Computerized Patient Record System (CPRS) v32

Requirements Specification Document



July 2017

Version 1.34

Department of Veterans Affairs

Revision History

Note: The revision history cycle begins once changes or enhancements are requested after the Requirements Specification Document has been baselined.

| Date | Version | Description | Author |
| --- | --- | --- | --- |
| 7/30/2017 | 1.34 | Minor Modifications | Susan Scorzato |
| 6/30/2017 | 1.33 | Patient Safety (PSPO) 2563 - Charting the Action of Complete in CPRS on generic orders stops the time on order that may or may not be correct. | Susan Scorzato |
| 5/31/2017 | 1.32 | NSR 20111006 Prevent Confusion over CPRS Status Display of Available Orders-Modifications - Dialog Change | Susan Scorzato |
| 4/30/2017 | 1.31 | NSR 20111006 Prevent Confusion over CPRS Status Display of Available Orders- Separated the Orders/Meds Tab. | Susan Scorzato |
| 3/31/2017 | 1.30 | NSR 20100101 Indications for Prescription and Med Orders- Modifications | Susan Scorzato |
| 2/28/2017 | 1.29 | NSR 20070920 Button Link No Assessment Warn to Allergy –Minor word change.  NSR20060710 Real-Time Notification of Potentially Missed Order Checks- Minor Modifications.  NSR 20110210 Create Separate Alert for Prosthetics Requests – Remove second need from Business Need 2.2.28 and Functional Specifications 2.6.28 | Susan Scorzato  Cindy Lowery |
| 1/31/2017 | 1.28 | NSR20100101 Indications for Prescription and Med Orders- Modifications | Susan Scorzato |
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| 11/30/2016 | 1.26 | NSR20120404 Adverse Reaction Reporting File Mods- Minor Modifications | Susan Scorzato |
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| 7/29/2016 | 1.22 | NSR20090509 Park a Prescription-Minor modifications | Susan Scorzato |
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| 5/31/2016 | 1.20 | NSR20100101 Indications on all Prescription and Medication Orders-Modifications | Susan Scorzato |
| 4/30/2016 | 1.19 | NSR20070203 Allergy Order Check Enhancement- Minor Modification;  NSR20100825 Drug Allergy Order Check- Minor word Changes  NSR20100101 Indication on all Prescriptions and Medication Orders- Additional Requirements.  VIMM Requirements – Updated Requirements. | Susan Scorzato, Ruth Gong |
| 3/31/2016 | 1.18 | NSR20080307 CWAD Post Auto Demotion Rules-Minor Modifications 2.6.1.1, 2.6.1.1.2, 2.6.1.1.3;  NSR20100101 Indication on all Prescriptions and Medication Orders - Contract Modification received Transitioning to HP (replacing NSR20060307 and NSR20070811) | Susan Scorzato |
| 2/25/2016 | 1.17 | NSR20110606 Confirm Provider Similar Names- Minor Modification.  NSR20070203 Allergy Order Check Enhancement- Requirement Change.  NSR20071211 Changes to Allergy/Pharmacy Packages- Minor Modifications;  Updated 1.2 Scope VA Enhancements, 1.3. References, Business Rules section 2.2 31 VistA Immunizations Enhancements, 2.6 Functional Specifications – 2.6.30 Nature of Order Default and 2.6.31 VistA Immunization Enhancements;  Updated 1.3 References (NSR 20110210), Business Rules section 2.2 29 Limit Additional Signers, 2.6 Functional Specifications – 2.26.28 Create Separate Alert for Prosthetics Requests and 2.26.29 Limit Additional Signers – Added Requirements  VA Enhancement #6 Remove “Clinic” pick up. | Susan Scorzato,  Ruth Gong,  Cindy Lowery |
| 1/31/2016 | 1.16 | NSR20120802 CPRS Day of the Week Med Scheduling-Modifications;  Changes to CPRS Consolidated Enhancements in section 1.3 References;  Changes to VA modification 26 in section 2.2 Business Rules;  Added functional specifications 26.1-26.3 in section 2.6. Functional Specifications. | Susan Scorzato, Cindy Lowery |
| 12/31/2015 | 1.15 | NSR20080307 CWAD Post Auto Demotion Rules - Minor Modifications (Advance Directive Changes). NSR20071211 Changes to Allergy/Pharmacy Packages -Minor Modification. NSR20070203 Allergy Order Check Enhancement–Minor word change.  Added Summary of VA Modifications in section 2.2. Business Rules Specification.  Added functional specifications 26 – 33 in section 2.6. Functional Specifications. | Susan Scorzato, Ruth Gong, Cindy Lowery |
| 11/30/2015 | 1.14 | NSR20120802 CPRS Day of the Week Med Scheduling-Minor Modification;  NSR 20081008 CPRS Notification Alert Processing Improvement- Modifications. | Susan Scorzato |
| 10/31/2015 | 1.13 | NSR20080307 CWAD Post Auto Demotion Rules - Minor Modifications (Advance Directive Changes). NSR20071211 Changes to Allergy/Pharmacy Packages -Minor Modification.  NSR20070203 Allergy Order Check Enhancement–Minor word change.  Added Summary of VA Modifications in section 2.2. Business Rules Specification.  Added functional specifications 26 – 33 in section 2.6. Functional Specifications. | Susan Scorzato, Ruth Gong, Cindy Lowery |
| 9/30/2015 | 1.12 | NSR20070811 First Dose Enhancement in CPRS -requirement removed (out of scope).  Added VA Enhancements to 1.12 Scope | Susan Scorzato, Ruth Gong |
| 8/31/2015 | 1.11 | NSR20120802 Changes to Allergy/Pharmacy Packages-Minor word change; NSR20090416 Changes to Nurse Order Verification- Modifications; NSR20071103 Change in Unflagging Capabilities-Modifications; NSR20110719 Order Flag Recommendations-Modifications. | Rebecca Russell, Susan Scorzato |
| 7/31/2015 | 1.10 | Sub-requirement added to 20070902 “Button Link.” Modifications to NSR 20111006 Prevent Confusion over CPRS Status Display of Available Orders; Modifications to NSR20110719 Order Flag Recommendations; Modifications to NSR20071103 Changes in Unflagging Capabilities. | Rebecca Russell, Susan Scorzato |
| 6/30/2015 | 1.9 | Modifications to 20080704 Enhanced Allergy Interface to COTS; Mods to 20060710 Real Time Notice of Potentially Missed Order Checks; Adverse Reaction Reporting File Mods (20120404);  Modifications to NSR20111006 Prevent Confusion over CPRS Status Display of Orders and Available Action; Modifications to NSR20100706 Identify Required Fields in TIU Note Templates; Modifications NSR20110719 Order Flag Recommendations. | Rebecca Russell, Susan Scorzato |
| 5/31/2015 | 1.8 | Modifications to 20071211 Allergy Pharmacy Packages; Marked NSR 20060307 Clinical Reminder Code Space Expansion unnecessary and NOT replaced; Changes to Allergy Order Check NSR 20070203; Changes to Drug Allergy Order Checking 20100825;  Modifications to NSR 20090416 Changes to Nurse Order Verification’s Effect on Order Status;  Modifications to NSR 20071103 Change in Unflagging Capabilities. | Rebecca Russell, Susan Scorzato |
| 4/30/2015 | 1.7 | Modification to instances for Similar Provider Names; Changed title of NSR 20111006 to “Prevent Confusion over Status Display;” Marked NSR 20060307 unnecessary (existing functionality). | Rebecca Russell, Susan Scorzato |
| 3/31/2015 | 1.6 | Modifications to Adverse Reaction File Mods NSR 20120404; IV Administration Not Documented NSR 20110903 (out of scope requirements removed) | Rebecca Russell |
| 2/28/2015 | 1.5 | Modifications to Confirm Providers with Similar Names NSR 20110606 | Rebecca Russell |
| 1/31/2015 | 1.4 | Modifications to Allergy Order Check Enhancement NSR 20070203; Drug Allergy Order Check NSR 20100825; D/C Orders on Adverse Reaction NSR20080226. | Rebecca Russell |
| 12/31/2014 | 1.3 | Day of the Week Med Schedule NSR 20120802 –Modifications; Confirm Provider with Similar Names NSR20110606-Modifications; Park a Prescription NSR20090509-Modificaitons | Rebecca Russell, Susan Scorzato |
| 11/30/2014 | 1.2 | Modified IV Administration NSR 20110903- Not Documented, Confirm Providers with Similar Names NSR 20110606-Modifications; CPRS Day of Week Med Scheduling NSR 20120802-Modifications. | Rebecca Russell, Susan Scorzato |
| 10/31/2014 | 1.1 | Modified Park a Prescription, Day of Week Med Schedule, and Critical High Order Check. | Rebecca Russell, Susan Scorzato |
| 9/23/2014 | 1.0 | Drafted initial working version. | Ty Phelps, Rishan Chandarana, Jamie Crumley |

Artifact Rationale

The Requirements Specification Document (RSD) records the results of the specification gathering processes carried out during the Requirements phase. The RSD is generally written by the functional analyst(s) and should provide the bulk of the information used to create the test plan and test scripts. It should be updated for each increment.

The level of detail contained in this RSD should be consistent with the size and scope of the project. It is not necessary to fill out any sections of this document that do not apply to the project. The resources necessary to create and maintain this document during the life cycle of a large project should be acknowledged and clearly reflected in project schedules. Do not duplicate data that is already defined in another document or a section in this document; note in the section where the information can be found.

Instructions

| Activity | New Capability (1) | Feature Enhancement (2) |
| --- | --- | --- |
| **Field Deployment (A)** | Yes | Yes |
| **Cloud/Web Deployment (B)** | No | No |
| **Mobile Application (C)** | No | No |

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# Introduction

This document is the Requirements Specification Document (RSD) for the Computerized Patient Record System (CPRS) v32 development project. Section 1 contains the purpose, scope, and references for the project.

This is a living document and will continue to evolve throughout the project. This project is implemented utilizing agile methods which include multiple sprints, or short development cycles. This document will be updated regularly during the development cycle to reflect the changes implemented in a sprint along with changes planned for future sprints.

## Purpose

This document is intended to provide the business level requirements that are to be implemented within version 32 of the CPRS. It is designed to document requirements including functional, performance, reliability, security, and usability.

This document is used in the review process such as milestone reviews. It is used as a starting point to generate future documents such as the Software Design Document (SDD) and Requirements Traceability Matrix (RTM). It is expected that this document will be used by project managers, project oversight, developers, analysts, and in some instances the business community.

## Scope

This scope of this document is limited to the CPRS v32 development project. This project will make modifications to existing Veterans health Information Systems and Technology Architecture (VistA) applications. Modifications will be made to CPRS, Text Integration Utilities (TIU), Inpatient Medications, Outpatient Pharmacy, Pharmacy Data Management, Barcode Medication Administration, Adverse Reaction Tracking (ART), Laboratory, Clinical Reminders, and Kernel.

### Computerized Patient Record System

CPRS provides an integrated patient record system for clinicians, managers, Quality Assurance (QA) staff, and researchers. The primary goal of CPRS is to provide a fast and easy-to-use application that makes available to providers the information needed in the clinical workflow process. The CPRS user interface is integrated with VistA to facilitate reviewing, documenting and preserving of coordinated care information and improved accessibility of online clinical information and results.

### Text Integration Utilities

TIU simplifies the use and management of clinical documents for both clinical and administrative medical facility personnel. In connection with Authorization/Subscription Utility (ASU), a facility can set up policies and practices for determining who is responsible or has the privilege for performing various actions on required documents.

### Inpatient Medications

The Inpatient Medications package integrates functions from the Intravenous (IV) and Unit Dose (UD) modules. This integration provides a comprehensive record of medications utilized during hospitalization of the veteran, the functionality for clinician order entry through CPRS, and tailors processes by facility, user, and/or medication.

### Outpatient Pharmacy

Outpatient Pharmacy provides a method for managing the medications given to Veterans who have visited a clinic or who have received prescriptions upon discharge from the hospital. Prescription labels are automatically generated and refill request forms are printed. Medication histories are kept online to permit checks for potential interactions. Profiles can be generated to assist the clinician in managing the patient’s medication regimen. Management reports aid the pharmacy in controlling inventory and costs.

### Pharmacy Data Management

The Pharmacy Data Management (PDM) package includes tools for creating the Pharmacy Orderable Items and maintaining files necessary for CPRS. PDM consolidates tools for managing the various pharmacy software products, such as Outpatient Pharmacy and Inpatient Medications, facilitating the maintenance of files used within these applications. Prior to the release of the PDM software, the maintenance of pharmaceutical items within the local DRUG file (#50) was accomplished using application specific options. PDM provides a single option to maintain this file to facilitate this process.

### Barcode Medication Administration

Bar Code Medication Administration (BCMA) software provides a real-time, Point-of-Care (POC) solution for validating the administration of UD and IV medications to inpatients in Veterans Administration Medical Centers (VAMCs).

### Adverse Reaction Tracking

The ART program provides a common and consistent data structure for adverse reaction data. This module has options for data entry and validation, supported references for use by external software modules, and the ability to report adverse drug reaction data to the Food and Drug Administration (FDA).

### Laboratory

The Laboratory module supports the following areas: General Laboratory, Microbiology, Histology, Cytology, and Blood Donor. Additionally, activity-specific VistA applications exist for the following Laboratory areas, and they are explained in more detail in individual write-ups immediately following this one: Anatomic Pathology (including Surgical Pathology, and Electron Microscopy), Blood Bank, Electronic Data Interchange (EDI), Emerging Pathogens Initiative (EPI), HOWDY Computerized Login Process, National Laboratory Tests (NLT) Documents and LOINC Request Form, POC, Universal Interface (UI), and VistA Blood Establishment Computer Software (VBECS).

### Clinical Reminders

Clinical Reminders may be used for both clinical and administrative purposes. However, the primary goal is to provide relevant information to providers at the POC, for improving care for veterans. The package benefits clinicians by providing pertinent data for clinical decision-making, reducing duplicate documenting activities, assisting in targeting patients with particular diagnoses and procedures or site-defined criteria, and assisting in compliance with VHA performance measures and with Health Promotion and Disease Prevention guidelines.

### Kernel

Kernel provides a portability layer between the underlying operating system and application code. This results in the entire VistA system being portable among different computers, operating systems, and M implementations. This, together with the database portability provided by VA File Manager (FileMan), eliminates the cost of application conversions each time VHA changes its computing platforms.

Kernel also offers shared services for VistA applications, resulting in reduced development costs and a common user interface, and provides system management tools for managing VistA computer systems. The Remote Procedure Call (RPC) Broker supports a single sign-on point from a client workstation to the server. Users need only sign on once when accessing multiple VistA applications on the same workstation.

