**VistA Immunization Enhancements Increment 4.0**

**VIMM Patch PX\*1.0\*216**

**Installation Guide**



**October 2016**

**Version 1.1**

**Revision History**

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| Date | Version | Description | Author |
| 10/31/2016 | 1.1 | Updated cover page with the appropriate version number | Seema Chaudhry |
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# Description of Program

The Veterans Health Information Systems and Technology Architecture (VistA) Immunizations Enhancements (VIMM) 2.0 project modifies existing Immunization and Skin Test files and adds additional files to enable VA to quickly and reliably document and exchange standardized skin test and immunization information on beneficiaries across services and departments.

Additionally, modifications support VistA Evolution requirements.

This provides a Veteran patient-centric immunization record exchangeable with the external community. Clinicians will have access to a more complete medical history in the VistA electronic medical record resulting in improved health status as well as public health monitoring.

# Goal of VIMM 2.0

The Veterans Health Information Systems and Technology Architecture (VistA) Immunizations Enhancements (VIMM) 2.0 project, Increment 4, builds upon the file structures and standardized data introduced in Increments 1, 2, and 3 by adding functional enhancements to the existing VistA Patient Care Encounter (PCE) package.

# New Features in Patch PX\*1.0\*216

This patch provides the following new features:

1. Introduces a new file, V IMMUNIZATION DELETED (#9000080.11) that will contain entries that were deleted out of the V IMMUNIZATION file (#9000010.11). Immediately prior to deleting an entry from the V IMMUNIZATION file, a copy of the record will be made and filed to the V IMMUNIZATION DELETED file. The date/time of deletion and the user that deleted the record will be recorded.
2. Creates Remote Procedure Calls (RPCs) for use by the Enterprise Health Management Platform (eHMP) project, the Computerized Patient Record System (CPRS) software and others. These RPCs retrieve skin test information from the following files:

- V SKIN TEST (#9000010.12)

- SKIN TEST (#9999999.28)

- IMM ADMINISTRATION SITE (BODY) (#920.3)

1. Creates a RPC to retrieve immunization data from the V IMMUNIZATION (#9000010.11) file. This data will be used in the future to retrieve patient immunization data and transmit it, using the Health Level 7 (HL7) standard protocol, to external agencies (e.g., State Immunization Information Registries). As part of this effort, a new option will be introduced with this patch, Accounting of Immunization Disclosures Report [PXV IMM DISCLOSURE REPORT] that can be run from the PCE Coordinator Menu [PX PCE COORDINATOR MENU]. This option can be used to generate a list of immunization records transmitted to external agencies. This option allows for a date range selection as well as one, multiple or all agencies and one, multiple or all patients.
2. Previously, auditing has been turned on for all fields of the V IMMUNIZATION (#9000010.11) file. Additional safe guards are added to ensure auditing is not turned off, and that the data audits cannot be purged for the V IMMUNIZATION file.
3. The existing immunization inventory functionality is updated to include multi-divisional features:

- Inventory items may be linked to an associated facility

- Inventory reports are facility specific

1. The immunization entry process is updated to require the entry of Dose, Dose Units, Route of Administration and Site of Administration.

(Note: If route is ORAL, site is not required.)

1. The PX SAVE DATA remote procedure call (RPC) has been modified to provide support for the following fields in the V SKIN TEST file (#9000010.12):

- READER (#.07)

- ORDERING PROVIDER (#1202)

- ANATOMIC LOCATION OF PLACEMENT (#1212)

- READING COMMENTS (#1301)

1. The functionality for the Health Summary component PCE IMMUNIZATIONS (IM) is modified to ignore time and occurrence limits, restoring pre-patch PX\*1.0\*210 behavior.
2. Provides an alert whenever specific allergy-type contraindications are recorded as a reason for not giving an immunization in the V IMM CONTRA/REFUSAL EVENTS file (#9000010.707). The alert text reads: "You have recorded an allergy/adverse reaction contraindication reason. This information should also be recorded in the Adverse Reaction Tracking package if it is not already present there."

