Suicide High Risk Patient Enhancements

System Design Document



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Revision History

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Artifact Rationale

The System Design Document (SDD) is a dual-use document that provides the conceptual design as well as the as-built design. This document will be updated as the product is built, to reflect the as-built product.

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# Introduction

Three workstreams have been defined under the Suicide High Risk Patient Enhancements (SHRPE) project. These workstreams enhance the ability of the Department of Veterans Affairs (VA) to alleviate financial and emotional stressors of patients who are flagged at being at High Risk for Suicide (HRfS). In addition to ensuring clinical information regarding High Risk status of all patients, the workstreams are accurately shared within Veterans Health Information Systems and Technology Architecture (VistA) systems.

The ***Patient Record Flag*** workstream addresses:

* Display failures for National Category 1 Patient Record Flags (PRFs)
* Providing electronic request process/ability to transfer ownership of PRFs
* Removal of TIU Note with PRF and PRF enhancement

The ***Copayment Modifications*** workstream addresses changes for billing system for the patient with an active National Category 1 Patient Record Flag High Risk for Suicide addresses:

* Enhance systems/applications (e.g., VistA/CPRS, financial system, etc.) for copayment modifications for outpatient visits and specified medication categories for Veterans at high acute clinical risk for suicide, identified by an active Category 1 PRF.
* The ability provided for prescribed medications to be dispensed to Veterans at high acute clinical risk for suicide in amounts less than 30 days (e.g., 2-week or less supply) without incurring additional costs to the Veteran because of more frequent refills.

The ***Other Than Honorable Discharge (OTH)*** workstream addresses:

* Identification of former service member’s with an “Other than Honorable” service discharge and their eligibility for emergency mental health services.
* Track former service member’s status within a 90 Day episode of care.
* View former service member’s eligibility and 90 Day status in the Computerized Patient Record System (CPRS).

Historically, the Business Requirement Document (BRD) and the Requirements Specification Document (RSD) were included in this document. With the implementation of the Veteran-Focused Integration Process (VIP), and the application of the Rational Jazz tools, the business and OIT compliance requirements (epics, sub-epics, user stories) and their linkages, relationships are captured in the Rational Jazz tools for this project and can be found in [Rational’s MHLTH namespace RM module and “SHRPE” repository](file:///C:\Users\PII\Documents\Deliverables\o%09https:\URL\rm\web#action=com.ibm.rdm.web.pages.showProjectDashboard&projectURI=https%3A%2F%2Fclm.rational.oit.va.gov%2Frm%2Fprocess%2Fproject-areas%2F_i304IiFwEeOrdf9Xa83fAg&vvc.configuration=https%3A%2F%2Fclm.rational.oit.va.gov%2Frm%2Fcm%2Fstream%2F_tXtZwNIeEeWADNdRzgPDK).

## Patient Record Flag Workstream Scope

The aforementioned enhancements will modify various VistA applications, primarily the VistA registration (DG namespace). The scope of these enhancements will include:

* Fixing HL7 message failures;

1. On specific National Category 1 Patient Record Flag scenarios identified by Tier II/III support.
2. By introducing a more robust solution which uses the external values of PRF flags for identification purposes in HL7 messaging instead of utilizing PRF names.

* Introducing two new subfiles in two existing VistA files to store information to support the business linkage between a National Category 1 Behavioral Patient Record Flag assigned to a patient, and any open Disruptive Behavior Reporting System (DBRS) case(s) for the same patient. DBRS data will be transmitted to other sites the patient is registered.
* Adding functionality that displays DBRS data on the CPRS Patient Record Flag screen.
* A new report will be created within VistA which displays historical actions taken on DBRS data on a PRF.
* Introducing a new electronic method which authorized users can transfer ownership of a Patient’s Active or Inactive National Category 1 High Risk for Suicide Patient Record Flags between VA facilities.
* Adding functionality that displays originating facilities for unlinked PRF flag actions on the CPRS Progress Notes Properties screen and allow the user to sort the data by all columns.
* The ‘Assignment Actions Not Linked’ report will be updated with new report selection criteria which will enable a much more granular look into PRF Assignment Actions Not Linked to any PRF. This will provide the authorized PRF users the ability to ‘clean up’ any actions taken against a flag but not yet linked.