**The following summarizes the 30 enhancements addressed in this project listed in format of enhancement title and New Service Request (NSR) number in parentheses:**

1. Drug-Allergy Order Check Enhancements and Improved Detail (20100825)
2. Changes to the Nurse Order Verification’s Effect on Order Status (20090416)
3. Update Surrogate Management Functionality within CPRS GUI (20071216)
4. CWAD Post Auto-Demotion Rules (20080307)
5. ~~Clinical Reminder Code Space Expansion (20060307)~~
6. Add Address of Performing Lab to Reports in CPRS Health Summary (20081206)
7. CPRS Day of the Week Med Schedule Change (20120802)
8. Prevent Confusion over CPRS Status Display (20111006)
9. Change in Unflagging Capabilities (20071103)
10. CPRS Notification Alert Processing Improvement (20081008)
11. Confirm Provider Selected with Similar Names (20110606)
12. Identify Required Fields in Text Integration Utility (TIU) Note Templates and Notify User of Missing Required Fields (20100706)
13. Adverse Reaction Reporting File Modification (20120404)
14. Allergy Order Check Enhancement (20070203)
15. Park-A-Prescription (20090509)
16. ~~First Dose – Enhancement within CPRS Medication Order (20070811)~~
17. Enhance CPRS/Medication History Report to Fully Document IV Administration (20110903)
18. Critical/High Order Check Display (20101203)
19. Button to Link No Assessment Warning to Allergy Assessment Screens (20070920)
20. Real-Time Notification of Potentially Missed Order Checks (20060710)
21. Enhanced Allergy Checks Using COTS Data (20080704)
22. D/C Order Due To Adverse Reaction (20080226)
23. Changes to Allergy/Pharmacy Packages (20071211)
24. Order Flag Recommendations (20110719)
25. Progress Notes Display Misleading (20070817)
26. Indication on all Prescriptions and Medication Orders (20100101)
27. Allow user to clear own patient locks in CPRS (20080342)
28. Create Separate Alert for Prosthetics Requests (20110210)
29. Limiting Additional Signers List (20120101)
30. Nature of Order Default (20120601)
31. VistA Immunization Enhancements (VIMM)
32. Remove “Clinic” pick up
33. Filter Provider Drop Down List (20141111)

These enhancements will directly improve patient care by addressing patient safety issues. In addition to improving patient safety, several of these enhancements improve the workflow for providers; provide additional warnings and/or more information which will result in improved patient care. Finally, some of these enhancements improve the order checking and allergy tracking mechanisms which will reduce adverse reactions to medications which will also directly improve patient care.

Patient Safety Issues in CPRS v32 requests contain improvements in the following area:

(PSPO) 2563: Charting the Action of Complete in CPRS on generic orders stops the time on order that may or may not be correct.

When a user sets a generic order (text, nursing, etc.) to a status of complete, the system is going to invoke a protocol called OR COMPLETE ORDER. Any other packages or applications that need to know when a generic order goes to a completed status can subscribe to the protocol.

## References

* Business Requirements Document, Drug-Allergy Order Check Enhancements and Improved Detail Work Effort Unique Identifying #20100825, dated Apr 2012.
* Business Requirements Document, Changes to the Nurse Order Verification’s Effect on Order Status Request #20090416, dated Aug 2009.
* Business Requirements Document, Update Surrogate Management Functionality within CPRS Graphical User Interface (GUI) Request #20071216, dated Apr 2009.
* Business Requirements Document, Add Address of Performing Lab to Reports in CPRS Health Summary Request #20081206, dated Dec 2009.
* Business Requirements Document, Change in Unflagging Capabilities Request
* #20071103, dated Jun 2009.
* Business Requirements Document, CPRS Notification Alert Processing Improvement Request #20081008, dated Aug 2009.
* Business Requirements Document, Allergy Order Check Enhancement Request
* # 20070203, dated Jun 2009.
* Requirements Specification Document for Park-A-Prescription, PAPI\_RSD\_v3, dated 09-2012.
* ~~Business Requirements Document, First Dose – Enhancement within CPRS Medication Order #20070811, dated Feb 2008~~.
* Business Requirements Document, Button to link No Assessment warning to Allergy Assessment NSR #20070920, dated Feb 2008.
* Business Requirements Document, Real-time Notification of Potentially Missed Order Checks Request #20060710, dated Aug 2009.
* Business Requirements Document[, Enhanced Allergy Checks Using Commercial](http://vista.med.va.gov/pasdocs/analysis/20080704%20Enhanced%20Allergy%20Checks%20Using%20COTS%20Data%20BRD%205.doc) [Off-The-Shelf (COTS) Data](http://vista.med.va.gov/pasdocs/analysis/20080704%20Enhanced%20Allergy%20Checks%20Using%20COTS%20Data%20BRD%205.doc) #20080704, dated Nov 2011.
* Business Requirements Document, D/C Order by Adverse Reaction Request
* #20080226, dated Jun 2008.
* Business Requirements Document, Changes to Allergy/Pharmacy Packages Request #20071211, dated Jun 2009.
* Business Requirements Document, Progress Notes Display Misleading 20070817, dated June 2008.
* Business Requirements Document, Computerized Patient Record System Consolidated Enhancements Representing NSRs #20120802,

20101203, 20110606, 20100706, 20120404, 20110903, 20080307, 20060307,

20111006, 20110719, dated Apr 2014.

* Business Requirements Document*,* Indication on all Prescriptions and Medication Orders 20100101, dated August 2011.
* Requirements Traceability Matrix, CPRS Version 32 Requirements Traceability Matrix (RTM).
* CPRS v32 Trouble (Remedy) Tickets Backlog - 20140219
* Real-Time Notification of Potentially Missed Order Checks
* Allergy Order Check Enhancement
* ~~First Dose – Enhancement within CPRS Medication Order~~
* Progress Notes Display Misleading
* Button to link No Assessment warning to Allergy
* Change in Unflagging Capabilities
* Changes to Allergy/Pharmacy Packages
* Update Surrogate Management Functionality within CPRS GUI
* D/C Order by Adverse Reaction
* Enhanced Allergy Checks Using Commercial Off-The-Shelf (COTS) Data
* CPRS Notification Alert Processing Improvement
* Add Address of Performing Lab to Reports in CPRS Health Summary
* Changes to the Nurse Order Verification’s Effect on Order Status
* Drug-Allergy Order Check Enhancements and Improved Detail Work Effort Unique Identifying
* Indication on all Prescriptions and Medication Orders Work Effort Unique Identifying
* Computerized Patient Record System Consolidated Enhancements Representing NSRs #20120802, 20101203, 20110606, 20100706, 20120404, 20110903, 20080307, 20060307, 20111006, 20110719, 20120601, 20080342, 20120101, 20110210, 20141111

# Overall Description

The CPRS v32 Development team will produce a new version of CPRS, version 32, by implementing 25 new features described in National Service Requests (NSRs). To support these 25 new features, the following applications will also be modified: Text Integration Utilities, Inpatient Medications, Outpatient Pharmacy, Pharmacy Data Management, Barcode Medication Administration (BCMA), Adverse Reaction Tracking, Laboratory, Clinical Reminders, and Kernel.

The non-functional requirements in Appendix A should be reviewed and assessed while developing the requirements for the project.

For teams utilizing the Rational Tools to manage their requirements, the following reports may be attached in lieu of Section 2:

* Requirements Specification
* Use Cases
* Interface report

Teams not using Rational should follow the following template

## Accessibility Specifications

The CPRS and BCMA are Graphical User Interface (GUI) based applications. In addition, they use Clinical Context Object Workgroup (CCOW) standards. The modifications that are made for CPRS v32 will be 508 compliant and will continue to follow CCOW standards to maintain interoperability.

## Business Rules Specification

### Drug-Allergy Order Check Enhancements and Improved Detail (20100825)

* Modify CPRS and Inpatient Medications to notify users of possible adverse drug reactions if a reactant contains multiple ingredients and if any of those ingredients can cause an adverse reaction.
* Modify CPRS and Inpatient Medications to display the same information, and allow users to see complete order checking information such as signs/symptoms and severity, including remote data.

### Changes to the Nurse Order Verification’s Effect on Order Status (20090416)

* Modify CPRS so that only authorized nurses can activate medications that are not verified by a pharmacist.
* Modify reports for pharmacists to show orders activated by nurses, identify orders placed through Inpatient Meds for Outpatients (including orders activated by nurses), and include orders with a priority of DONE and a routing of ADMINISTERED IN CLINIC.

### Update Surrogate Management Functionality within CPRS GUI (20071216)

* Modify CPRS’ surrogate management functionality to match the functionality provided by the List Manager/Kernel settings.

### CWAD Post Auto-Demotion Rules (20080307)

* Modify Text Integration Utilities (TIU) to provide the ability to establish a relationship between notes classified as Crisis Notes, Warning Notes, Allergies, or Advance Directive (CWAD) and a corresponding similarly titled note in a non-CWAD Progress Notes document class. The relationship will be used to allow TIU to automatically demote older instances of such notes from displaying in the Postings (CWAD) box of CPRS’ Cover Sheet and putting them in the regular progress notes hierarchy. The result is that the Postings Box will retain only the most current instance of the note, thereby reducing clutter on the CPRS Cover Sheet.
* Provide functionality to prohibit selected titles from being set up to auto-demote through this functionality. Advance Directives and Rescinded Advance Directives are considered Postings Notes per VHA Handbook and must not be allowed to demote.

### Clinical Reminder Code Space Expansion (20060307)

* ~~Modify Clinical Reminders to accept Healthcare Common Procedure Coding System (HCPCS) modifiers for Teleretinal use.~~

### Add Address of Performing Lab to Reports in CPRS Health Summary (20081206)

* Modify Health Summary Reports in CPRS to show the address of the facility that processed the lab test, including preserving the original address if the facility moves.

### CPRS Day of the Week Med Schedule Change (20120802)

* Modify CPRS to expand the day of the week when an Inpatient order is copied to an Outpatient order, for example change Th@1700 to Thursday@1700.

### Prevent Confusion over CPRS Status Display (20111006)

* Modify CPRS to standardize the use of terms and available actions across tabs such as Meds and Orders. Actions and statuses such as “DISCONTINUE/CANCEL” should perform the same functionality and have the same meaning across tabs.

### Change in Unflagging Capabilities (20071103)

* Modify CPRS so that sites can limit the unflag action with an order in CPRS.

### CPRS Notification Alert Processing Improvement (20081008)

* Modify CPRS so that users can view previously processed alerts.

### Confirm Provider Selected with Similar Names (20110606)

* Modify CPRS to prompt the user for confirmation when providers with similar names are selected.

### Identify Required Fields in Text Integration Utility (TIU) Note Templates (20100706)

* Full title: Identify Required Fields in Text Integration Utility (TIU) Note Templates (20100706)
* and Notify User of Missing Required Fields (20100706)
* Modify CPRS to identify missing fields when a user is attempting to submit a note that is missing required fields.

### Adverse Reaction Reporting File Modification (20120404)

* Modify the Adverse Reaction Reporting File so that for historical entries, at least one sign/symptom is required, a COMMENT is required if the sign/symptom is UNKNOWN, and add functionality to allow the documentation of the severity, if known.

### Allergy Order Check Enhancement (20070203)

* Modify Order Checking so that when a new allergy is documented for a patient with an active drug profile, that new allergy is compared to the active profile for any potential adverse reactions. This requirement addresses Patient Safety Issue PSPO 2218.

### Park-A-Prescription (20090509)

* Convert the Park-A-Prescription code from Delphi 2006 to Delphi XE3.
* Integrate Park-A-Prescription code into CPRS v32.

### First Dose – Enhancement within CPRS Medication Order (20070811)

* ~~Modify CPRS and other applications to prompt a provider or nurse to document their observation and the patient’s response to the first dose of a medication that is new to that patient.~~

### Enhance CPRS/Medication History Report to Fully Document IV Administration (20110903)

* Modify CPRS to display infusion times consistently with Bar Code Medication Administration (BCMA).

### Critical/High Order Check Display (20101203)

* Modify CPRS so that clinicians are provided with different prompts to justify order checks based on their severity and priority.

### Button to Link No Assessment Warning to Allergy Assessment Screens (20070920)

* Modify CPRS to prompt clinicians to complete an Allergy Assessment when presented with a “No allergy assessment has been done,” warning.

### Real-Time Notification of Potentially Missed Order Checks (20060710)

* Modify CPRS to present a warning to providers when a drug ingredient will not provide an order check.

### Enhanced Allergy Checks Using COTS Data (20080704)

* Modify the current Allergy system to use a chemical drug classification system, and to update/maintain that data, with the ability to retrieve that information from a COTS system.

### D/C Order Due To Adverse Reaction (20080226)

* Modify CPRS to allow providers to enter an Adverse Drug Reaction (ADR) if discontinuing medication due to an allergy to the medication.

### Changes to Allergy/Pharmacy Packages (20071211)

* Modify CPRS to provide notifications and alerts in a manner that reduces potential for clinical staff to overlook that information.

### Order Flag Recommendations (20110719)

* Modify CPRS to enhance the “Flag Order” functions, including viewing recipients, notifying when flags are not cleared, adding multiple recipients, and having the functionality to add and view comments/actions for multiple recipients.

### Progress Notes Display Misleading (20070817)

* Modify CPRS to display more complete progress notes.

### Indication on all Prescriptions and Medication Orders (20100101)

* Modify CPRS to provide the ability to record an indication for each medication order, separate and independent from other order comments, and in its own unique data field as part of the prescription/order.

### Allow user to clear own patient locks in CPRS (20080342)

* Create a message that lets the user know that the lock is because another user is entering data into the record.
* Create a clear message that lets the user know they have locked their own record.
* Create a popup message to display the date and time so that the user will know that the message is current.

### Create Separate Alert for Prosthetics Requests (20110210)

* Create a separate update alert for prosthetics requests that can configured at the user or team level.
* ~~Filter Prosthetics update alerts to be filed in a separate storage location for viewing at a later time.~~

### Limiting Additional Signers List (20120101)

* Provide the ability to limit the names presented to the user in any otherwise unrestricted CPRS-presented drop down list from file.
* Provide the ability for sites to identify users to be manually added to the list of eligible signers.
* Provide the ability for sites to identify users to be manually excluded from the list of eligible signers.

### Nature of Order Default (20120601)

* Remove the “Verbal” as Nature of Order Default so that the user will have to select the correct Nature of Order.
* Create a parameter that will give sites the flexibility to set a default value (Verbal/Telephone/None) for the Nature of Order.

### VistA Immunization Enhancements (VIMM)

* Modify User Interface (UI) to document Immunizations to utilize data from RPC’s and API’s created by VistA Immunization (VIMM) 2.0.

### Remove “Clinic” pick up

* Remove “clinic” radio button from Outpatient Med Order Dialog.

2.2.33. Filter Provider Drop Down List

* Filter the provider drop down list to remove non-clinical names.

## Design Constraints Specification

There are two primary design constraints that apply to this development effort. First, VistA is written in the MUMPS (M) programming language. Second, the GUI applications utilize Delphi. Both of the programming languages and technologies in them will influence the development process. The team will follow VA’s Standards and Compliance (SAC) for all M code changes.