**APIs Associated:**

**API New/Modified/Deleted**

VSKIN^PXPXRM (ICR #4250) Modified

**Files & Fields Associated:**

**File Name (Number) Field Name (Number) New/Modified/Deleted**

IMM EXTERNAL AGENCY (#920.71)

AGENCY NAME (#.01) New

V IMMUNIZATION (#9000010.11)

IMMUNIZATION (#.01) Modified

EVENT DATE AND TIME

(#1201) Modified

DATE/TIME RECORDED

(#1205) Modified

TIMESTAMP (#1221) New

EVENT INFORMATION

SOURCE (#1301) Modified

DISCLOSED TO (multiple

(field #820, sub-file

#9000010.1182) New

AGENCY (#.01) of the

DISCLOSED TO sub-file

(#9000010.1182) New

DISCLOSURE DATE/TIME

(#.02) of the

DISCLOSED TO sub-file

(#9000010.1182) New

IMMUNIZATION LOT (#9999999.41)

LOT NUMBER (#.01) Modified

MANUFACTURER (#.02) Modified

VACCINE (#.04) Modified

ASSOCIATED VA FACILITY (#.1) New

V IMMUNIZATION DELETED (#9000080.11)

IMMUNIZATION (#.01) New

PATIENT NAME (#.02) New

VISIT (#.03) New

SERIES (#.04) New

LOT (#.05) New

REACTION (#.06) New

CONTRAINDICATED (#.07) New

DOSE OVERRIDE (#.08) New

INJECTION SITE (#.09) New

VOLUME (#.11) New

DATE OF VAC INFO STATEMENT New

(#.12)

CREATED BY V CPT ENTRY (#.13) New

VAC ELIGIBILITY (#.14) New

IMPORT FROM OUTSIDE REGISTRY

(#.15) New

NDC (#.16) New

ADMINISTRATIVE NOTES (#1) New

VIS OFFERED/GIVEN TO PATIENT

(multiple field #2, sub-file

#9000080.112) New

VIS OFFERED/GIVEN TO PATIENT

(#.01) of the VIS OFFERED/GIVEN

TO PATIENT sub-file

(#9000080.112) New

DATE VIS OFFERED/GIVEN (#.02) of

the VIS OFFERED/GIVEN TO

PATIENT sub-file (#9000080.112) New

OTHER DIAGNOSIS (multiple field #3,

sub-file #9000080.113) New

OTHER DIAGNOSIS (#.01) of

the OTHER DIAGNOSIS sub-file

(#9000080.113) New

REMARKS (#1101) New

EVENT DATE AND TIME (#1201) New

ORDERING PROVIDER (#1202) New

CLINIC (#1203) New

ENCOUNTER PROVIDER (#1204) New

DATE/TIME RECORDED (#1205) New

IMMUNIZATION DOCUMENTER New

(#1206)

LOT NUMBER (#1207) New

PARENT (#1208) New

EXTERNAL KEY (#1209) New

OUTSIDE PROVIDER NAME New

(#1210)

ANCILLARY POV (#1213) New

USER LAST UPDATE (#1214) New

ORDERING LOCATION (#1215) New

DATE/TIME ENTERED (#1216) New

ENTERED BY (#1217) New

DATE/TIME LAST MODIFIED (#1218) New

LAST MODIFIED BY (#1219) New

WARNING ACKNOWLEDGED (#1220) New

EVENT INFORMATION SOURCE New

(#1301)

ROUTE OF ADMINISTRATION (#1302) New

SITE OF ADMINISTRATION (BODY)

