart template placeholder, and a face-up free text area.**

```html
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!10157-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Family History</span></span>
    <div class="ddemrcontent" dd:contenttype="FAMILYHX" dd:referenceuuid="1F1618D1-D181-4E00-9B64-51F4895E7626"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!11369-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Immunizations</span></span>
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!30954-2">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Lab Results</span></span>
    <div class="blocksmarttemplate ddremovable" dd:btnfloatingstyle="float-right" dd:template_cki="CKI.CODEVALUE!19880257"> </div>
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>
```

Makeup of a Reference Template

- **Class attributes denote sections and hover behavior of the sections.**

```html
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!10157-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Family History</span></span>
    <div class="ddemrcontent" dd:contenttype="FAMILYHX" dd:referenceuuid="1F1618D1-D181-4E00-9B64-51F4895E7626"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!11369-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Immunizations</span></span>
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!30954-2">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Lab Results</span></span>
    <div class="blocksmarttemplate ddremovable" dd:btnfloatingstyle="float-right" dd:template_cki="CKI.CODEVALUE!19880257"
        <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>
```

Chief Complaint
Shortness of breath

Makeup of a Reference Template

- **Style attributes are optional but make the note nicer to look at.**

```
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!10157-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Family History</span></spa
    <div class="ddemrcontent" dd:contenttype="FAMILYHX" dd:referenceuuid="1F1618D1-D181-4E00-9B64-51F4895E7626"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!11369-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Immunizations</span></spar
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!30954-2">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Lab Results</span></span>
    <div class="blocksmarttemplate ddremovable" dd:btnfloatingstyle="float-right" dd:template_cki="CKI.CODEVALUE!19880
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>
```

Cerner

Makeup of a Reference Template

- **The ddsectiondisplay class attribute identifies section displays. For best results the section display should be a span.**

```
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!10157-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Family History</span></spa
    <div class="ddemrcontent" dd:contenttype="FAMILYHX" dd:referenceuuid="1F1618D1-D181-4E00-9B64-51F4895E7626"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!11369-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Immunizations</span></spar
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!30954-2">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Lab Results</span></span>
    <div class="blocksmarttemplate ddremovable" dd:btnfloatingstyle="float-right" dd:template_cki="CKI.CODEVALUE!198802
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>
```

Makeup of a Reference Template

- **The class attribute of ddfreetext identifies face-up free text areas.**

```
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!10157-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Family History</span></spa
    <div class="ddemrcontent" dd:contenttype="FAMILYHX" dd:referenceuuid="1F1618D1-D181-4E00-9B64-51F4895E7626"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!11369-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Immunizations</span></spa
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!30954-2">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Lab Results</span></span>
    <div class="blocksmarttemplate ddremovable" dd:btnfloatingstyle="float-right" dd:template_cki="CKI.CODEVALUE!198802
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>
```

Immunizations

Cerner

Makeup of a Reference Template

- **The dd:btnfloatingstyle attribute defines where the Remove button displays in the Dynamic Documentation editor.**

```
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!10157-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Family History</span></spa
    <div class="ddemrcontent" dd:contenttype="FAMILYHX" dd:referenceuuid="1F1618D1-D181-4E00-9B64-51F4895E7626"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!11369-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Immunizations</span></span
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>

<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!30954-2">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Lab Results</span></span>
    <div class="blocksmarttemplate ddremovable" dd:btnfloatingstyle="float-right" dd:template_cki="CKI.CODEVALUE!198802
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>
```

Immunizations

Makeup of a Reference Template

- The class attribute of ddemrcontent identifies an emr content placeholder.

- The dd:contenttype attributes refers to a cdf_meaning in codeset 32000.

```
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectio
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Fam
    <div class="ddemrcontent" dd:contenttype="FAMILYHX" dd:referenceuuid="1F1618D1-D181-4E00-9B6
</div>
```

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Makeup of a Reference Template

- **The dd:referenceuuid ties to a globally unique identifier associated with a filter and format. This identifier is created in DynDocMgmt.exe, then copy/pasted here.**

```
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!10157-6">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Family History</span></spa
    <div class="ddemrcontent" dd:contenttype="FAMILYHX" dd:referenceuuid="1F1618D1-D181-4E00-9B64-51F4895E7626"></div>
</div>
```

Makeup of a Reference Template

- **The class attribute of blocksmarttemplate identifies a smart template placeholder.**

```
<div class="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!30954-2">
    <span class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Lab Results</span></span>
    <div class="blocksmarttemplate ddremovable" dd:btnfloatingstyle="float-right" dd:template_cki="CKI.CODEVALUE!198802!
    <div class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
</div>
```

Makeup of a Reference Template

- **The dd:template_cki attribute identifies the CKI of the smart template defined in codeset 16529.**

```
="ddsection ddrefreshable ddinsertfreetext ddremovable" style="padding:4px;" dd:sectioncode="LOINC!30954-2">
class="ddsectiondisplay"><span style="font-weight:bold;text-decoration:underline;">Lab Results</span></span>
class="blocksmarttemplate ddremovable" dd:btnfloatingstyle="float-right" dd:template_cki="CKI.CODEVALUE!19880257"> <
class="ddfreetext ddremovable" dd:btnfloatingstyle="top-right"></div>
```

Cerner

Document Control

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- **Version: 2**