## Disaster Recovery Specification

Not Applicable to this system enhancement.

## Documentation Specifications

To be determined.

## Functional Specifications

* + 1. Drug-Allergy Order Check Enhancements and Improved Detail
       1. The system shall adhere to the Enterprise Level requirements within the Enterprise Requirements Management (ERM) Repository and as specifically addressed in [Appendix D](#Ent_Req) of this document.
       2. For a drug-allergy order check involving a patient allergy to a multiple-ingredient product (reactant),, the system shall display all ingredients in the reactant and the drug classes associated with each ingredient in the allergy file (or COTS-supplied chemical classification), and shall not limit the information displayed to the first ingredient or drug class match found.
          1. For the Clinician performing order entry, drug allergy order check results shall include all ingredients in multi-ingredient reactants (and the drug class associated with each ingredient) and NOT to limit the displayed results to the first ingredient or drug class match found.
          2. For the Pharmacist finishing a drug order, drug allergy order check results shall include all ingredients in multi-ingredient reactants (and the drug class associated with each ingredient) and NOT to limit the displayed results to the first ingredient or drug class match found.
          3. For the Nurse (when functioning in the role of a Pharmacist), drug allergy order check results shall include all ingredients in multi-ingredient reactants (and the drug class associated with each ingredient) and NOT to limit the displayed results to the first ingredient or drug class match found.
       3. The system shall provide consistent allergy/ADR order check displays between CPRS and the VistA Inpatient Medications application.
          1. The system shall provide the ability for the Clinician to view the same allergy/ADR order checking information in the order check display in CPRS as is currently available in the VistA Inpatient Medications application.
          2. The system shall provide the ability for the Pharmacist to view the same allergy/ADR order checking information in the order check display in CPRS as is currently available in the VistA Inpatient Medications application.
          3. The system shall provide the ability for the Nurse (when functioning in the role of a Pharmacist) to view the same allergy/ADR order checking information in the order check display in CPRS as is currently available in the VistA Inpatient Medications application during the finishing process.
          4. The system shall provide the ability for Clinician, Pharmacist, or Nurse to view the same detailed allergy/ADR order checking information in the order check display in CPRS as is currently available from within Bar Code Medication Administration (BCMA) display order form for both local and other facilities.
       4. The system shall display documented reactant and all the identified ingredient matches, not just the first ingredient found, as part of the allergy/ADR order check.
          1. The system shall provide the ability for the Clinician to view all identified ingredient matches to a documented reactant, and not just the first ingredient found, during the order entry process.
          2. The system shall provide the ability for the Pharmacist to view all identified ingredient matches to a documented reactant, and not just the first ingredient found, during the finishing process.
          3. The system shall provide the ability for the Nurse to view all identified ingredient matches to a documented reactant, and not just the first ingredient found, during the finishing process (when functioning in the role of a Pharmacist).
       5. The system shall display details of an allergy/ADR order check, including the signs and symptoms of allergies documented at other facilities.
          1. The system shall provide the ability for the Clinician to view the details of a drug-allergy order check, including signs and symptoms documented at other facilities, during the order entry process.
          2. The system shall provide the ability for the Pharmacist to view the details of a drug-allergy order check, including signs and symptoms documented at other facilities, during the finishing process.
          3. The system shall provide the ability for the Nurse to view the details of a drug-allergy order check, including signs and symptoms documented at other facilities, during the finishing process (when functioning in the role of a Pharmacist).
          4. The system shall provide the ability for the Nurse to view the details of a drug-allergy order check, including signs and symptoms documented at other facilities, during medication order verification in CPRS.
          5. The system shall provide the ability for the Nurse to view the details of a drug-allergy order check, including signs and symptoms documented at other facilities, during the medication administration process.
       6. The system shall display signs/symptoms (both local and from other facilities) of a reported allergy/ADR as part of the allergy/ADR order check.
          1. The system shall provide the ability for the user to view the signs and symptoms of a reported allergy/ADR when the allergy/ADR is presented as an order check during the order entry process in CPRS.
          2. The system shall provide the ability for user to view the signs and symptoms of a reported allergy/ADR when the allergy/ADR is presented as an order check during the order entry process in “backdoor” VistA Inpatient Medications.
          3. The system shall provide the ability for user to view the signs and symptoms of a reported allergy/ADR when the allergy/ADR is presented as an order check during the order finishing process in “backdoor” VistA Pharmacy.
       7. The system shall display severity, not only for “Observed” but also for “Historic” reactions, as part of the allergy/ADR order check.
          1. The system shall provide the ability for the user to view the severity of a reported allergy/ADR (not only for “Observed” but also for “Historic” reactions) when the allergy/ADR is presented as an order check during the order entry process in CPRS.
          2. The system shall provide the ability for the user to view the severity of a reported allergy/ADR (not only for “Observed” but also for “Historic” reactions) when the allergy/ADR is presented as an order check during the order finishing process in CPRS.
          3. The system shall provide the ability for the user to view the severity of a reported allergy/ADR (not only for “Observed” but also for “Historic” reactions) when the allergy/ADR is presented as an order check during the order entry process in “backdoor” VistA Inpatient Medications.
          4. The system shall provide the ability for the user to view the severity of a reported allergy/ADR (not only for “Observed” but also for “Historic” reactions) when the allergy/ADR is presented as an order check during the order finishing process in “backdoor” VistA Pharmacy.
       8. The system shall ensure that signs/symptoms are included with other allergy/ADR order check details in stored order check information (for example, in FILE 100.05 ORDER CHECK INSTANCES).
       9. The system shall avoid use of “local” after the medication name in the CPRS allergy/ADR order check display to describe the facility at which an allergy was recorded. Instead, the order check display shall either present the site name of the location where the allergy was documented (if available subsequent to anticipated ME2 enhancements) or blank (unless “from another facility”).
    2. Changes to the Nurse Verification’s Effect on Order Status

2.6.2.1 The system shall allow nurses with the authorized key (PSJ RNFINISH or the PSJI RNFINISH key) to finish orders when the pharmacist is not available.

2.6.2.1.1 The system shall allow nurses to independently make available for administration in BCMA only those orders that were nurse-finished. A pharmacist- finished order will require pharmacist-verification to be available in BCMA.

2.6.2.1.2 The system shall prevent the action of nurse verify on a pending Inpatient Medication Order.

2.6.2.2 The system shall add additional items to the report of those orders requiring Pharmacist’s activity.

2.6.2.2.1 The system shall include orders that have been verified (activated) by a nurse.

2.6.2.2.2 The system shall separately identify orders placed through the Inpatient Meds for Outpatients (IMO/Clinic Meds) functionality, especially those administered by the nurse prior to pharmacist action.

* + 1. Update Surrogate Management Functionality within CPRS GUI
       1. The system shall provide surrogate management functionality, available through the CPRS interface, to allow the setting, editing, and viewing of multiple surrogates and shall present the user with the same identifying information as that available within legacy List Manager/VistA Kernel.
       2. The system shall allow the setting of multiple surrogates directly from the CPRS interface in a single interaction, without requiring exit and re-entry of the Surrogate for Notifications screen.
       3. The system shall allow the editing of a list of multiple surrogates directly from the CPRS interface in a single interaction, without requiring exit and re-entry of the Surrogate for Notifications screen.
       4. The system shall allow the cancellation of a single surrogate from a list of multiple surrogates directly from the CPRS interface in a single interaction, without requiring exit and re-entry of the Surrogate for Notifications screen.
       5. The system shall allow the cancellation of multiple surrogates (including all surrogates) directly from the CPRS interface in a single interaction, without requiring exit and re-entry of the Surrogate for Notifications screen.
       6. The system shall present every defined surrogate on a single surrogate screen display, along with the start date/time and end date/time for each surrogate.
       7. The system shall visually identify the “current” surrogate in the list of multiple surrogates.
    2. CWAD Post Auto-Demotion Rules
       1. The Crisis Notes, Warning Notes, Allergies and Directives (CWAD) auto-demotion rules allow the user to set up rules that will demote previous instances of CWAD documents in a selected patient’s chart except for the three excluded document titles related to Advance Directives.
          1. The system demotes a CPRS progress note from a CWAD posting to a standard level progress note if that note is defined in the auto-demotion rules.
          2. The system shall provide the ability to view only the most recent instances of a CWAD Posting progress notes in the CPRS Postings box.
          3. The system shall provide the ability to establish a one-time setup option for selection of a CWAD Posting title for auto-demotion and a non-posting title as the demotion target excluding the document titles related to Advance Directives. This results in a Posting/Non-Posting pair of titles.
          4. The system does not demote a progress note that is not defined in the auto-demotion setup.
          5. The system shall provide the ability to target any type of CWAD Posting for demotion if the note is defined in the auto-demotion rules.
    3. ~~Clinical Reminder Code Space Expansion~~
       1. ~~The system shall enable users to create dialogs that allow clinicians to choose the correct dialog response or create forced value prompts that limit acceptable choices in the dialog.~~
          1. ~~The system shall provide the ability to receive a new CPT Modifier prompt.~~
          2. ~~The system shall provide the ability to receive a Procedure Provider prompt~~.
          3. ~~The system shall provide the ability to use the new prompts for CPT type findings in the Reminder dialog file.~~
          4. ~~The system shall modify the broker call to pass the new prompt information for the dialog presented to the user.~~
          5. ~~The system shall modify the GUI to accept selection of the CPT Modifier and provider.~~
          6. ~~The system shall modify the tools that send encounter data to PCE, so the Reminder dialog CPT Modifier and procedure are included in the DATA2PCE call to appropriately create the V CPT entry.~~
          7. ~~The system shall provide the Reminder evaluation to only use the CPT Modifier, not the provider,~~
       2. ~~The system shall write a National Reminder for Diabetic Retinal Scan~~

2.6.5.2.1 ~~The system shall provide the ability to prompt for a Diabetic Retinal Scan on an annual 12 month basis.~~

* + 1. Add Address of Performing Lab to Reports in CPRS Health Summary
       1. The system shall have the ability to print CPRS Health Summary reports with a header that includes the facility’s address.
          1. The system shall allow the facility’s address to display in the header of all Lab and other reports printed from the Health Summary in CPRS.
       2. The system shall have the ability to display the name(s) and address (es) of the performing Laboratory on the CPRS Health Summary report.
          1. The system shall allow the name(s) and address (es) of the individual performing Laboratory to display in the Health Summary in CPRS.
       3. The system shall provide the ability for facilities to change their address on future reports while maintaining the old address on historical reports.
          1. The system shall display the name and address of the performing Lab based on the date performed.
       4. The system shall provide the ability to change/correct the displayed name and address of the performing Lab on historical reports.
          1. The system shall allow the facility to be able to easily correct the name and address of the performing Lab based on a specific date range.
    2. CPRS Day of the Week Med Schedule Change
       1. The system shall always expand the abbreviation for the day of the week to the full name of the day when it appears on any day-of-the-week schedule on the Outpatient Prescription Order (entered in either CPRS or Outpatient Pharmacy) when transferred from the Inpatient Medication Order.
       2. The system shall always expand the abbreviation for the day of the week to the full name of the day when it appears on any day-of-the-week schedule on any Newly Entered Order for an Outpatient Prescription Order entered in either CPRS or Outpatient Pharmacy.
       3. The system shall always expand the abbreviation for the day of the week to the full name of the day when it appears on any day-of-the-week schedule on any Renewal or Copy of an Outpatient Prescription Order entered in either CPRS or Outpatient Pharmacy.
       4. The system shall always expand the abbreviation for the day of the week to the full name of the day when it appears on the day-of-the-week schedule on the Discharge Instructions when generated from the Outpatient Prescription Order.
       5. The system shall always expand the abbreviation for the day of the week to the full name of the day when it appears on the day-of-the-week schedule on the Prescription Bottle Label when generated from the Outpatient Prescription Order.
       6. The system shall always expand the abbreviation for the day of the week to the full name of the day when it appears on the day-of-the-week schedule generated from the Text Integration Utility Objects.
    3. Prevent Confusion over CPRS Status Display
       1. The system shall consistently use the language “Discontinue/Cancel” on the MEDS tab. Determine and define consistently the use of these terms.
          1. When an order (not unsigned) has been Discontinued, the status will display as Discontinued on the Meds tabs.
          2. Whenever an unsigned order has been Cancelled, the status will display as Cancelled on the Meds tabs.
       2. The system shall disclose the ramifications of unsigned orders on the MEDS tab.(Information is not currently available on the MEDS Tab)
       3. The system shall employ a consistent interface and common language (where applicable) when describing available actions on the menus of the MEDS tabs.
       4. When a single order is selected from the MEDS tab, the system shall provide the following selections on both the shortcut (right-mouse-click) menu and the Action (menu bar) Menu.
          1. If the selected order has a status of “unsigned,” the system shall display the action “Cancel Unsigned Order” and shall not display the action “Discontinue.”

In the Title Bar of the pop-up window generated by selecting “Cancel Unsigned Order” the system shall display “Cancel Order.”

* + - * 1. If the selected order has any status except unsigned, the system shall display the action “Discontinue.”

In the Title Bar of the pop-up window generated by selecting “Discontinue” the system shall display “Discontinue Order.”

* + - 1. When multiple orders are selected from the MEDS tab, the system shall provide the following selections on both the shortcut (right-mouse-click) menu and the Action (menu bar) Menu.
         1. If all of the selected orders have a status of “unsigned,” the system shall display the action “Cancel Unsigned Orders” and shall not display the action “Discontinue.”

In the Title Bar of the pop-up window generated by selecting “Cancel Unsigned Orders” the system shall display “Cancel Orders.”

* + - * 1. If all of the selected orders have statuses other than “unsigned,” the system shall display the action “Discontinue.”

In the Title Bar of the pop-up window generated by selecting “Discontinue” the system shall display “Discontinue Orders.”

* + - * 1. If the selected orders are a combination of signed and unsigned orders, the system shall display the action “Discontinue/Cancel Orders.”
      1. The system shall consistently use the language “Discontinue/Cancel” on the ORDERS tab. (Needs to be coordinated with the changes to the MEDS Tab).
         1. When an order (not unsigned) has been Discontinued, the status will display as Discontinued on the Orders tabs.
         2. Whenever an unsigned order has been Cancelled, the status will display as Cancelled on the Orders tabs.
      2. The system shall disclose the ramifications of unsigned orders on the ORDERS tab. (The Clinician may not realize that a previously discontinued order may be reinstated when the unsigned order is discontinued).
      3. The system shall employ a consistent interface and common language (where applicable) when describing available actions on the menus of the ORDERS tabs.
      4. When a single order is selected from the ORDERS tab, the system shall provide the following selections on both the shortcut (right-mouse-click) menu and the Action (menu bar) Menu.
         1. If the selected order has a status of “unsigned,” the system shall display the action

“Cancel Unsigned Order” and shall not display the action “Discontinue.”