(#1303) New

PRIMARY DIAGNOSIS (#1304) New

DOSE (#1312) New

DOSAGE (#1312.5) New

DOSE UNITS (#1313) New

SNOMED CT (multiple field #2601,

sub-file #9000080.1126) New

SNOMED CT (#.01) of the SNOMED CT

sub-file (#9000080.1126) New

SNOMED PREFERRED TERM (#.019) of

the SNOMED CT sub-file

(#9000080.1126) New

LOINC CODES (multiple field #2701,

sub-file #9000080.1127) New

LOINC CODES (#.01) of the LOINC

CODES sub-file (#9000080.1127) New

LOINC TEXT (#.019) of the LOINC

CODES sub-file (#9000080.1127) New

RESULTS (#1401) New

READING (#1402) New

DATE/TIME READ (#1403) New

READER (#1404) New

READING RECORDED (#1405) New

HOURS READ POST-INOCULATION

(#1406) New

READING COMMENT (#1501) New

WARNING OVERRIDE REASON

(#1601) New

EDITED FLAG (#80101) New

AUDIT TRAIL (#80102) New

COMMENTS (#81101) New

VERIFIED (#81201) New

PACKAGE (#81202) New

DATA SOURCE (#81203) New

DISCLOSED TO (multiple

(field #820, sub-file

#9000080.1182) New

AGENCY (#.01) of the DISCLOSED TO

sub-file (#9000080.1182) New

DISCLOSURE DATE/TIME

(#.02) of the DISCLOSED TO

sub-file (#9000080.1182) New

DELETED BY (#88001) New

DATE/TIME DELETED (#88002) New

**Options Associated:**

**Option Name Type New/Modified/Deleted**

PXV IMM DISCLOSURE REPORT Run Routine New

**Parameters Associated:**

**Parameter Definition Name New/Modified/Deleted**

PXV SK DAYS BACK New

**RPCs Associated:**

**RPC New/Modified/Deleted**

PXVIMM ICR LIST Modified

PXVIMM IMM DETAILED Modified

PXVIMM IMM DISCLOSURE New

PXVIMM VIMM DATA New

PXVSK DEF SITES New

PXVSK SKIN SHORT LIST New

PXVSK V SKIN TEST LIST New

PX SAVE DATA Modified

# Test Sites

* Cleveland, OH
* St Louis, MO
* San Antonio, TX

# Documentation Retrieval Instructions (VIMM Patch PX\*1.0\*216)

The software documentation is being released as a host file and/or documentation describing the new functionality introduced by this patch is available.

The preferred method is to retrieve files from download.vista.med.va.gov. This transmits the files from the first available server. Sites may also elect to retrieve files directly from a specific server.

Sites may retrieve the software and/or documentation directly using Secure File Transfer Protocol (SFTP) from the ANONYMOUS.SOFTWARE directory at the following OI Field Offices:

Albany: fo-albany.med.va.gov

Hines: fo-hines.med.va.gov

Salt Lake City: fo-slc.med.va.gov

|  |  |  |
| --- | --- | --- |
| Title | File Name | FTP Mode |
| Patient Care Encounter (PCE) V. 1.0 User Manual | PX\_1\_UM\_R0816.PDF | (binary) |
| Patient Care Encounter (PCE) V.1.0 Technical Manual | PX\_1\_TM\_R0816.PDF | (binary) |

Documentation can also be found on the VA Software Documentation Library at: <http://www4.va.gov/vdl/> after national release.

# Patch Installation (VIMM Patch PX\*1.0\*216)

Associated patches:

Patch PX\*1.0\*197 must be installed BEFORE PX\*1.0\*216

Patch PSN\*4.0\*448 must be installed BEFORE PX\*1.0\*216

Patch PX\*1.0\*215 must be installed BEFORE PX\*1.0\*216

## Pre/Post Installation Overview

The pre-installation process deletes the trigger cross-reference from the EVENT DATE AND TIME (#1201) field of the V IMMUNIZATION (#9000010.11) file. The trigger will be moved to the IMMUNIZATION (#.01) field. The trigger sets the DATE/TIME RECORDED (#1205) field.

The post-installation process sets a node in the V IMMUNIZATION data dictionary (DD) that prevents a user from being able to purge data audits for the V IMMUNIZATION file.

## 6.2 Pre-Installation Instructions

Patch PX\*1.0\*197 must be installed BEFORE PX\*1.0\*216

Patch PSN\*4.0\*448 must be installed BEFORE PX\*1.0\*216

Patch PX\*1.0\*215 must be installed BEFORE PX\*1.0\*216

## 6.3 Post-Installation Instructions

N/A

## 6.4 Rollback Instructions

In the event a rollback is needed, the site should log a CA SDM (Service Desk Manager) ticket. The site must work closely with the development team to back out the patch, as it requires restoring data dictionaries (DDs).

Refer to the VIMM 2.0 Increment 4 Recovery Procedures document for more information.

Located at this link: [Increment 4 Recovery Procedures](http://vaww.oed.portal.va.gov/pm/iehr/vista_evolution/immunization/Shared%20Documents/VIMM%202.0/Training%20Materials%20VIMM%202/Back%20Out%20Procedure/VIMM_2_0_Increment_4_Recovery_Procedures%20PASSED.docx)

# Installation Instructions for dependent/associated patch

WARNING: Associated patch must be installed in the proper order

The following patches must be installed in this order

* 1. Patch PSN\*4.0\*448 Additional NDC/UPN APIS
  2. Patch PX\*1.0\*215 VIMM 2.0 patch
  3. Patch PX\*1.0\*216 VIMM 2.0 patch

The installation instructions for the dependent patches has been included in the Installation Guide for VIMM Patch PX\*1.0\*215.

# Installation Instructions for PX\*1.0\*216

WARNING: Associated patch must be installed in the proper order

The following patches must be installed in this order:

1. Patch PSN\*4.0\*448 Additional NDC/UPN APIS
2. Patch PX\*1.0\*215 VIMM 2.0 patch
3. Patch PX\*1.0\*216 VIMM 2.0 patch

This patch should be installed during a period of minimal system activity, preferably with users off the system. Installation time is expected to be approximately 10 minutes.