## Copayment Modifications Workstream Scope

The scope of the project “Modifying Copayments for At Risk Veterans” includes:

* Identify Veterans who are at risk for suicide.
* Assign the “National Category 1 “High Risk for Suicidal” flag.
* Waive the Copay amount for outpatient visit when the flag is active so that the Veteran are not financially burdened
* Prescribe the outpatient medications in smaller quantities to reduce the risk of overdosing. This includes all Tier 1, Tier 2, and Tier 3 class medications.
* Prorate copay amount when filling or refilling an outpatient prescription for a less than 30-day supply, so that copayment increase due to frequent dispensing is eliminated.

## Other Than Dishonorable Discharge Modifications Workstream Scope

* Department of Veterans Affairs Secretary, Dr. David J. Shulkin, is requesting the ability to expand provisions for urgent mental health care needs to former service members with Other Than Honorable (OTH) administrative discharges. This includes expanding access to assist former OTH service members who are in mental health distress and may be at risk for suicide or other adverse behaviors.
* Currently, the VA provides limited emergent care to certain former service members with OTH Discharge from the military that have not gone through Veterans Benefits Administration (VBA) adjudication.
* Enhancements will modify the VistA Registration package (DG namespace) and CPRS.

## User Profiles

### Patient Record Flag Workstream

The intended users of these enhancements will be Registration (DG namespace) authorized staff (Table 1) working in VA facilities and Veterans Integrated Service Network (VISN) offices with access to the Patient Record Flags (PIMS/ADT) (DGPF namespace) menus. The average user will have a basic knowledge of how to use a computer and will have previous experience with VistA in a Registration (DG) setting.

Table : Authorized Staff and Access Levels (Primary)

| User Level | Role | Responsibilities | Access Level |
| --- | --- | --- | --- |
| Primary User | DGPF authorized users | Allow the creation, edit, ownership transfers of National Category 1 PRFs. | Read/Write |

### Copayment Modifications Workstream

The intended users of these enhancements will be Registration, Integrated Billing, CPRS, and administrative staff working in VA facilities and VISN offices (Table 2). The average user will have a basic knowledge of how to use a computer and will have previous experience with VistA in Registration (DG namespace), Integrated Billing (IB), TIU and CPRS (OR) setting (Table 3). The user should have a fair understanding of the processes in the healthcare system of the Department of Veterans Affairs Medical Centers (VAMC).

Table : Authorized Staff and Access Levels (Cont)

| User Level | Role | Responsibilities | Access Level |
| --- | --- | --- | --- |
| Primary User | IB Staff | Track copays charges. | Read/Write |
| Primary User | VA Service Providers | Check out patient for outpatient visits.  Prescribe medications. | Read/Write |
| Primary User | Pharmacists | Release medications. | Read/Write |
| Secondary User | System Administrator | Maintain VistA - DG (registration), TIU (Text Integration Utility) IB (Integrated Billing) and OR (CPRS) systems. | Full Control |

### Other Than Dishonorable Discharge Modifications Workstream

Table : Authorized Staff and Access Levels (Cont)

| User Level | Role | Responsibilities | Access Level |
| --- | --- | --- | --- |
| Primary User | DG authorized users | Registration clerks | Read/Write |
| Primary User | CPRS user | Healthcare providers | Read/Write |

# Background

## Overview of the System

### Patient Record Flag Workstream

The NSR included in this effort, as well as an overview of it, is provided below.

**Suicide High Risk Patient Enhancements-PRF**

***(***NSR # 20160415 Suicide High Risk Patient Enhancements***)***

1. Currently, when a National Category 1 Patient Record Flag is assigned to a patient, or the Ownership of that PRF changes from one VA facility to another (based on where the patient receives outpatient treatment) there are instances where the HL7 messaging which is supposed to keep the PRF data in sync amongst VistA instances, fails.

After this proposed enhancement, the root cause of the HL7 messaging failures for PRFs in the business scenarios provided, will be rectified and a solution will be developed, tested and implemented.

1. The current process for transferring National Category 1 High Risk for Suicide (HRfS) PRF ownership is a manually intensive series of steps. The facility which seeks to become the owner of the PRF (most likely due to the patient receiving outpatient treatment regularly at this facility) must phone the owning facility and request that they re-assign the PRF to their facility. This can take days to move through the necessary communication and ultimately transfer the PRF ownership. This is an unacceptable time length when dealing with the sharing of clinical information related to a heightened risk of suicide for the patients.