In the Title Bar of the pop-up window generated by selecting “Cancel Unsigned

Order” the system shall display “Cancel Order.”

* + - * 1. If the selected order has any status except unsigned, the system shall display the action “Discontinue.

In the Title Bar of the pop-up window generated by selecting “Discontinue” the system shall display “Discontinue Order.”

* + - 1. When multiple orders are selected from the ORDERS tab, the system shall provide the following selections on both the shortcut (right-mouse-click) menu and the Action (menu bar) Menu
         1. If all of the selected orders have a status of “unsigned,” the system shall display the action “Cancel Unsigned Orders” and shall not display the action “Discontinue.”

In the Title Bar of the pop-up window generated by selecting “Cancel Unsigned Orders” the system shall display “Cancel Orders.”

* + - * 1. If all of the selected orders have statuses other than “unsigned,” the system shall display the action “Discontinue.”

In the Title Bar of the pop-up window generated by selecting “Discontinue” the system shall display “Discontinue Orders.”

* + - * 1. If the selected orders are a combination of signed and unsigned orders on the Orders or Meds tab, the system shall display the action “Discontinue/Cancel Orders.”

In the Title Bar of the pop-up window generated by selecting “Discontinue/Cancel Orders” the system shall display “Discontinue/Cancel Orders”.

Dialog Box: You are cancelling an unsigned ”Discontinue” Order (s) as indicated by \*\*\* in the Selected Orders list. The Original Order (s) will remain in their current status.

* + 1. Change in Unflagging Capabilities
       1. The system shall allow for site elected control over limiting the ability to perform the unflag action associated with an order in CPRS.

2.6.9.1.1 The system shall provide the ability to perform the unflag action by “Display Groups”. Each display group would specify what key (ORELSE OREMAS, and PSJ PHARM etc.) can unflag orders.

2.6.9.1.2 The system shall provide the ability for a site to disable unflagging restrictions.

2.6.9.1.3 The system shall implement the restriction and the site enable/disable parameters at the PACKAGE, SYSTEM and DIVISION level settings. The Holders of the ORES key will have no restrictions and they will be able to unflag any order for any display group.

2.6.9.1.4 The system shall provide a response back to the user indicating they are not allowed to perform the unflag action.

2.6.9.1.4.1 The system shall allow a site-customizable message for the user indicating what they should do if they believe they should be allowed to unflag an order and they cannot. The user shall be presented with a message similar to the message provided below:

“You are not allowed to un-flag this order based on your security keys and the order type.

One example might be:

*If you feel this is incorrect, please call the help desk at: 8212”.*

* + 1. CPRS Notification Alert Processing Improvement
       1. The system, in CPRS GUI, shall allow users to be able to retrieve and/or view all processed alerts (information/action).
          1. The system, in CPRS GUI, shall provide the ability to review the most recently processed alert (action/information) within normal alert processing workflows.
          2. The system, in CPRS GUI, shall provide the ability to view a group of alerts processed across multiple CPRS GUI sessions.
          3. The system, in CPRS GUI, shall provide the ability to set a date range (TBD) for viewing a group of alerts.
          4. The system, in CPRS GUI, shall provide the ability to view a group of processed alerts by alert type (action, information).
          5. The system, in CPRS GUI, shall provide the ability to view a pre-defined number of processed alerts.
          6. The system, in CPRS GUI, shall allow processed alerts to be retained/accessible within a processed alerts view for a timeframe set at the system level, but should be adjustable by the user for those opting to override the system setting.

The system, in CPRS GUI, shall provide the ability to set the default to 7 Days unless overridden by the user.

The system, in CPRS GUI, shall include the disclaimer on the date range selection explaining why the user is not allowed to override the purge date.

The system, in CPRS GUI, shall provide the ability to set the default to a maximum number of alerts returned

* + - * 1. The system, in CPRS GUI, shall allow processed alerts to be moved to an area separate from pending notifications.
        2. The system shall provide the ability for original recipient to view alerts processed by surrogates within their own processed alerts pane.
        3. The system shall allow alerts processed by surrogates to be designated as processed by: surrogate [username] within the processed alerts view.
    1. Confirm Provider Selected with Similar Names
       1. The system shall display an additional selection window to be presented within CPRS for providers with similar names, as is currently done with patients having similar names. The CPRS user-interface features where the Provider Selection window shall be presented shall include:
* Provider & Location for Current Activities Window (all occurrences)
* CPRS Patient Selection Window>Selection by Providers
* Patient Selection Screen>Notifications Section>Forward Button
* Notes Tab>Encounter Button>Encounter Form “Available Providers” field
* Notes Tab>Action Menu>Identify Additional Signers
* Notes Tab>Action Menu>New Progress Note> “Author” and “Expected Cosigner” fields
* Surgery Tab>Action Menu>Identify Additional Signers
* Surgery Tab>Action Menu>Make Addendum>Change Addendum Properties>”Author” field
* Orders Tab>Action Menu>Alert When Results
* Consults Tab>Action Menu>New>Consult> “Attention” field
* Consults Tab>Action Menu>New>Procedure> “Attention” field
* Consults Tab>Action Menu>Consult Results>Complete/Update Results> “Author” and “Expected Cosigner” fields
* Consults Tab>Action Menu>Consult Results>Identify Additional Signers
* Discharge Summary Tab>New Summary>“Attending Physician” field
* Discharge Summary Tab>Action Menu>Make Addendum>”Author/Dictator” field
  + - 1. The “Similar Providers” window shall not be displayed if the logged on user is the Provider whose name is selected from the list.
      2. The “Similar Providers” window shall be patterned after the existing CPRS “Similar Patients” window and shall include a single column for the display of Name (Last, First) and Position (New Person file, Person Class data element).
      3. The system shall interpret two or more provider names having the same last name and at least the first 2 characters of the first name as “similar” names, initiating the display of a “Similar Providers” window and presenting the names that meet the match criteria for further selection.
      4. The list of Provider names available for selection from the “Similar Providers” window shall be limited to matching names for active, clinical users (and shall exclude visitors, students, and all other non-clinical users, including billing and administrative users).
    1. Identify Required Fields in Text Integration Utility (TIU) Note Templates and Notify User of Missing Required Fields
       1. The system shall visually identify all fields in the CPRS TIU Note Templates that are required to be completed prior to sign-off.
       2. The system shall provide the ability for the user to view (e.g. by highlight plus asterisk) fields that must be completed prior to sign-off.
       3. The system shall provide the ability for the user to navigate to missed required dialog fields using Navigation buttons and Short-Cut Keys.
       4. The system shall provide the ability to indicate to the user that fields must be completed prior to sign off (e.g. required field counter, OK button disabled).
    2. Adverse Reaction Reporting File Modification
       1. The system shall require either the selection of at least one sign/symptom from a list or entry of a Comment of at least 4 characters when documenting an historical allergy/adverse drug reaction, and shall present an error message to the user if no sign/symptom is selected and no Comment (or a Comment of fewer than 4 characters) is entered.
       2. The system shall accommodate (but not require) documentation of the Severity and Date/ Time of an historical allergy/adverse drug reaction.
    3. Allergy Order Check Enhancement
       1. The system shall check the current active Patient Medication Profile against any new allergy/ADR entries made using CPRS, VistA IP/OP Pharmacy, or the GMRA (Adverse Reaction Tracking) application.
       2. The system shall send a notification to the following patient’s provider(s) which will be determined by the definition in ORB3 PROVIDER RECIPIENTS parameter, of any new drug allergy entered for which a matching medication is found to exist in the active Patient Medication Profile.
          1. As a CPRS user, I want the system to send a notification (actionable alert) to the Clinician who entered the Order.
          2. As a CPRS user, I want the system to send a notification (actionable alert) to the patient’s Primary Care Provider (if the patient is an outpatient).
          3. As a CPRS user, I want the system to send a notification (actionable alert) to the Resident/Attending Provider (if the patient is an inpatient).
          4. As a CPRS user, I want the notifications (actionable alerts) described in 2.6.14.2 (above) and 2.6.14.3.1 (below) shall allow the alert recipient to navigate to the medication order that prompted the alert and take whatever action (change, leave unchanged, or discontinue) the user deems appropriate. Notifications shall be satisfied by processing the notification regardless of any action being taken. Notifications shall be deleted, based on the value of the ORB3 DELETE MECHANISM definition.
       3. As a CPRS user, I want the system to display a real-time message (for example, a CPRS pop-up or VistA text message) to the user entering the allergy when an order for a medication matching the allergy being recorded currently exists in the active Patient Medication Profile. The message shall notify the user of the match and advise the user that a "notification" will be sent to the patient's provider. The Notification will contain the following message: “Review New Allergy Entered on Active Med”.
          1. The real-time message specified in 2.6.14.3 shall allow the user entering the new allergy to have the opportunity to select additional recipients (besides themselves and the patient’s provider) to be notified of the allergy/medication match, and the system shall perform that notification in addition to those identified in 2.6.14.2. The users that will be listed as default recipients will be determined by the definition in ORD3 PROVIDER RECIPIENTS.
       4. The system shall provide a new report titled “Existing Medication Drug Allergy Report” which shall be available exclusively in the CPRS Clinical Reports tree.
          1. The “Existing Medication Drug Allergy Report” shall be available upon request with no requirement for permanent storage of the content of any report instance.
          2. The “Existing Medication Drug Allergy Report” shall list all medications on the active patient medication profile for which a corresponding allergy or adverse reaction exists in the patient allergy file, without regard to the chronological sequence of allergy and/or order entry. The medications shall display in the top half of the screen as a list and if the user selects one of them, the Allergy details shall display in the lower half of the screen.
    4. Park a Prescription

Currently, there are limitations in the prescription ordering and dispensing functions of VistA. These limitations impact the medication ordering practices for recurring medications. When a patient is seen by a physician and a medication is ordered or renewed, the VistA medication ordering and dispensing system currently generates a fill order for the prescription even if the patient’s old prescription is not due for a refill. This creates unnecessary multiple dispensing of medications, additional expense, confusion for the patient (multiple prescriptions for the same medication) and co-pay fees for medicines that were not requested (and which cannot be reversed).

The proposed enhancement will allow prescribers to specify a pickup routing of “Park” for a prescription, with the result that the prescription is not dispensed until requested. This added functionality will improve quality of care, patient satisfaction, medication safety, and efficiency, as well as offering cost savings.

CPRS Application

* + - 1. A new Outpatient Pharmacy site parameter shall be available to the CPRS application to enable or disable the “Park” functionality by Division.
         1. In all instances below where the CPRS functionality would typically present the pickup routing options of “Mail,” “Window,” and “Park,” the “Park” option shall not be selectable and an “error message “ will be displayed if the subject medication is identified (by a “D” indicator in VistA Pharmacy), as having a DEA classification that requires special handling. Refer to related requirement 2.6.15.26.
         2. The system shall enable the “Park” option (and its related functionality) when the parameter specified in requirement 2.6.15.1 is set to ON for BOTH the division of the logged on user AND also the division of the encounter location.

The following features shall be available when the Outpatient Pharmacy site parameter is set to "enable" the Park functionality.

* + - 1. The CPRS application shall offer a pickup routing of “Park” when a new outpatient medication order is created or modified by one of the following methods (2.6.1.1):
         1. The CPRS application shall offer a pickup routing of “Park” when placing a new medication order (2.6.1.1.1).
         2. The CPRS application shall offer a pickup routing of “Park” when changing a signed or unsigned medication order (2.6.1.1.2).
         3. The CPRS application shall offer a pickup routing of “Park” when changing an active medication order that will result in a new order (2.6.1.1.3).
         4. The CPRS application shall offer a pickup routing of “Park” when renewing a medication order (2.6.1.1.4).
         5. The CPRS application shall offer a pickup routing of “Park” when copying a medication order that will result in a new order (2.6.1.1.5).
      2. The CPRS application shall provide the ability to place a finished medication order into an emulated status of “Active/Park." Based on the content of a designated field, created to indicate “Parked,” the prescription shall display with the emulated status of “Active Park;” however, the actual status in the database shall be “Active.”(2.6.1.2).
         1. The CPRS application shall provide the ability to reflect a new emulated status of “Active/Park” on the MEDS tab of CPRS (2.6.1.4).
         2. The CPRS application shall provide the ability to reflect a new emulated status of “Active/Park” on the ORDERS tab of CPRS (2.6.1.5).
         3. The CPRS application shall replace the status of “Pending” with the status of “Active/Park” at the time a prescription with a pickup routing of “Park” is finished.
      3. The CPRS application shall provide the additional options of “Park” and “Unpark” on the existing Action menu on the toolbar drop-down menu (2.6.1.2.1).
         1. In the Action menu on the toolbar drop-down menu, the “Unpark” option shall be shown as “Unpark (Generates a request to fill/refill)” (2.6.1.3).
         2. The CPRS application shall provide the ability to “Unpark” a current medication order in an “Active/Parked” status (2.6.1.3).
         3. At the time an order is “Unparked,” the medication fill shall be put into “Suspense” by Outpatient Pharmacy with the current date or the original fill date if in the future. (If the patient shows up at the window, the medication order can then be pulled from Suspense from the Outpatient Pharmacy side) (2.6.1.3).
      4. The CPRS application shall show a definition[[1]](#footnote-2) of the status when the pointer hovers over the status of a medication order on the MEDS tab or over the status column on the ORDERS tab (2.6.1.6).  
           
         The following definitions shall be displayed on the CPRS MEDS tab:
         1. **Active** - A prescription with this status is part of the patient's current expected medication regimen, and if refills remain, it can be filled or refilled upon request (2.6.1.6.1).
         2. **Active/Suspended** - A prescription with this status is part of the patient's current expected medication regimen and a request has been placed to be filled at a future date (2.6.1.6.2).
         3. **Active/Park** - A prescription with this status is finished and is part of the patient's current expected medication regimen, but the next fill will not be dispensed until requested (2.6.1.6.3).
         4. **Pending** - A prescription with this status is an order that has been entered through CPRS. It has been signed by the provider but is awaiting pharmacy review. It cannot be filled until after the pharmacist reviews and finishes the order (2.6.1.6.4).
         5. **Non-verified** - A prescription with this status has been either entered or finished by a pharmacy technician and will become active upon a pharmacist's review. Until such review, a non-verified order cannot be filled (2.6.1.6.5).
         6. **Expired** - A prescription with this status indicates the expiration date has passed and the prescription is no longer active. A prescription may be renewed up to 120 days after expiration (2.6.1.6.6).
         7. **Hold** - A prescription that was placed on hold due to reasons determined by the physician/pharmacist. This prescription cannot be filled until the hold is resolved (2.6.1.6.7).
         8. **Discontinued** - A prescription with this status has been made inactive either by a new (replacement) prescription or by the request of a physician (2.6.1.6.8).
         9. **Discontinued (Edit)** - A prescription with this status indicates a medication order has been edited by either a physician or pharmacist creating a new order (2.6.1.6.9).