# Step-by-Step Instructions for PX\*1.0\*216

This patch should be installed during a period of minimal system activity, preferably with users off the system. Installation time is expected to be less than 10 minutes.

1. Choose the PackMan message containing this patch.
2. Choose the INSTALL/CHECK MESSAGE PackMan option.
3. From the Kernel Installation and Distribution System Menu, select the Installation Menu. From this menu, you may elect to use the following options. When prompted for the INSTALL NAME enter the patch # (PX\*1.0\*216):
4. Backup a Transport Global – This option will create a backup message of any routines exported with this patch. It will not backup any other changes such as DDs or templates.
5. Compare Transport Global to Current System – This option will allow you to view all changes that will be made when this patch is installed. It compares all components of this patch (routines, DDs, templates, etc.).
6. Verify Checksums in Transport Global – This option will allow you to ensure the integrity of the routines that are in the transport global.
7. Print Transport Global – This option will allow you to view the components of the KIDS build.
8. From the Installation Menu, select the Install Package(s) option and choose the patch to install. Enter PX\*1.0\*216.
9. When prompted 'Want KIDS to Rebuild Menu Trees Upon Completion of

Install? YES//'

Answer NO.

1. When prompted 'Want KIDS to INHIBIT LOGONs during the install?

NO//'

Answer NO.

1. When prompted 'Want to DISABLE Scheduled Options, Menu Options, and Protocols?

NO//'

Answer NO.

# Post-Installation Instructions / Routine Information for PX\*1.0\*216

## Post-Installation Instructions

N/A

## Routine Information

The second line of each of these routines now looks like:

;;1.0;PCE PATIENT CARE ENCOUNTER;\*\*[Patch List]\*\*;Aug 12, 1996;Build 7

The checksums below are new checksums, and can be checked with CHECK1^XTSUMBLD.

Routine Name: PXAPIDEL

Before: B56745766 After: B57912132 \*\*1,9,22,130,168,197,216\*\*

Routine Name: PXCEVFI1

Before: B33198888 After: B71666657 \*\*23,73,112,136,143,124,184,

185,210,215,216\*\*

Routine Name: PXKFIMM

Before: B5142444 After: B5574555 \*\*22,124,201,209,210,215,216\*\*

Routine Name: PXKMAIN

Before: B55424847 After: B56711884 \*\*22,59,73,88,69,117,130,124,

174,164,210,215,216\*\*

Routine Name: PXKMAIN1

Before: B41644781 After: B56560479 \*\*22,73,124,178,210,216\*\*

Routine Name: PXPXRM

Before: B125590932 After: B156738878 \*\*119,199,210,215,216\*\*

Routine Name: PXRHS03

Before: B56157465 After: B59630785 \*\*13,210,216\*\*

Routine Name: PXRPC

Before: B156917264 After: B167038742 \*\*200,209,210,215,216\*\*

Routine Name: PXVDIS

Before: n/a After: B48092848 \*\*216\*\*

Routine Name: PXVEDIT

Before: B3872063 After: B16872011 \*\*210,216\*\*

Routine Name: PXVINV

Before: B25607408 After: B28479638 \*\*210,216\*\*

Routine Name: PXVP216

Before: n/a After: B1234583 \*\*216\*\*

Routine Name: PXVRPC1

Before: B70359613 After: B78134304 \*\*215,216\*\*

Routine Name: PXVRPC4

Before: B131321819 After: B138502412 \*\*215,216\*\*

Routine Name: PXVRPC5

Before: B35105697 After: B35949423 \*\*215,216\*\*

Routine Name: PXVRPC7

Before: n/a After: B131688794 \*\*216\*\*

Routine Name: PXVRPC7A

Before: n/a After: B60762590 \*\*216\*\*

Routine Name: PXVRPC8

Before: n/a After: B 30970984 \*\*216\*\*

Routine Name: PXVRPC9

Before: n/a After: B 7189011 \*\*216\*\*

Routine Name: PXVUTIL

Before: B13284181 After: B20844823 \*\*201,210,215,216\*\*

Routine Name: PXVXR

Before: B13167191 After: B25661841 \*\*210,216\*\*

Routine Name: PXVZRT

Before: B82546869 After: B84727294 \*\*206,215,216\*\*

Routine list of preceding patches: 197, 215