After this proposed enhancement, Inactive National Category 1 PRFs HRfS will be electronically transferred to a requesting facility via one reassignment step. Active Category 1 PRFs HRfS will be electronically requested to have their ownership transferred, the request will be accepted or rejected and ownership will transfer electronically or will remain assigned to its current facility. The bottom portion of the ‘Progress Notes Properties’ pop up box in CPRS which displays unlinked flag actions, will be sorted by default to display unlinked flag actions which ‘belong’ to the same facility as the logged-in user first and then flag actions from other facilities. After that users can change the order by sorting entries for each of the columns in ascending and descending order of their values.

1. There is a current VA directive which puts forth the requirement that a progress note must be linked to a flag action, within CPRS on a patient record. That directive is being changed to NOT make the linking of a progress note to a flag action mandatory. It will still be technically possible; but it will not be mandatory within the business process. Because information from the current progress note linkage to a National Category 1 Behavior PRF, for example, flows downstream into the *MyHealtheVet* system, this is causing stress to patients who see that a ‘Behavioral’ PRF has been placed on their patient record.

After this proposed enhancement, two new fields will be placed on the National Category 1 ‘Behavioral’ PRF to capture ‘DBRS Case Number’ and ‘Other.’ This will allow health care providers within the VHA Workplace Violence Program the ability to link a patient’s behavioral PRF with a case number(s) from the VA’s Disruptive Behavioral Reporting System. These DBRS case numbers have no meaning to the patients and should induce no unnecessary emotional stress. These fields will be added to existing Record Flag Assignment options/screens as well as to the PRF History file and will also be displayed on the Patient Record Flag within CPRS. The Progress Notes Properties box will also be updated to include the Facility (if determinable) for each unlinked flag action. A new report will also be created to display historical actions taken on the DBRS data on a PRF. The report criteria will also be updated on the “Assignment Action Not Linked” report to include new/different options providing the user a myriad of ways to slice/dice assignment actions which are not linked to any PRF.

### Copayment Modifications Workstream

The NSR included in this effort, as well as an overview of it, is provided below.

**Suicide High Risk Patient Enhancements- Copayment**

**Suicide High Risk Patient Enhancements effort incorporates the Modifying High Risk patient Copayments (**NSR # 20160415)

The Department of Veterans Affairs (VA) has noted that there are substantial numbers of veterans at risk for suicide. In order to prevent the suicidal attempts, the VA proposes the following rules:

* For veterans who are at risk for suicide, increase the frequency of outpatient mental health visits to provide more intense care by eliminating the outpatient medical care copayment so that they are not financially burdened.

When a patient with an active Category 1 Record Flag (HRfS) orders fill or refill of medication they are provided with a two-week supply or less of medication at a pro-rated copayment amount so that they are protected from the likelihood of fatal or medically serious overdoses.The work is needed to ensure that all Veterans at HRfS get appropriate assessment and receive appropriate elements of the enhanced care model for suicide prevention.

### Other Than Dishonorable Discharge Modifications Workstream

Modifications are needed to VistA to ensure former service members with OTH administrative discharge, and their eligibility for emergency mental health care services, are identifiable in the electronic health record, and VA staff can track the former service member’s status within a 90‑day episode of care.

The current process does not allow the health care team to readily identify a former service member’s OTH discharge type and eligibility status in the electronic health record.

The current process does not capture and track where the former service member falls within the 90-day episode of care during provision of mental health care.

The current process does not allow the health care team to view former service members with OTH administrative discharges and their eligibility and 90-day status in CPRS for emergency mental health care services.

The challenges to the current process will be addressed with the following enhancements:

**New Secondary Eligibility Code**A new secondary eligibility code (OTH 90 Day Mental Health) will be implemented in VistA. This new code identities former service members with an OTH discharge type to VHA healthcare team members, and allows them to be tracked. The new code will display in Registration and CPRS.

* **90 Day Status**

**Per VA policy, the former service member is allowed two 90-day episodes of care within a 365 day period.** The VISN Chief Medical Officer must approve a second 90-day episode of care.

The 90-Day Status will consist of a countdown clock to be displayed in CPRS. This clock will inform VHA healthcare team members the number of days remaining within a 90‑day episode of care. The countdown clock is initiated at the number 90, decrements by 1 daily, and counts down to zero. A value of 90 indicates that the 90-Day Episode of Care has started, and a value of zero indicates that the 90-Day Episode of Care has expired.

* **Example 1:** Patient “A” has “X” days remaining in a 90-Day Episode of Care.
* **Example 2:** Patient “A” has 90 days remaining in a 90-Day Episode of Care.
* **Example 3:** Patient “A” has 60 days remaining in a 90-Day Episode of Care.
* **Example 4:** Patient “A” has 30 days remaining in a 90-Day Episode of Care.
* **Example 5:** Patient “A” has 0 days remaining in a 90-Day Episode of Care.