The following definitions shall be displayed on the CPRS ORDERS tab:

* + - * 1. **Unreleased** – An order that has been created in the system but has not been sent to the ancillary service to be addressed.
        2. **Cancelled** – An order that was discontinued before it was shared with an ancillary service.
        3. **Renewed** – An order that has been updated; a more current version of the order exists.
      1. The CPRS application shall allow any activity that can currently be performed on an “Active” medication order to be performed on an “Active/Park” medication order.
         1. The CPRS application shall allow the “List details of the medication order” activity to be performed on an “Active/Park” medication order with the result that the medication order shall remain “Parked” (2.6.1.7.1).
         2. The CPRS application shall allow the “Change” activity to be performed on an “Active/Park” medication order with the result that, at the conclusion of the change, the user shall be presented with the options of “mail,” “window,” and “park” (2.6.1.7.2).

The “Park” pickup routing option shall not be selectable and an “error message” will be displayed if the subject medication is identified (by a “D” indicator in VistA Pharmacy), as having a DEA classification that requires special handling. Refer to related requirement 2.6.15.26.

* + - * 1. The CPRS application shall allow the “Discontinued/Cancel” activity to be performed on an “Active/Park” medication order with the result that the medication order shall automatically be “Unparked” (2.6.1.7.3).
        2. The CPRS application shall allow the “Refill” activity to be performed on an “Active/Park” medication order with the result that the medication order shall automatically be “Unparked” (2.6.1.7.4).
        3. The CPRS application shall allow the “Transfer to Inpatient” activity to be performed on an “Active/Park” medication order with the result that the medication order shall remain “Parked” (2.6.1.7.5).
      1. The CPRS application shall ensure that any report that currently shows “Active” medication orders will also show any parked medication orders as “Active/Park” (2.6.1.8).
      2. The CPRS application shall provide a new site parameter that allows the default pickup routing for new medication orders to be set to one of “Mail," “Window,” or "Park” (2.6.1.9).
         1. The pickup routing default set using the CPRS site parameter will be applied when placing a new medication order (2.6.1.9.1).
         2. The pickup routing default set using the CPRS site parameter will be applied when changing an active medication order that will result in a new order (2.6.1.9.2).
         3. The pickup routing default set using the CPRS site parameter will be applied when copying a medication order that will result in a new order (2.6.1.9.3).
         4. The pickup routing default set using the CPRS site parameter will be applied when renewing a medication order (2.6.1.9.4).
      3. The CPRS application shall apply the current order check functionality to any “Active/Park” medication order (2.6.1.10).

Outpatient Pharmacy

* + - 1. A new Outpatient Pharmacy site parameter shall be available to the VistA Pharmacy application to enable or disable the “Park” functionality (2.6.2.16).
         1. The system shall enable the “Park” option (and its related functionality) when the parameter specified in requirement 2.6.15.10 is set to ENABLE for BOTH the division of the logged on user AND also the division of the encounter location.

The following features shall be available when the Outpatient Pharmacy site parameter is set to "enable” the Park functionality:

* + - 1. The VistA Pharmacy application shall offer a pickup routing of “Park” when finishing a new medication order (2.6.2.1).
         1. At the LABEL: QUEUE prompt (when a prescription is finished), a new "PK" option shall be available to “Park” the prescription within VistA Pharmacy.
      2. The VistA Pharmacy application shall offer a pickup routing of “Park” when renewing a prescription (2.6.2.2).
      3. The VistA Pharmacy application shall offer a pickup routing of “Park” when copying a prescription (2.6.2.3).
      4. The VistA Pharmacy application shall offer a pickup routing of “Park” when entering a new prescription (2.6.2.4).
      5. The VistA Pharmacy application shall assign a status of “Active/Park” to a prescription when the pickup routing of “Park” is selected (2.6.2.5).
         1. The VistA Pharmacy application shall provide the ability to place a finished prescription into an *emulated* status of “Active/Park” on the pharmacy VistA Medication Profile. The “ST” column on Outpatient Pharmacy side shall show "AP" for a prescription that has a status of “Active/Park.” The actual internal status will be “Active,” but based on the content of a designated field, created to indicate “Parked,” the status shall be displayed as "AP" (2.6.2.8).
      6. The VistA Pharmacy application shall offer a hidden option to “Park” or “Unpark” a prescription, patterned after the current functionality for Hold/Unhold.
      7. The VistA Pharmacy application shall remove a prescription that is “Parked” from the suspense file when applicable (2.6.2.9).
         1. The VistA Pharmacy application shall offer the option to “Unpark” a prescription with a status of “Active/Parked.”
         2. At the time a prescription is “Unparked,” the VistA Pharmacy application shall allow the pharmacist the option to send a fill of the order by “Window” or “Mail” (2.6.2.6).
         3. At the time a prescription is “Unparked”, the VistA Pharmacy application shall display either the current fill date or the original fill date if in the future (2.6.2.7).
         4. The VistA Pharmacy application shall require that a prescription be “Unparked” before Suspense-related activities can be performed (2.6.2.9).
      8. The VistA Pharmacy application shall allow a prescription with a status of “Active/Park” to be “Unparked” and placed in a suspense file if a mail-in bar coded refill request slip is received for that prescription (2.6.2.12).
      9. The VistA Pharmacy application shall allow the following activities, which can be performed on an “Active” prescription, to also be performed on an “Active/Park” prescription (2.6.2.9).
         1. The VistA Pharmacy application shall follow the same business rules for “Active/Parked” prescriptions as are currently followed for “Active” prescriptions (2.6.2.10).
         2. The VistA Pharmacy application shall allow the “Copy” activity to be performed on an “Active/Park” prescription (2.6.2.9.7).
         3. The VistA Pharmacy application shall allow the “Delete a Prescription” activity to be performed on an “Active/Park” prescription (2.6.2.10.1).
         4. The VistA Pharmacy application shall allow the “Discontinue on a date of death entry” activity to be performed on an “Active/Park” prescription (2.6.2.9.10).
         5. The VistA Pharmacy application shall allow the “Discontinue” activity to be performed on an “Active/Park” prescription (2.6.2.9.1).

The VistA Pharmacy application shall cause a prescription to automatically be “Unparked” (“Active”) if a “Discontinue” activity is performed.

* + - * 1. The VistA Pharmacy application shall allow the “Edit” activity to be performed on an “Active/Park” prescription (2.6.2.10.4).
        2. The VistA Pharmacy application shall allow the “Edit Routing” activity to be performed on an “Active/Park” prescription, with the result that the medication order shall automatically be “Unparked” (2.6.2.9.9).
        3. The VistA Pharmacy application shall allow the “Hold/Unhold” activity to be performed on an “Active/Park” prescription (2.6.2.9.8).

The VistA Pharmacy application shall follow the business rules for “Hold,” while also maintaining the “Parked” flag for the prescription.

The VistA Pharmacy application shall ensure that if a user selects “Unhold” for a previously “Parked” prescription, the user will be presented with a prompt asking whether the intention is to retain the previous “Active/Parked” status when the “Hold” is removed.

* + - * 1. The VistA Pharmacy application shall allow the “Refill” activity to be performed on an “Active/Park” prescription (2.6.2.9.4).

The VistA Pharmacy application shall cause a prescription to automatically be “Unparked” (“Active”) if the “Refill” activity is performed.

* + - * 1. The VistA Pharmacy application shall allow the “Renew” activity to be performed on an “Active/Park” prescription (2.6.2.9.6).
        2. The VistA Pharmacy application shall allow the “Request Co-Pay Status/Cancel Charges” activity to be performed on an “Active/Park” prescription (2.6.2.10.4).
        3. The VistA Pharmacy application shall allow the “Return medication to stock” activity to be performed on an “Active/Park” prescription (2.6.2.10.3).
        4. The VistA Pharmacy application shall allow the “View Prescription” activity to be performed on an “Active/Park” prescription (2.6.2.9.2).
      1. The VistA Pharmacy application shall NOT allow the following activities, which can be performed on an “Active” prescription, to be performed on an “Active/Park” prescription:
         1. The VistA Pharmacy application shall NOT allow the “Reprint” activity to be performed on an “Active/Park” prescription. The application shall require that the prescription must be “Unparked” (“Active”) before the “Reprint” activity can be performed. If a prescription has a status of “Active/Park” and the “Reprint” activity is attempted, the message “Invalid Action—Prescription must be in “Active” status to perform this action” shall be displayed (as it is for the “Hold” functionality) (2.6.2.9.3).
         2. The VistA Pharmacy application shall NOT allow the “Partial” activity to be performed on an “Active/Park” prescription. The application shall require that the prescription must be “Unparked” (“Active”) before the “Partial” activity can be performed. If a prescription has a status of “Active/Park” and the “Partial” activity is attempted, the message “Invalid Action—Prescription must be in “Active” status to perform this action” shall be displayed (as it is for the “Hold” functionality) (2.6.2.9.5).
      2. The VistA Pharmacy application shall ensure that the following reports, which currently show “Active” prescriptions, also show any parked prescriptions as “Active/Park” (2.6.2.11):
* Medication Profile [PSO P]
* DHCP REFILL TRANSACTION MENU [VEXR REFILL TRANSACTION MENU]
* Pharmacy Info Profile [PSOZ INFO PROFILE]
* Action Profile [PSO ACTION PROFILE]
* Bad Address Suspended List [PSO BAI SUSPENDED]
* List Prescriptions Not Mailed [PSO BAI NOT MAILED]
* List Prescriptions on Hold [PSO HOLDRPT]
* Released and Unreleased Prescription Report [PSO RELEASE REPORT]
* Rx (Prescription) Outpatient Dispensing Report
* CS Monitoring Menu [PSD NM MENU]
* Prescription List for Drug Warnings [PSO RX LIST]
* List of Patients/Prescriptions for Recall Notice [PSO RECALL LIST]
* Narcotic Prescription List [PSO NARC]
* Poly Pharmacy Report [PSOPOLY]
* Health Summary Menu [GMTS USER]
* Patient Health Summary [GMTS HS BY PATIENT]
* Performance Monitor Report [OR PERFORMANCE MONITOR]
  + - 1. The system shall ensure that the following reports (not accessible from the VistA menu options) shall be modified to also include “Active/Park” prescriptions (2.6.2.11):
* Any TIU object that is generated using the TIULMED routine
* Any health summary content that is generated using the PSOHCSUM routine
  + - 1. The VistA Pharmacy application shall ensure that a prescription with a status of “Active/Park” is NOT sent to automated dispensing equipment or to CMOP (2.6.2.13).
      2. The VistA Pharmacy application shall apply the current order check functionality to any “Active/Park” prescription (2.6.2.14).
      3. The VistA Pharmacy application shall ensure that any “Park/Unpark” activities performed for a prescription are captured in the activity log for that prescription (2.6.2.15).
      4. The Vista Pharmacy application shall provide a new DEA special handling code (letter “D”) to prevent users from using the parking option for prescriptions that include drugs with that classification (for example, Clozapine) (2.6.2.17).

The functionality of the existing proprietary Massachusetts General Hospital Utility Multi-Programming System (MUMPS) AudioCARE AudioREFILL System shall be enhanced to support the following functional requirements:

* + - 1. The AudioCARE AudioREFILL System shall allow any activities performed for an “Active” prescription to be performed for an “Active/Parked” prescription (from the user/patient perspective, no changes shall be evident) (2.6.3.1).
      2. When a patient requests processing of a prescription using the AudioCARE System, the Outpatient Pharmacy application shall “Unpark” and fill the prescription (2.6.3.1).
      3. The VistA system shall be capable of processing requests from the AudioCARE AudioREFILL System to allow a patient to request/receive the initial (original) fill of a prescription (2.6.3.2).
      4. When a patient using the AudioCARE AudioREFILL System requests a fill of a prescription that has been replaced by a newer, “Parked” prescription for the same orderable item but different dispense drug, the fill shall be processed as if the newer prescription were requested, using the old prescription number (2.6.3.3). This “linking and replacement” capability shall be restricted to the conditions described below. If these conditions are not ALL met, the alternative to “linking and replacement” as described above shall be for the system to respond to the user with the message “[Rx number] is no longer refillable please speak to a pharmacist.
* The patient requesting the prescription must be the same for both the previous prescription and the more recent “Parked” prescription.
* The prescriptions must be for the same orderable item.
* The previous prescription for the orderable item is no longer active.
* The most recent prescription has a status of “Active/Park” [finished].
* There is only one prescription on file for the specific patient and orderable item.

Associated Non-Functional Requirements

* + - 1. Park-A-Prescription GUI source code and related VistA changes shall be integrated into CPRSv32.
      2. The Delphi source code for Park a Prescription shall be converted from Delphi 2006 to Delphi XE3 (or current version in use for CPRSv32).
    1. ~~First Dose – Enhancement within CPRS Medication Order~~
       1. The system shall display to the ordering clinician the last time a medication was ordered, administered or dispensed/filled; or display that the drug is a new medication.
          1. During the ordering dialog for a medication for inpatients or outpatients, the system shall check the inpatient, outpatient, IV, Non-VA and Remote Data files and display to the ordering clinician the dates of one or more of the following: last filled, last action/given, last ordered.
          2. The system shall base the display on the orderable item of the medication currently selected by the ordering clinician.
       2. The system shall alert the nurse when the patient receives their first dose of medication.
          1. If clinician determines based on returned information that this is a first dose, the system shall provide a check box for the clinician to communicate this information to pharmacy and nursing.
          2. If the system does not find any indications that the patient has had this medication, the system shall present the check box with a check mark present.
          3. The system shall automatically capture the date/time the order is signed as the “first dose” date/time.
          4. The system shall allow the provider to uncheck the box if it isn’t in the system, (there should be a new first dose comment box) because the patient is now reporting that they have previously had the medication. (The provider will then need to enter a new Non-VA medication when they are done with the current order).
          5. The system shall provide a pop up alert to the BCMA nurse alerting them that they have scanned a first dose drug.
          6. The system shall provide the process and reporting to work for Inpatient Medications for Outpatient (IMO) locations.
       3. The system shall provide the nurse with a report of the patients that have been administered a first dose during that nurse’s shift.
          1. The system shall provide a report to the nurse that can be run for a period of time selectable by the nurse that displays all patients that received a first dose with time of administration.
       4. The system shall provide a means of tracking compliance with the process of monitoring a patient's response to a first dose medication.
          1. The system shall provide a first dose monitoring report that can be run for a period of time that displays the date/time that all patients for a given doctor or clinic or service or location had first dose checked on order entry, date/time of BCMA Comment field and text of comment if patient was an inpatient.
          2. The system shall provide a compliance report for a nurse that displays the number of first dose medications administered and the number with a comment entered in BCMA.
    2. Enhance CPRS/Medication History Report to Fully Document IV Administration
       1. The system shall provide the ability for the user to view all infusion actions (instead of just the most recent completed action), accompanied by actual dates and times, for each continuous infusion.
          1. The system shall provide the ability for the user to view all infusion actions (and not just the most recent completed action), accompanied by actual dates and times (with the most recent first), for each continuous infusion on the **Medication History** report (which displays at the bottom of the CPRS Order Detail window, viewed from the Orders tab, and the Medication Details window, viewed from the Meds tab).
          2. The system shall provide the ability for the user to view all infusion actions (and not just the most recent completed action), accompanied by actual dates and times (with the most recent first), for each continuous infusion on the **Medication Admin History** report (which is available from the CPRS Reports tab).
          3. Each separate infusion of an additive (in a solution that is not pre-mixed) shall be presented only once on the report and shall no longer appear once as an “additive” and again in conjunction with a “solution” for the same administration. If multiple administrations occur in the specified time frame, then each administration of the additive shall be reported.
          4. Each separate infusion of a pre-mixed solution shall be presented only once on the report. If multiple administrations of a pre-mixed solution occur in the specified time frame, then each administration shall be included on the report).
          5. In order to satisfy the requirements above, the search logic invoked by the BCMA module (in response to an API call from CPRS) shall be modified as follows:

For infusion orders having a solution or solutions (no pre-mix flag) with one or more additives, the search shall be conducted for the additive(s) only, and not for the solutions(s). The results shall be grouped by additive, with the most recent administration first.

For infusion orders having a solution or solutions (with pre-mix flag), the search shall be conducted for the pre-mixed solution(s). The results shall present the administrations of the pre-mixed solution(s), with the most recent first.

* + 1. Critical / High Order Check Display
       1. The system shall collect override justification(s) specific to each order for which an order check has been presented and where the justification is required.
       2. The system shall provide the ability for a user to view the severity of order checks (low, medium [significant], high [critical]).
       3. The system shall provide the ability to prompt provider to enter override reasons for each order with critical (i.e. high) order checks in need of justification prior to releasing the order.
       4. The system shall provide the ability for user to determine which override justification goes with which order prior to overriding the order check/releasing the order.
    2. Button to Link No Assessment Warning to Allergy Assessment Screens
       1. For an order check result of the type “No Allergy Assessment,” the system shall present a button in each associated instance of the CPRS Order Checks dialogue to allow (but not require) the user to immediately proceed to the Causative Agent Lookup window and initiate allergy entry.
          1. The system shall not display the “Perform Allergy Assessment” button if the logged on user is not authorized to enter an allergy assessment.
       2. The button “Perform Allergy Assessment ” shall continue to display in any Order Checks dialog displayed to the user (if the user has allergy entry privileges), whether at acceptance, signing, or other stage of order processing, while the patient’s allergy assessment status is “No Allergy Assessment.”
       3. If the user clicks the button “Perform Allergy Assessment” in response to an order check of the type “No Allergy Assessment” and either enters a reactant or selects “No Known Allergies,” then any conditionally required override reason associated with this order check type shall not be required at the time of signing (requirement is currently triggered if a site parameter assigns HIGH clinical significance to a “no allergy assessment” order check).
    3. Real-Time Notification of Potentially Missed Order Checks
       1. Provide real-time notice to user of limitations on drug allergy order checking (order checks by drug class) when the user selects a reactant for an allergy or adverse drug reaction from the selection tree (source files) presented.
          1. Provide a real-time (pop-up) message to the user if the reactant selected during patient allergy/ADR entry is a drug ingredient that does not supply the necessary information to support a drug allergy order check at the drug class level. Include in the message the recommendation to the user to select the reactant from another (higher) file in the selection tree. The user shall be presented with this message provided: “If this is a reaction only to the ingredient selected (i.e. CAPTOPRIL), check the box to continue. If it may be a reaction to other drugs in the same class, please select an item higher on the list.”
          2. Require the user to either confirm acceptance of the selected reactant (and its limitations on potential future drug allergy order checks) or decline/reject the selected reactant and be allowed to re-select the reactant from another data source.
    4. Enhanced Allergy Checks using COTS Data
       1. The system shall incorporate a mapping of the VUID for all VA reactants currently found in the VA Allergies File (GMR Allergies 120.82), National Drug File/Generic (VA Generic 50.6), Drug Ingredients File (50.416), and VA Drug Class File (50.605) and therefore currently selectable for Patient Allergy Recording—which are NOT excluded from selection (by 2.6.21.2.1 below) and NOT excluded from Drug Allergy Order Checking (by 2.6.21.2.2 below)—to the First Data Bank concept identifier for that reactant, wherever a corresponding FDB identifier exists.
       2. The system shall incorporate modifications to the reactant data currently found in the files specified (in 2.6.21.1 above) as follows:
          1. A subset (TBD) of all of the reactants for which matches are found in the source files shall be identified in their data sources as “selectable as reactants during patient allergy recording.” (An exception might be “compressed air,” for which a match is found in the National Drug File, but which may not be meaningful for selection during patient allergy/ADR recording.)
          2. A further subset (TBD) of the reactants selectable for allergy recording, as described in 2.6.21.2.1 (above) shall be identified in their data sources as “selectable as reactants during patient allergy recording AND meaningful for inclusion in the dataset sent for Drug Allergy Order Checking.” (Exceptions might be “Band-Aids,” for which a match is found in the VA Allergies File, or “Cinnamon,” for which a match is found in the Drug Ingredients File, but which—although valid for selection during patient allergy recording—may not be meaningful for inclusion in Drug Allergy Order Checks).
          3. For the set of reactants resulting from the filter condition described in 2.6.21.2.2 above (reactants that are meaningful for inclusion in Drug Allergy Order Checks), those reactants shall be identified in their data sources as either (1 meaningful for inclusion in Drug Allergy Order Checks AND mapped to an FDB identifier (resulting in a system decision to follow the FDB path for Drug Allergy Order Checking); or (2 meaningful for inclusion in Drug Allergy Order Checks BUT NOT mapped to an FDB identifier (resulting in a system decision to follow the legacy VA path for Drug Allergy Order Checking).
          4. The system shall incorporate the modifications necessary (if any) to the Patient Allergy File (120.8) to accommodate the modifiers (indicators) specified in 2.6.21.2.2 and 2.6.21.2.3 above
       3. The system shall provide a mechanism to allow optional branching to either (1 VA drug allergy order checking functionality as it currently exists (or is modified according to these requirements) and which is resident within the VistA system or (2 to FDB Drug Allergy Order Checking/alert functionality, accessed using the VistA and FDB APIs for Drug Allergy Order Checking). The option for variable branching to use the legacy VA path shall be exercisable for the following
       - Valid and/or legacy VA reactants recorded in the Patient Allergy file and identified as meaningful for inclusion in Drug Allergy Order Checks but which are not supported by FDB with matching concept identifiers.
       - The VistA enterprise system during the period until conversion to FDB for Drug Allergy Order Checking is fully implemented.
       - Drug Allergy Order Check instances when the FDB functionality (resident on the MOCHA servers) is unavailable due to system down or other conditions that prevent successful Drug Allergy Order Checking against FDB logic and data.
       - Where/when branching to FDB for Drug Allergy Order Checking is “turned off” using a system or site parameter.
       1. A new interface shall be created for Drug Allergy Order Checking that utilizes an FDB-specific API (or APIs) in VistA and the corresponding FDB API for Drug Allergy Order Checking, allowing patient allergy and order data to be sent for comparison by FDB logic and classification data and allowing alert text (Drug Allergy Order Check results) generated by FDB to be returned and processed by CPRS/VistA.
       2. In the Enter Allergy or Adverse Reaction window and in all associated data sets, the system shall display the selection options for Nature of Reaction as 1) Allergy, 2) Adverse Reaction (instead of “Pharmacological”), and 3) Unknown.
          1. The order of presentation of the Nature of Reaction options in the list shall remain 1) Allergy, 2) Adverse Reaction, 3) Unknown, (and shall not be in alphabetical order.
       3. Patient allergy data (recorded reactants and their concept identifiers) shall remain compatible for data interchange with the Department of Defense/Clinical Health Data Repository and other outside entities that currently rely on association of the VUID for identified allergy reactants with UMLS codes.
    5. D/C Order Due to Adverse Reaction
       1. The system shall add Allergy/Adverse Drug Reaction as a reason for discontinuing a medication order.
          1. The system shall include Allergy/Adverse Drug Reaction as a reason for discontinuing a medication order, selectable from the same list of “Reasons for Discontinue” as currently offered on the Discontinue/Cancel Orders screen.
          2. The system shall not default to Allergy/Adverse Drug Reaction as the reason for discontinuing a medication order, even though that reason may appear at the top of the resulting selection list, based on the incoming (alphabetical) sort order of the elements in the list.
       2. When Allergy/Adverse Drug Reaction is selected as reason for discontinuing a medication order, the system shall display a window presenting the user with the list of currently recorded allergies for the patient and asking whether the user wants to enter the allergy/adverse reaction.
       3. If the user answers YES to proceed with Allergy/ADR entry, the system shall display the Allergy/ADR entry window within the normal discontinue medication orders workflow.
       4. If the user answers NO to not proceed with Allergy/ADR entry, the system shall re-display the Orders tab, showing an unreleased order to discontinue the medication, ready for Provider signature.
       5. The system shall include a cancel option on Allergy/ADR entry window, so the provider can elect to not enter an Allergy/ADR if not appropriate.
    6. Changes to Allergy/Pharmacy Packages
       1. The system shall reduce the potential for patient allergy information to be overlooked by nurses, pharmacists, and physicians.
          1. The system shall define the event that triggers a pop-up alert for a drug allergy order check as “as soon as the provider chooses the medication” instead of as “after user accepts order.”
          2. The system shall provide a pop-up “override allergy” alert if the provider elects to continue with the medication order after the drug allergy order check.

The “override allergy” alert window shall present a list of pre-defined, commonly used reasons for overriding a drug allergy.

The system shall allow direct entry of a reason for overriding in the pop-up “override allergy” alert as an alternative to selection from the pre-defined list (specified in 2.6.23.1.2.1).

The system shall require a minimum of 4 characters in the “reason for overriding” field to discourage the entry of filler in this required field.

* + - * 1. The system shall ensure that any “reason for overriding” allergy alert (whether selected from a list or directly entered) is permanently available for traceability/reporting.
        2. The system shall differentiate drug allergy order check results by presenting them in a separate dialog and by labeling or otherwise visually distinguishing them from other types of order check results when presented together in the Order Detail window.
        3. Once a reaction is classified as either an adverse reaction or a true “allergy,” the system shall always differentiate between the two (based on these categories) when presenting alerts to users.
      1. The system shall improve accuracy and documentation of patient allergies between medical centers.
         1. The system shall provide the ability to add a comment to another site’s allergy information and to associate that comment with all locally presented order check detail related to that allergy. The comment shall be entered on the Order Check screen labeled, “Local Comment on Remote-Facility Allergy”, and will work in a fashion similar to the override reason with additional selections which include “Patient report/interview is inconsistent with remote allergy/data-cannot correct remote data” or “Patient report per interview is inconsistent with remote allergy data.
         2. The system shall provide the ability for users at the site where the comment (specified in 2.6.23.2.1) was added to view the comment but shall not support the export of such comments to other VistA instances.
    1. Order Flag Recommendations
       1. The system shall enhance CPRS "Flag Order" functions.
          1. The system shall provide the ability for the user who sets the order flag to:

Specify an unlimited number of recipient(s) of the order flag.

Provide the ability to add a “No Action Alert” date to the flag. (Optional)

View a list of all selected recipients of the order flag.

Receive notification that a flagged order was not unflagged within a certain (user definable?) time frame. (Alert mandatory and site not allowed to disable).

Document complete reason for flag in the Reason for Flag field without restriction as to the number of characters that can be entered. (The text field will increase from 80 characters to 240 characters and subject to a minimum of 4 characters).

* + - * 1. The system shall provide the ability for the user who processes the flagged order alert to:

Add an unlimited number of recipients to flagged order alert.

Enter multiple comments (any recipient of the order flag).

View all comments, flag recipients, and flag/unflag actions in order details of the flagged order.

Select an option (for example, CPRS Orders tab>View menu >Active Orders and Current Orders to view all flagged orders for patient, including current status and flag/unflag comments for each order.

View Order Location and Order Name with the flag alert notification.

View current status of all related orders for a patient and their flag/unflag comments, including business logic to ensure that users processing alerts do not arrive at a blank order screen.

View order flag alerts for each flagged order, including the order name in the alert text.

* + - * 1. The system shall provide the following functionality for unflagging orders:

The system shall require that a comment be entered by the user unflagging an order.

2.6.24.1.3.2 The system shall restrict the users who can unflag an order to the recipients of that particular flagged order.

2.6.24.1.3.2.1 The system shall provide the ability to perform the unflag action by “Display Groups”. Each display group would specify what key (ORELSE, OREMAS and PSJ PHARM etc.) can unflag orders.

2.6.24.1.3.2.2 The system shall provide the ability for a site to disable unflagging restrictions.

2.6.24.1.3.2.3 The system shall implement the restriction and the site enable/disable parameters at the PACKAGE, SYSTEM, and DIVISION level settings.

* + - * 1. The system shall provide the ability to add a “No Action Alert” expiration date to a flag.
        2. The system shall provide the ability to view all flagged orders from all views (for example, on the CPRS Orders tab>View Menu > Active Orders and Current Orders).
        3. The system shall provide the ability for any alert recipient to add a comment to the flag.
        4. The system shall notify the originator of the flagged order when a comment is added to the flag. (This functionality will not be available in VistA Pharmacy).
        5. The system shall send an alert to all listed flag order recipients that a comment was added to the flag.
        6. The system shall automatically delete all unprocessed flag order alerts from all of the flag order recipients for this flag order. This overrides the setting of ORB DELETE MECHANISM to INDIVIDUAL.
        7. The system shall restrict order flag forwarding
    1. Progress Notes Display Misleading
       1. The system shall provide complete information retrieval to the user.
          1. The system shall retrieve the complete set of TIU note documents within the specified range.
       2. The system shall eliminate user error.
          1. When a document has an addendum(s), the system shall count the original and all addendums as (1) set for counting # of documents returned.
       3. The system shall increase user cognition of any limitations placed on the information retrieval.
          1. The system shall return the full list of sequentially dated documents without date/time gaps due to maximum number reached.
    2. Indication for Prescription and Medication Orders
       1. The system shall provide a method for providers to associate a medication indication with each medication order they place in CPRS, Inpatient Medications or IV Medications and Outpatient Pharmacy.
       2. The system shall provide a method to enter a valid indication in each application for CPRS, Inpatient Medications or IV Medications and Outpatient Pharmacy.
          1. The system shall provide the users with a drop down list [or equivalent] of available indications for use.

The system shall provide a drop down list to be populated with the Most Common indications from the orderable item file.

The system shall provide a drop down list for a Single Orderable Item with the most common indication displayed above the line and the remainder indications displayed below the line in alphabetical order.