**OTH status diaplayed on the CPRS screen**

**OTH Button displays in the CPRS header and consists of the following:**

Part 1 – Display the status of former service member as “OTH”

Part 2 – Display the number of treatment days remaining in a 90-Day Episode of Care

Part 3 – Display which period for the 90-Day-Episode of Care

Example:

**OTH**

**4D,P1**

Part 1 - Status of former service member is “OTH”

Part 2 - 4 days remain in a 90-Day Episode of Care

Part 3 - Period 1 or the first 90-Day Episode of Care

CPRS screen capture (Figure 1):

* OTH [button] – 4D,P1 (4 days remain in the 1st period)
* Click on button to display the following [pop-up box] message (Figure 2):

“4 Days Remaining in a 90-Day Episode of Care(Figure 3)

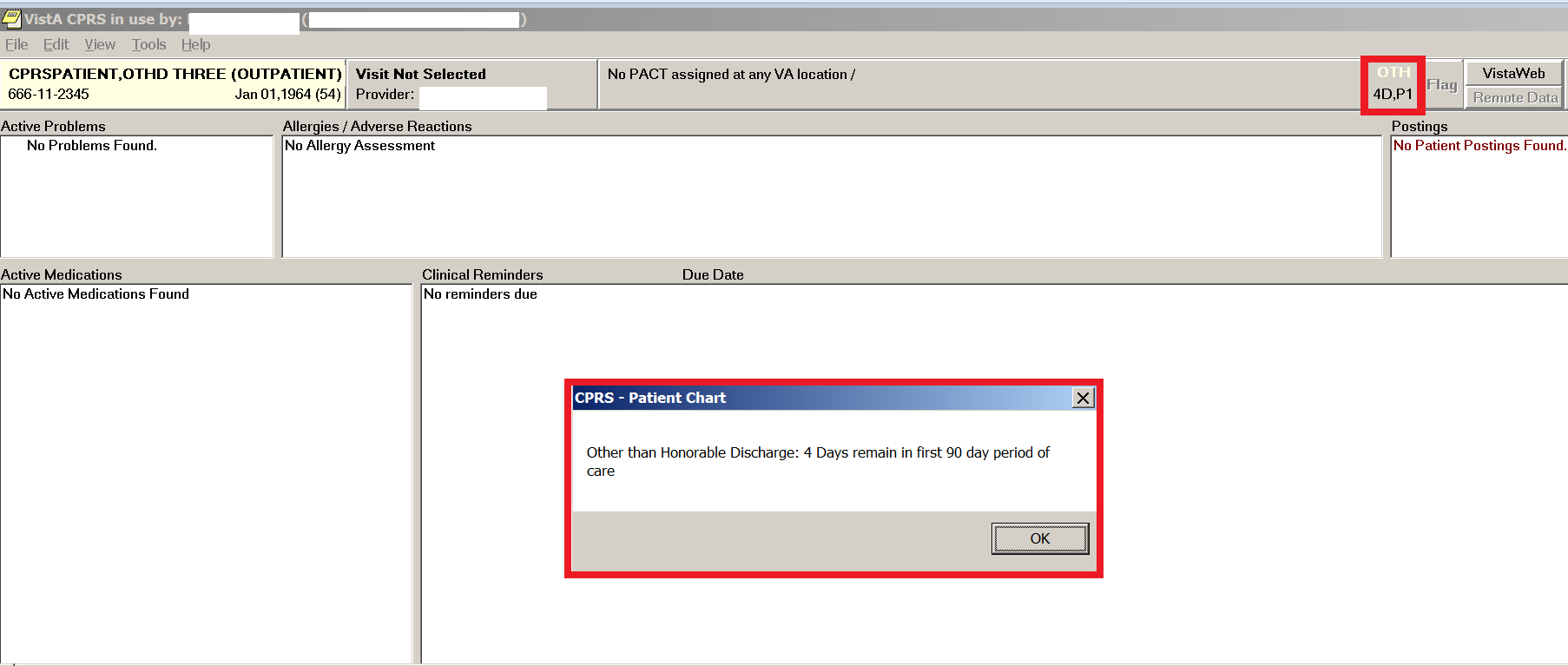
Figure : CPRS Screen Capture

Figure : Screen caputure – Expanded help [wide button]