The system shall provide a drop down list for Infusion Orders with Multiple Orderable Items to display the union of indications in alphabetical order excluding a line separation.

The system shall provide for Non-VA documentation, the option of ‘UNKNOWN’ to be available in the drop down list in CPRS.

* + - * 1. The system shall provide the ability to capture the indication as a free form text entry.
      1. The system shall provide the ability for providers to associate an indication for use on an Outpatient Prescription, regardless of whether it is entered through CPRS or VistA.
      2. The system shall provide the ability for providers to associate an indication for use on an Infusion order whether entered through CPRS or VistA.
      3. The system shall provide the ability for providers to associate an indication for use during Non-VA Medication documentation
      4. The system shall provide the ability for providers to associate an indication for use on an Inpatient Medication order whether entered through CPRS or VistA.
      5. The system shall provide the ability for providers to associate an indication for use on a Clinic Medication order.
      6. The system shall provide the ability for providers to associate an indication for use on a Clinic Infusion order.
      7. The system shall provide the ability for providers to associate an indication when building a Quick Order.
      8. The system shall provide the ability for the Clinical Application Coordinator (or other authorized user) to associate an indication when building a system-wide Quick Order through VistA.
      9. The system shall provide the ability to associate indications to an orderable item in the Pharmacy Orderable item file.
         1. The system shall provide the ability to define a list of possible indications for a given pharmacy orderable item.
         2. ~~The system shall provide the ability to define the default indication for a given pharmacy orderable item but the default shall not be required.~~
      10. The system shall provide the ability for the indication information to carry

over on the actions specified below:

* Copy to New Order
* Transfer to Outpatient
* Renew Order
* Change Order
  + - 1. The system shall provide the ability to view the indication information on the Patient List.
         1. The system shall provide the ability to view the indication information on the options listed below:
* Medication Profile [PSO P]
* CPRS Reports Tab - Medications (under Clinical Reports Tree)
* Health Summaries, Nationally Released - RXOP
* EMLR Essential Medication List for Review (patch 94)
* Inpatient Profile [PSJ PR]

* + - 1. The system shall provide the ability to print the indication on the Outpatient medication label.

2.6.26.14.1 The system shall provide the ability for pharmacist to include or exclude the indication information from the medication label.

2.6.26.14.2 The system shall provide the ability for the pharmacist to edit the

indication text from the provider in case the wording of a selection (such as from the problem list) is clinically accurate but not appropriate for use on the medication label.

* + - 1. The system shall provide the ability to store the medication indication information for later retrieval and data analysis as a discrete field on the VistA system.
      2. The system shall provide the clinical staff with the ability to view the indication information in the VistA pharmacy patient order detail screens.
      3. The system shall provide the ability to produce monthly and quarterly indications reports. Summaries of National, Local, and Free Text Indication usage.
    1. Allow user to clear own patient locks in CPRS
       1. The system shall notify the user that the lock is because another user is entering data into the patient and/or order record.
       2. The system shall notify the user that he/she has another process that locks the patient and/or order record.
       3. The system shall display the date and time within the popup message to ensure the user will know that the message is current.
    2. Create separate Alert for Prosthetics Requests
       1. The system shall enable a separate update alert for prosthetics requests that can be

configured at the user or team level, separately from other consult alerts.

* + - 1. ~~The system shall enable Prosthetics update alerts to be filtered/filed in a separate storage location for viewing at a later time.~~
    1. Limiting Additional Signers List
       1. The system shall provide the ability to limit names presented to the user in any otherwise unrestricted CPRS-presented drop down list using data from file 200 to display, and allow selection of, only active users who have CPRS COR tab access.
       2. The system shall provide the ability for sites to identify users (active or inactive) to be manually added to the list of eligible signers through use of an ASU USER CLASS.
          1. The system shall provide the ability to visually identify inactive users present in the list of eligible signers.
          2. The system shall invoke requirement 2.6.29.2.1 only when requirement 2.6.29.2 is in effect.
       3. The system shall provide the ability for sites to identify users to be manually excluded from the list of eligible signers through use of another ASU USER CLASS.
    2. Nature of Order Default
       1. The system shall allow the user to select the correct Nature of Order.
          1. Modify CPRS to remove the “Verbal” Nature of Order default so that the user will have to select the correct Nature of Order.
       2. The system shall allow sites to set a default value.
          1. Modify CPRS to allow sites the flexibility to set a default value (Verbal/Telephone/Policy/None) for the Nature of Order.
          2. Create a parameter that will give sites the flexibility to set a default value (Verbal/Telephone/Policy/None for the Nature of Order.
    3. VistA Immunization Enhancements
       1. The system shall access Immunization Calculation Engine (ICE) Web Service to generate immunization recommendations for the patient.
       2. The system shall allow the immunization administrator to enter, edit and save the following data fields about an immunization within an individual's Immunization Record:

Administered:

- Immunization Type\*

- Lot number\*

- Expiration date (auto-populated based on lot #)

- Manufacturer (auto-populated based on lot #)

- Administration Date (auto-populated based on encounter date/time)

* If CPRS selected Encounter is a current clinic encounter (A, I) the administration date is not selectable and cannot be changed.
* If CPRS selected Encounter is an inpatient ward location,

Daily Hospitalization Encounter type “D” the administration date is not selectable and cannot be changed.

* Hospitalization Encounter type “H” is the administration date is selectable and the user must pick a valid administration date and time. The data saved will be saved to the inpatient location, the date/time selected, Encounter type “D”

- Administered By\* (default to signed-on user)

- Ordered By\* (default to encounter provider)

- Route of administration (e.g. oral, IM, sub-Q, intranasal)\*

- Site of administration (body part)\*

* CPRS will provide a list of default administration sites based on list of route selected. If route is oral the site is disabled, no selection needed.

- Number in the series (e.g. 3rd Anthrax immunization)

* The list of possible series in the drop down may vary depending on the immunization

- Dosage in ml -The UI may be changed to accept multiple units of measurements.

- VIS statement\* (identified by immunization, language, edition date)\*

-Able to select multiple VIS statements.

-Default will be the English version of the most recent VIS statement.

\* VIS - On the required fields if no possible values exists the field is not required

- Comments (Comment field will be restricted to 245 characters.)

-If more than one CPT code is code is available then user must select the appropriate CPT code.

- The system shall provide a warning to the clinician when they proceed to record an immunization that is contraindicated/refused and record an override reason if they go ahead with it despite the warning.

-If user accepts warning then override reason must be entered.

* + - 1. The system shall allow the immunization administrator to enter Historical Immunizations with the following data fields:

Historical:

- Immunization Type\*

- Lot number

- Expiration date

- Manufacturer

- Administration Date\* (can be vague date – month/year)

- Route of administration (e.g. oral, IM, sub-Q, intranasal)

- Site of administration (body part)

- Number in the series (e.g. 3rd Anthrax immunization)

- Dosage in ml

- Outside Location

- Information Source\*

- Comments

* + - 1. The system shall provide a warning to the clinician when they try to record an immunization that is contraindicated/refused and record an override reason if they go ahead with it despite the warning.

–If user accepts warning, then override reason must be entered.

-If more than one CPT code is available, then user must select the appropriate CPT code.

* + - 1. The system shall provide the capability to record a contraindication/refusal in the new V IMM Contra/Refusal Events file (being released in PX215)\*

-Warn Until Date

- Comment

* + - 1. The system shall provide the ability to automatically add CPT Code that correlates with administration when one immunization is administered.
      2. The system shall provide the ability to automatically add one instance (each) of the CPT Code that correlates with administration for each additional immunization. \*\*\*At the time this document codes 904721 and 904722 are applicable, however these codes may change in the future.
      3. The system shall allow access to Immunizations from the Coversheet.
         1. From the Coversheet the form shall open with the ICE panel expanded, no immunizations shall be pre-populated in the grid.
         2. Users shall be able to document as many immunizations as needed on the one instance of the form.
         3. Upon exiting the form a site defined note shall be auto-generated.
         4. The corresponding data shall be saved in PCE for the correct Encounter (Administered today vs documenting outside/historical)
         5. A note shall be generated per each instance of the form closing. “A note should not be generated if no changes were made” by clicking Save and Exit. (The user will not be able to exit the form by clicking Save and Exit if there are Immunizations showing in the grid with a status of incomplete.) Incomplete records will not be saved to PCE and will not be part of the note.
         6. Upon exiting the form the Immunization pane on the Coversheet shall be refreshed. \*Users may need to manually refresh the Coversheet pane, as PCE updates are in a task job.
         7. Upon exiting the form the additional CPT codes for documenting the administrations shall be sent to PCE.
      4. The system allows the Grid to display the Immunizations in progress.
         1. Users can Add Immunizations in progress.
         2. Users can Edit Immunizations in progress.
         3. Users can Delete/remove Immunizations in progress.
         4. Users can View the note text of the Immunization in progress.
      5. The system allows the Grid to display Immunization name and Documentation type (administered, historical, contraindicated/refused).
      6. The system shall define status Complete/Incomplete.
         1. Complete = All required fields are populated.
         2. Incomplete = All required fields are not populated.
      7. The system shall utilize the Form Editor.
         1. The Form Editor shall mark all required fields with an asterisk.
         2. The Form Editor shall require all required fields to be populated before the Grid may be populated.
         3. Users shall be provided a warning message if required fields are missing
         4. Users shall have the ability to cancel changes.
         5. When editing an immunization any value entered in this instance shall auto-populate.
      8. The system shall utilize Reminder Dialogs to document Immunizations (Note: Normal Reminder dialog functionality shall remain the same).
         1. Data shall be saved when the user clicks Finish in the Reminder Dialog.
         2. Data shall not be saved when the user exits the form.
         3. Upon exiting the form, the active note the reminder is updating will be updated when the user clicks Finish in the Reminder dialog.
         4. Notes are not auto generated.
         5. If the Reminder Dialog element contains an Immunization type a button shall display, upon clicking on the button the new immunization form shall be displayed.
         6. If the finding item is “general immunization” upon clicking the button, no Immunizations are defaulted and no Immunizations show in the grid.
         7. If there is only one Immunization finding item and it is not “general immunization” the finding item will show in the grid and it will be ready for editing.
         8. If there is more than one Immunization finding item, all of them will show in the grid, the user must select which one to start editing.
         9. From the Immunization form the user shall be able to add additional Immunizations per element.
         10. Upon clicking finish on the Reminder dialog the additional CPT codes for documenting the administrations shall be sent to PCE.
      9. The system shall allow Immunization documentation on the Encounter Form.
         1. User shall be presented with a list of Immunizations for that encounter.
         2. User shall be able to remove Immunizations for that encounter.
      10. Skin Test
    1. Remove “Clinic” Pick-up
       1. The system shall provide the ability to select location to pick up medications.
       2. The system shall display radio buttons in the Outpatient Med Order Dialog.
    2. Filter Provider Drop Down List
       1. The system shall filter out non-clinical names to prevent the selection of non-clinical users from the list.

## Graphical User Interface (GUI) Specifications

Document the GUI specifications.

## Multi-divisional Specifications

There are no specific multi-divisional requirements.

## Performance Specifications

This section should identify dynamic numeric specifications placed on the software or on human interaction with the software as a whole. Numerical specifications may include:

* The number of simultaneous users to be supported
* Dynamic numeric specifications should include the numbers of transactions and tasks and the amount of data to be processed within certain time periods for both normal and peak workload conditions.

All of these specifications should be stated in measurable terms. For example:

* The system shall process a transaction in less than 1 second 95% of the time.

not

* An operator shall not have to wait for the transaction to complete.

## Quality Attributes Specification

Indicate any specifications that enhance the supportability, maintainability, portability, testability, or reusability of the system/project being developed. Include coding standards, naming conventions, class libraries, maintenance access, and maintenance utilities that are not already documented in the project’s Quality Assurance Plan.

## Reliability Specifications

Specify the level of reliability required of the system. The following list contains suggestions for specifications.

* Availability – Specify percentage of time available (xx.xx%), hours of use, maintenance access, degraded mode operations, and similar.
* Mean Time Between Failures (MTBF) – This is usually specified in hours, but it could also be specified in terms of days, months or years.
* Mean Time To Repair (MTTR) – How long the system is allowed to be out of operation after it has failed.
* Accuracy – Specify precision (resolution) and accuracy (by a known standard) that is required in the systems output.
* Maximum bugs or defect rate – This is usually expressed in terms of bugs/KLOC (thousands of lines of code), or bugs/function point.
* Bugs – This is categorized in terms of minor, significant, and critical bugs: the specification(s) must define what is meant by a “critical” bug. For example, complete loss of data or complete inability to use certain parts of the functionality of the system.

## Scope Integration

This section of the RSD should put the product into perspective with other related products. If the product is independent and completely self-contained, it should be so stated here. If the RSD defines a product that is a component of a larger system, as frequently occurs, then this section should relate the specifications of that larger system to functionality of the software and should identify interfaces between that system and the software.

This section should also specify the use of other required software products (for example, MUMPS Kernel, FileMan, Windows NT); and interfaces with other applications or other systems such as commercial off-the-shelf (COTS) or national databases. Specify the application interfaces (e.g., the linkage between an accounts receivable system and a general ledger system or a COTS device that will be interfaced using an existing interface). For each required software product, the following should be provided:

* Integration Agreement (IA) number as appropriate
* Product name
* Version number
* Discussion of the purpose of the interfacing software as related to this software product
* Definition of the interface in terms of message content and format (HL7, Electronic Data Interchange, etc.)

A block diagram showing the software interfaces and major components of the larger system, interconnections, and external interfaces can be helpful.

## Security Specifications

Document the security specifications to ensure that the planned or existing specifications and controls are fully documented and understood. Use the business requirements provided by the business owner and the enterprise-level Requirements Project Allocation Report (PAR) to document the security specifications.

## System Features

Each feature description should include a sequence of inputs and outputs. It is also highly recommended that system and functional specification names be selected with an eye to the consistency of their use in subsequent documents such as the Systems Design Document (SDD).

## Usability Specifications

Include specifications that affect usability. The following list contains examples of usability specifications:

* Training – Specify time required for a normal users and power users to become productive
* Performance measures – Specify task times for typical tasks
* Specifications to conform to common usability standards – Specify standards such as those for IBM Common User Access (CUA) or Microsoft® GUI

# Purchased Components

Describe any components purchased for use in the system/project, any applicable licensing or usage restrictions, and any associated compatibility/interoperability or interface standards.

# Estimation

Detail the estimation approach for the project.

If the project chooses to use function point estimation, the Function Point Estimate Workbook must be completed to support the summary information in this section. After the workbook has been completed, the data in the Application Estimate sheets must be entered in this section.

For projects that require development in multiple products, the total estimated function points are calculated as the sum of each product’s estimated function points.

Instructions

1. Contact The VA Office of Information and Technology (OIT) Product Development (PD) Process, Performance, and Oversight (PPO) Project Estimation Support to request an RSD-based Function Point Estimate
2. Request to have a results summary returned in the format of the following table.