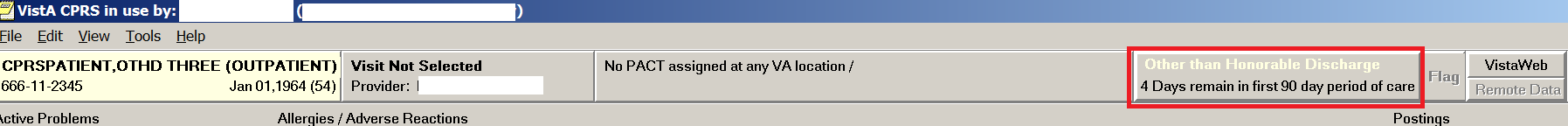
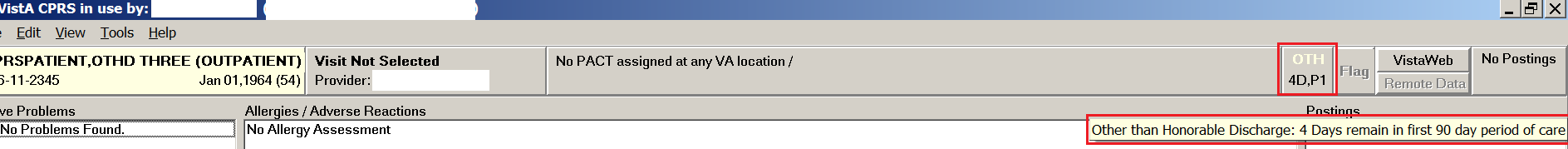


Figure : Screen caputure – Expanded help [tool tip]



## Overview of the Business Process

### Patient Record Flag Workstream

The business processes affected by these requirements are the creation, update, and ownership transfer of National Category 1 PRFs. These processes are outlined in the diagram in section 3.2.1.1*PRF/TIU Workstream*.

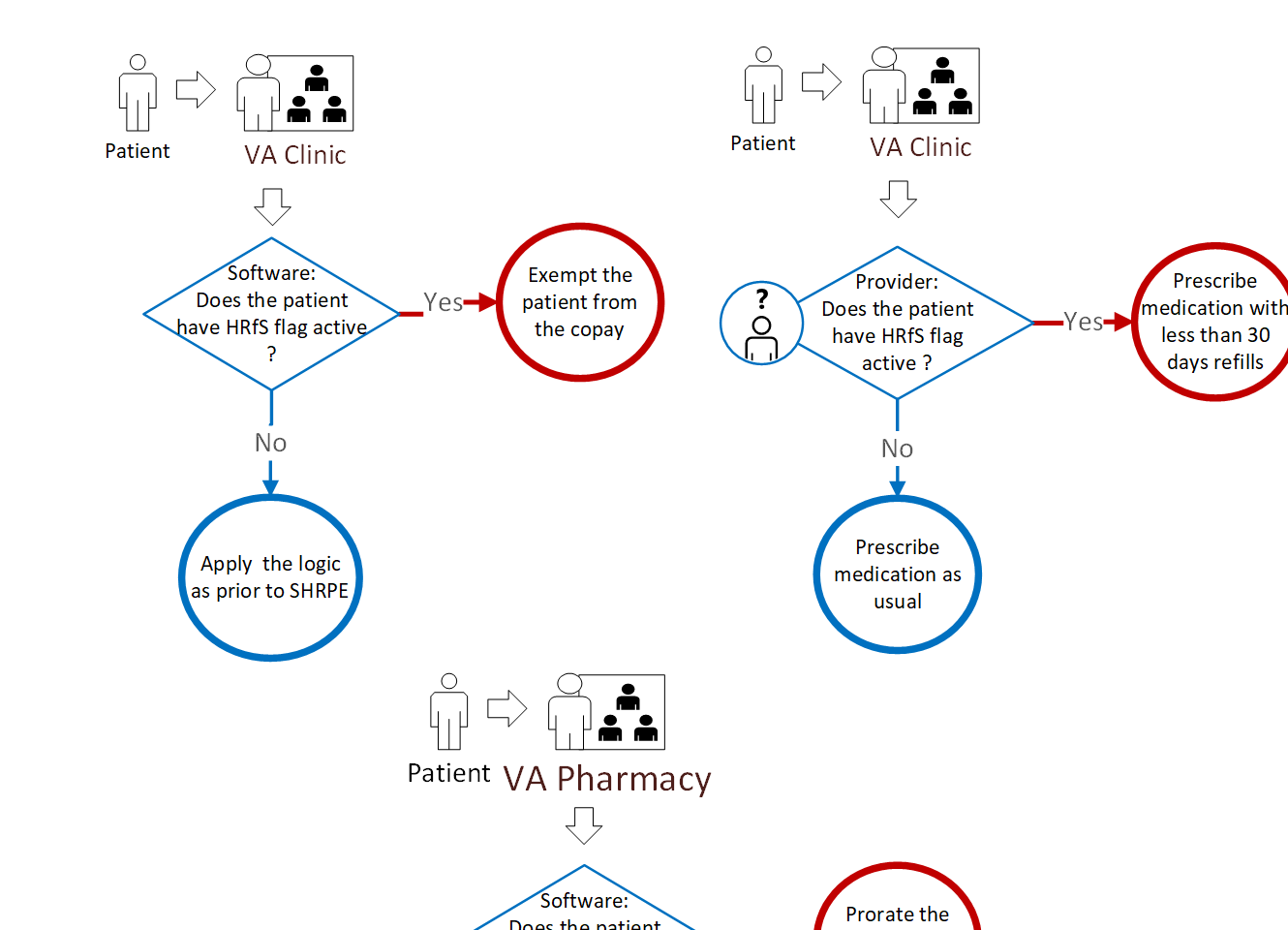
Refer to the diagram in section 3.2.1.1. *PRF/TIU Workstream*.