Project Software Functional Size and Size-Based Effort and Duration Estimate

Application

| Item | A | B | C | D | E | Total |
| --- | --- | --- | --- | --- | --- | --- |
| **Counted Function Points** |  |  |  |  |  |  |
| **Estimated Scope Growth** |  |  |  |  |  |  |
| **Estimated Size at Release** |  |  |  |  |  |  |

| Size-Based Effort Estimates | Labor Hours | Probability |
| --- | --- | --- |
| **Low-Effort Estimate – With indicated probability, project will consume no more than:** |  |  |
| **High-Effort Estimate – With indicated probability, project will consume no more than:** |  |  |

| Size-Based Duration Estimates | Work Days | Probability |
| --- | --- | --- |
| **Low-Duration Estimate – With indicated probability, project will consume no more than:** |  |  |
| **High-Duration Estimate -- With indicated probability, project will consume no more than:** |  |  |

Figure 1: Cumulative Probability (“S-curve”) Chart

[Insert Cumulative Probability (“S-curve”) Charts here]

# Approval Signatures

This section is used to document the approval of the RSD during the Formal Review. The review should be ideally conducted face to face where signatures can be obtained ‘live’ during the review, however the following forms of approval are acceptable:

* Physical signatures obtained face to face or via fax
* Physical signature obtained in person or via fax
* Digital signature tied cryptographically to the signer

/es/ in the signature block, provided that a separate digitally signed e-mail indicating the signer’s approval is provided and kept with the document

The Chair of the governing Integrated Project Team (IPT), Business Sponsor, IT Program Manager, and the Project Manager are required to sign. Please annotate signature blocks accordingly.>

REVIEW DATE: <date>

SCRIBE: <name>

Signed:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

James Plastow, Integrated Project Team (IPT) Chair Date

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Elizabeth Johnson, Business Sponsor Date

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James Plastow, Project Manager Date

Appendix A: Non-Functional Requirements

The following non-functional requirements should be reviewed and assessed while developing the requirements for the project.

System Performance Reporting Requirements

(Note: Each system developed by the Department of Veterans Affairs (VA) Office of Information and Technology (OI&T) must comply with the following mandatory requirements.)

1. Include instrumentation to measure all performance metrics specified in the Non-Functional Requirements section of the Requirements Traceability Matrix (RTM). At a minimum, systems will have the ability to measure reporting requirements for Responsiveness, Capacity, and Availability as defined in the non-functional requirements section of the RTM.
2. Make the performance measurements available to the Information Technology (IT) Performance Dashboard to enable display of “actual” system metrics to customers and IT staff.

Operational Environment Requirements

1. System response times and page load times shall be consistent with \_\_\_\_\_\_\_\_\_\_\_ standards (for example, My HealtheVet or HealtheVet). (Comment: There may be different expectations for an external display vs. a query. Need to address these different uses. Also indicate if this information is unknown).
2. Maintenance, including maintenance of externally developed software incorporated into the \_\_\_\_\_\_\_\_\_\_\_\_\_application(s), shall be scheduled during off peak hours or in conjunction with relevant maintenance schedules. The business owner should provide specific requirements for establishing system maintenance windows when planned service disruptions can occur in support of periodic maintenance.
3. Information about response time degradation resulting from unscheduled system outages and other events that degrade system functionality and/or performance shall be disseminated to the user community within 30 minutes of the occurrence. The notification shall include the information described in the current Automated Notification Reporting (ANR) template maintained by the VA Service Desk. The specific business impact must be noted in order for OIT to provide accurate data in the service impact notice of the ANR.
4. Provide a real-time monitoring solution to report agreed/identified critical system performance parameters.
5. Critical business performance parameters shall be identified e.g., transaction speed, response time for screen display/refresh, data retrieval, etc. in a manner that data capture can occur to support metric reporting and support the OI&T performance dashboard display. If no such performance metrics are required or provided there will be no program specific Service Level Agreements (SLA) created, nor shall there be any active/real time monitoring through OI&T Performance Dashboard to provide the business owners any performance metrics.
6. Notification of scheduled maintenance periods that require the service to be offline or that may degrade system performance shall be disseminated to the business user community a minimum of 48 hours prior to the scheduled event.

Documentation Requirements

1. The training curriculum shall state the expected training time for primary users and secondary users to become proficient at using the \_\_\_\_\_\_\_\_\_\_\_\_ application(s).
2. All training curricula, user manuals and other training tools shall be developed/updated by \_\_\_\_\_\_ <<insert name of Program Office>> and delivered to all levels of users \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. If known, insert how much time in advance the training tools will be delivered and via what mechanism(s); for example, 2-4 weeks in advance of the release of the enhancement through nationwide conference calls and PowerPoint presentations). The curricula shall include all aspects of the enhanced \_\_\_\_\_\_\_\_ application(s) and all changes to processes and procedures.
3. The training curriculum developed by the Program Office shall state the expected task completion time for primary and secondary users.
4. User manuals and training tools shall be developed. If they already exist, updates shall be made, as necessary, to them and they shall be delivered to all levels of users.
5. IT will provide the level of documentation required to support the system and maintain operations and continuity. Documentation shall represent minimal programmatic and lifecycle operations support documentation artifacts as defined by VA standards in ProPath and as required by the VA Enterprise System Engineering Lifecycle and Release Management office for sustained operations, maintenance, and support (http://vaww.eie.va.gov/lifecycle/default.aspx) prior to approval by any VA change control board and release into production.

Implementation Requirements

1. Technical Help Desk support for the application shall be provided for users to obtain assistance with \_\_\_\_\_\_\_\_\_\_\_.
2. The IT solution shall be designed to comply with the applicable approved Enterprise SLA.
3. The implementation must be complete by \_\_\_\_\_\_\_\_\_\_. (Enter date - dd-mm-yyyy)

Data Protection/Back-up/Archive Requirements

1. Based upon the criticality of the system, provide a back-up and data recovery process for when the system is brought off-line for maintenance or technical issues/problems.
2. Data protection measures, such as back-up intervals and redundancy shall be consistent with systems categorized as routine (30 day restoration), mission essential (72 hour restoration), or mission critical (12 hour restoration).

Business owners are required to state the mission criticality of the IT services required in order to assist the planners and developers in determining best strategies for engineering an IT solution to meet their business objectives/needs. The business owner needs to state the criticality of the data and the impact to the business during a service disruption so appropriate technologies can be considered.

Levels for Disaster Recovery

Classification Recovery Time Objective Recovery Point

Objective Routine 30 day restoration TBD

Mission Essential 72 hour restoration 24 hours

Mission Critical 12 hour restoration 2 hours

Recovery Time Objective (RTO) – RTO defines the maximum amount of time that a system resource can remain unavailable before there is an unacceptable impact on other system resources, supported mission/business processes, and the MTD.

Maximum Tolerable Downtime (MTD) - The MTD represents the total amount of time the system owner/authorizing official is willing to accept for a mission/business process outage or disruption and includes all impact considerations.

Recovery Point Objective (RPO) - The RPO represents the point in time, prior to a disruption or system outage, to which mission/business process data can be recovered (given the most recent backup copy of the data) after an outage.

Data Quality/Assurance Requirements

A monitoring process shall be provided to ensure that data is accurate and up-to-date and provides accurate alerts for malfunctions while minimizing false alarms.

User Access/Security Requirements

Ensure the proposed solution meets all Veterans Health Administration (VHA) Security, Privacy, and Identity Management requirements including VA Handbook 6500 (see the Enterprise Requirements section of the RTM).

Usability/User Interface Requirements

Adhere to good User Interface/User Centered Design (UI/UCD) principles as outlined in the Usability Appendix of the BRD.

Conceptual Integrity

Provide standards based messaging and middleware infrastructure needed to support both Legacy Veterans Health Information Systems Technology Architecture (VistA) and future VistA 4 deployments.

Availability

1. Maintenance window, including maintenance of externally developed software incorporated into the VistA 4 application(s), will be by mutual agreement between OI&T and the VHA Point of Contact (POC) for the affected facility (ies). VHA will provide POCs for each facility.
2. VistA application unavailability due to an unplanned outage or planned outages that exceed the defined maintenance window will not exceed 8.76 hours per year and will not exceed 43.8 minutes per month (99.9% availability).
3. The application shall be available 24 hours a day, seven days a week, with an uptime of 99.9%.
4. All system updates and scheduled maintenance should occur between the hours of 1800 and 0600 (per local time zone), when clinical usage would be lightest.

Interoperability

1. The system shall support all recognized health system standards i.e., Health Level 7 (HL7), Fast Healthcare Interoperability Resources (FHIR).

2. Systems must be heterogeneous and agnostic for operating systems and code bases.

3. Provide the ability to securely transfer large files (of 4-8 gigabyte) from an external source to VA systems.

4. Provide access to the system over a remote access solution.

Manageability

1. Provide Service Desk/Incident and Problem Management tracking related to maintenance events of patient care systems with priority over non-patient care systems.
2. Provide data related to maintenance events, both routine and exceptional, including key metadata:

* Predicted routine work
* Occurrences where maintenance is completed, including restart from down time
* Identity of the organization performing maintenance
* User performing maintenance (if available)
* Identity of the system
* Date/time, physical location
* Systems impacted
* Does it affect patient care
* Non-urgent or emergent

1. Provide audit capabilities for system access and usage with settings that are configurable to support internal and external audits based on federal and VHA mandates.
2. The system must comply with VA Directive 6300 Records and Information Management and with VHA Records Control Schedule (RCS) 10-1, in general and specifically with Electronic Final Version of Health Record: Destroy/Delete 75 years after last episode of patient care, or longer (if specified).

Performance

1. Provide an Infobutton Query Responder on all platforms with a response time of less than .5 seconds.
2. The system shall recognize, report, and retransmit data lost, with less than 0-1% chance of incomplete patient records.
3. Provide patient data (for data within the system) transactions (e.g., capture, search, request for data) within .5 seconds.
4. Mouse or key-based UI controls, e.g., menus, checkboxes shall provide instantaneous responsiveness (<90ms).
5. Part-screen refreshes after user action shall complete within a pro-rated interval between 200 ms and 1200 ms times a percentage of the screen area being refreshed. For example, a component 10% of the screen area would refresh in (1200 – 200) \* 0.10 + 200 = 300 ms.

Reliability

1. Provide system reliability:

* Threshold = 99.9%
* Objective = 99.99% system and application

1. Provide system reliability:

* Level 1 severity =<1 failure per month
* Level 2 severity =<2 failures per month
* Level 3 severity =<3 failures per month

Security

Provide management of electronic attestation of information including the retention of the signature of attestation (or certificate of authenticity) associated with incoming or outgoing information.

Supportability

1. Provide alerts (that extend beyond system messages to external systems like mobile devices) for malfunctions, while preventing false alarms for local, regional, and national evaluations in real time.
2. Provide reports on performance metrics as specified in the VistA 4 Effectiveness and Value / Benefits Framework on a bi-weekly basis.
3. Provide national, regional, and local reports on performance metrics as specified in the VistA 4 Effectiveness and Value / Benefits Framework.
4. Provide performance metrics (from request for information to receipt of information on the screen) monitored by the system and system administrators so they know what the user experience is like without users having to call them and tell them the system is running very slow.
5. Provide the ability for VHA and IT staff to create standard and ad-hoc reports of usage, bandwidth, response time, login time, and other variables with a verification process for measuring the capabilities of the system.
6. Provide end-user training on how to generate the various system performance reports (e.g., in standard file formats such as Comma Separated Values [CSV], Portable Document Format [PDF], or Excel) depending on the user's needs.
7. Provide the ability to view system statistics (e.g., information on the specific network environment) and identify areas that are having issues or are beyond capacity, in near-real-time (to be quantified at a later time).
8. Technical Help Desk support for the application via instant message, on-line, phone, and remote desktop access support, shall be provided for users to obtain assistance 24/7.
9. The IT solution shall be designed to comply with the applicable approved Enterprise SLAs.
10. Data protection measures, such as back-up intervals and redundancy shall be consistent with systems categorized as mission critical (1hr restoration, 2hrs backup recovery). Impact of system failure must be monitored on a near real time basis.
11. Provide the ability to set thresholds and notification type (e.g., email or text alerts) when alerting the user about response time degradation and unscheduled outages.
12. Disaster Recovery Plans (DRP) and Continuity of Operations Plan (COOP) will be updated and tested semi-annually to address the VistA 4 product (see National Security and Homeland Security Presidential Directive: National Continuity Policy. NSPD-51/HSPD-20, May 9, 2007 <http://www.fas.org/irp/offdocs/nspd/nspd-51.htm>)

Usability

1. Provide viewability/usability of VistA 4 applications on mobile devices.
2. User prompts and screen help shall be embedded into the system to guide use of the solution.

Documentation

1. The training curriculum shall be provided in two hours or more of training time for primary users and secondary users to become proficient at using the VistA 4 application(s).
2. All training curricula, user manuals and other training tools shall be developed/updated by the VE Program Office and delivered to all levels of users 4 weeks in advance of the release of the enhancement through mediums that will best support the sharing of information to all affected staff.
3. Provide follow-up training classes tailored to VHA workflow 4 weeks after the users have begun to use the system.

The Template Revision History Page should be deleted when creating the RSD.

Template Revision History

| Date | Version | Description | Author |
| --- | --- | --- | --- |
| November 2015 | 1.8 | Corrected instructions in Appendix A | Process Management |
| September 2015 | 1.7 | Updated Headings and spacing to conform with latest OIT Documentation Standards guidelines | Process Management |
| June 2015 | 1.6 | Updated to conform with latest Section 508 guidelines and remediated with Common Look Office tool | Process Management |
| May 2015 | 1.5 | Revised by the PMAS Process Improvement Lockdown Team | PMAS Process Improvement Lockdown Team |
| December 2014 | 1.4 | Updated to conform with latest Section 508 guidelines and remediated with Common Look Office tool | Process Management |
| May 2014 | 1.3 | Reordered cover page to enhance search capabilities | Process Management |
| May 2013 | 1.2 | Add Appendix for acronyms and glossary | Process Management |
| March 2013 | 1.1 | Formatted to current ProPath documentation standards and edited to conform with latest Alternative Text (Section 508) guidelines | Process Management |
| January 2013 | 1.0 | Initial Version | PMAS Business Office |

Place latest revisions at top of table.

The Template Revision History pertains only to the format of the template. It does not apply to the content of the document or any changes or updates to the content of the document after distribution.

The Template Revision History can be removed at the discretion of the author of the document.

Remove blank rows.

1. Feedback on this issue was gathered from CPRS/Delphi resources (Ty Phelps). Interpretation on the use of tooltips/mouseovers with regards to 508 compliance is not firm. For now, team will provide tooltip/mouse hovering functionality for the demonstration. [↑](#footnote-ref-2)