### Copayment Modifications Workstream

The business processes for prescribing medications (Figure 4) are affected by these requirements. The providers will be prescribing medications to the patients with active National Category 1 Patient Record Flag High Risk for Suicide to be dispensed in amounts less than 30 days (e.g., 2-week or less supply) at prorated amount without incurring additional costs to the Veteran because of more frequent refills.

The new functionality requires exempting patients with the active National Category 1 Patient Record Flag High Risk for Suicide from visit copay charges. These exemptions will be processed in background and will be invisible for the user who checks the patient out in the clinic.

Figure : Copayment Modifications Workstream



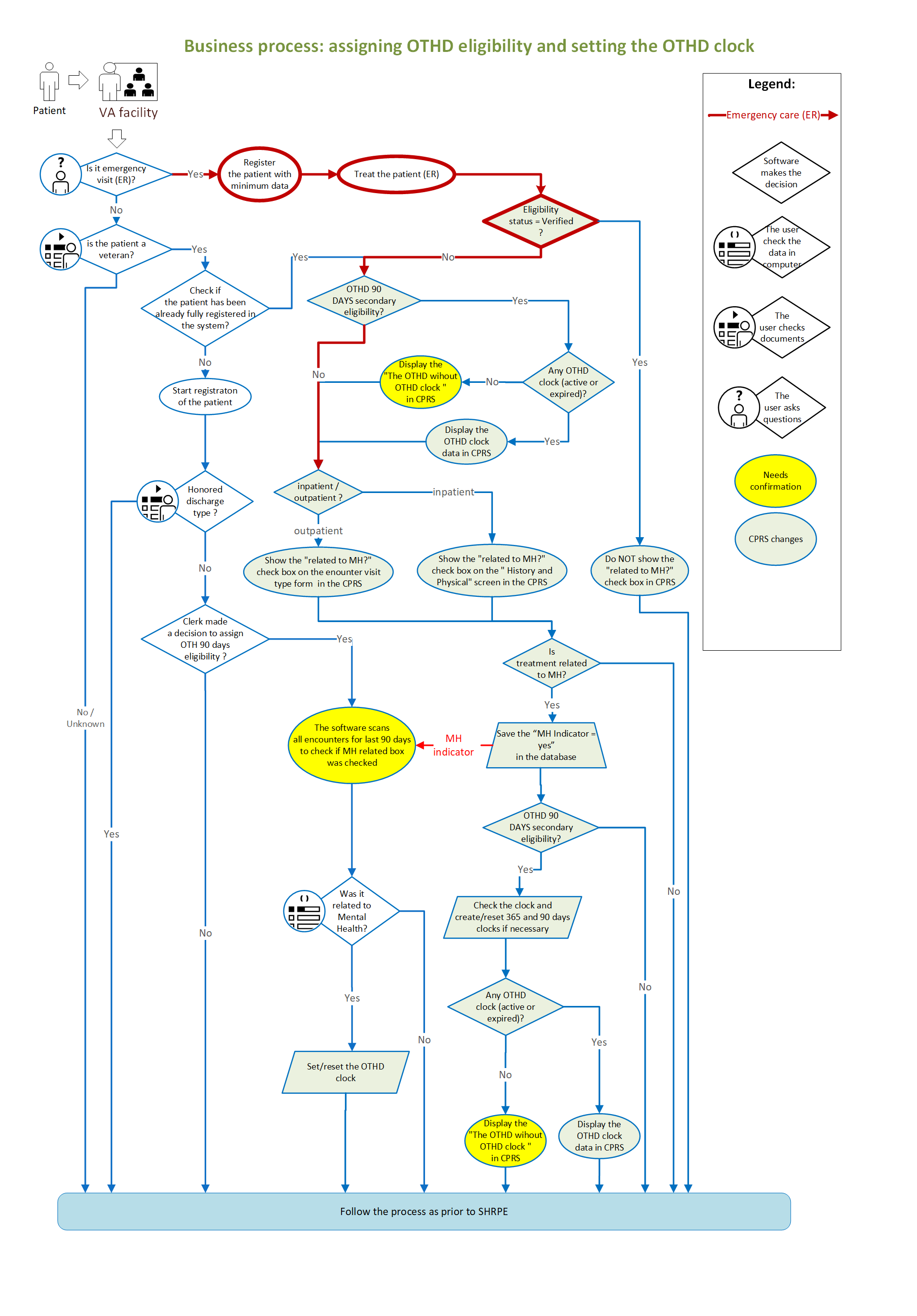
### Other Than Dishonorable Discharge Modifications Workstream

The business process for other than honorable discharge (Figure 5) involves the following:

* Identify former servicemembers with an Other than Honorable discharge status being treated for emergent mental health in VistA.
* Track the episode of care for the patient.
* Limit the episode of care for the patient to two 90-day periods (no more than 180 days) per every 365 days.

Currently, this is a manual process that the VA seeks to improve with modifications to VistA and CPRS.

Figure : Business Process for Other than Honorable Discharge



## Overview of Significant Requirements

See Section 1.1 *Patient Record Flag Workstream Scope*  for information regarding requirements.

### Overview of Functional Requirements

#### Patient Record Flag Workstream Scope

The Suicide High Risk Prevention Enhancements executes the following (Table 4). Note that additional requirements will be added as-needed to the Rational repository.

Table : Functional Requirements

| Epic (EP)/Req. ID # | Owner Requirement (OWNR) | | Acceptance Criteria | | Supporting Information |
| --- | --- | --- | --- | --- | --- |
| NSR: 20160415 | | | | | |
| **EPIC 845035** | Suicide Prevention High Risk Patient Enhancements  For Veterans Health Administration health care team members (e.g., providers, ancillary services, administrative staff, etc.)  Who need to identify and provide enhanced services to support Veterans at risk for suicide  A Process is needed to easily identify, track, and consistently communicate the suicide risk status of Veterans and allow subsequent actions (e.g., assessments, reporting, referrals, etc.) to be taken  That supports access to care and improved Veteran experience through a broad range of elements in the enhanced suicide prevention model of care for high risk Veterans for suicide to include more frequent contacts, restricting access to means for suicide, providing preventative resources such as Naloxone, ensuring effectiveness and reliability of the Patient Record Flag (PRF) for identification of individuals at high risk, and providing the ability to track referrals to Mental Health (MH) based on risk assessment and disposition  Unlike the current processes that pose barriers to accessing care and require extensive manual workarounds  Our process will improve customer service for VA providers and other members of the health care team by implementing automated processes to support identification and tracking of new referrals to MH by risk status while reducing the financial barriers that may interfere with high risk individuals receiving enhanced levels of care reducing errors and time associated with manually correcting PRF ownership and display issues supporting best practices and quality as promoting open access to care for Veterans. | | Our process will improve customer service for VA providers and other members of the health care team by implementing automated processes to support identification and tracking of new referrals to MH by risk status while reducing the financial barriers that may interfere with high risk individuals receiving enhanced levels of care.  This reduces errors and time associated with manually correcting PRF ownership and display issues, while supporting best practices and quality, as well as promoting open access to care for Veterans. | |  |
| Sub Epic 733239 | Display Category 1 Patient Record Flag (PRF)  For Veterans Health Administration health care team members (e.g., providers, Mental Health [MH] Treatment Coordinators, and administrative staff)  Who need to identify Veterans at risk for suicide  The process of sharing the Category 1 PRF information for a Veteran’s episode of care is needed  That will ensure appropriate and reliable display of PRFs enterprise-wide  Unlike maintaining the status quo of today where the potential exists for staff to miss the threat to their safety, the safety of others, or the Veteran themselves, because the PRF does not display consistently across facilities  Our Process allows for the correct identification and subsequent monitoring and follow up for Veterans at risk for suicide across VA facilities, improving quality of health care services and reducing costs associated with staff time by eliminating the need for coordinating the transfer of ownership across multiple sites and completing manual correction when the PRF does not apply properly, supporting best practices and quality. | | |  |  |
| User Story 913039 | As a Veterans Health Administration health care team member, I need to be able to view active Category I Patient Record Flags wherever the Veteran is receiving treatment to include all facilities where the Veteran is registered for care, so that I can ensure the patient receives the appropriate timely care.  Note: Appropriate displays ensure that active flag is displayed in system (Computerized Patient Record System as a pop-up Flag always without opening the remote view). | • All Active Category I Flags are successfully displayed in the Veteran's chart at all facilities where the Veteran is registered (Electronic Health Record).  • The Active/Inactive Flags are successfully displayed in VistA Flag Menus.  • The Current/Historical Flags are displayed in VistA Flag Menus. | | |  | |
| User Story 913040 | As a Veterans Health Administration health care team member (staff that manages Patient Record Flags), I need the ability to capture ownership of an inactive flag if in inactive state and owned at another facility, without requiring any action by the current owner of the flag to transfer ownership, so that I can ensure the patient receives the appropriate timely care.  Note: The issue is that it should be a “pull” process that does not require action (and therefore the need to contact) the owning site, then an active push notification from the site that is changing ownership to the site that “owns” the flag so the previous owning site is aware of the change. | • The Flag ownership is successfully captured by new owner.  • The Flag ownership is successfully transferred without reactivation.  • The Notification of ownership change is successfully transmitted to prior owner. | | |  | |
| User Story 913041 | As a Veterans Health Administration health care team member, I need the ability to capture ownership of an active flag by electronically requesting that the Category 1 Flag be transferred to the requesting site, so that I can ensure the patient receives the appropriate timely care. | • The Electronic Request is successfully transmitted to current facility owner of active flag.  • The Electronic Request is successfully received by current facility owner.  • The Current Ownership facility accepts the request for Ownership transfer.  • The New Owner has successfully received the transferred active flag.  • The Electronic Notification is successfully transmitted to prior facility owner.  • The Electronic Notification is successfully received by prior facility owner. | | |  | |
| User Story 913044 | As a System, I need the ability to process Patient Record Flags (PRF) without requiring an electronic transmission of Text Integration Utility (TIU) Notes to be linked between the PRF and TIU systems, so that the safety of the Veteran and clinical staff is maintained. | | | • The Requirement for “Linkage” between Text Integration Utility Notes and Flags is successfully removed.  • The Disruptive Behavior Reporting identification number is successfully captured.  • The Option for Category 1 report to display Patient Record Flags assignment history actions is successfully removed for a specific date range. |  | |

#### Copayment Modifications Workstream Scope

The Workstream is described by following the SubEpics (Table 5) through the User Stories.

Note that additional requirements will be added as-needed to the Rational repository.

Table : Copayment Modification Workstream

| Epic (EP)/Req. ID # | Owner Requirement (OWNR) | | Acceptance Criteria | Supporting Information |
| --- | --- | --- | --- | --- |
| NSR: 20160415 | | | | |
| SubEpic  714252 | | Modifying High Risk Veterans’ Copayments  For Veterans, Veterans Health Administration (VHA) providers, pharmacists, administrative, and business staff  Who are at high risk for suicide and the VA staff who provide services to Veterans at high risk for suicide (to include processing copayment bills)  A process is needed to modify or eliminate copayments for outpatient visits and specific medications that are dispensed in less than 30 day quantities for a Veteran identified by Category I Patient Record Flag  That will anticipate and meet the needs of our most vulnerable Veterans, supporting an enhanced evidence-based care model for treating Veterans at high risk for suicide.  Unlike the current system that presents a barrier to Veterans at high risk for suicide by increased costs associated with both copayments for more frequent visits and medication fills in smaller amounts.  Our process will remove the financial barriers by automatically adjusting or eliminating copayment amounts for outpatient visits and medications for individuals at high risk for suicide and determine clinical need for Naloxone rescue kits with new opioid prescriptions, with option to remove if Veteran already has current rescue kit, thus reducing the risk of suicide and addressing VHA priorities related to access to care. |  |  |
| User Story  913042 | | As a Prescribing Provider, I need the ability to enter outpatient prescriptions for less than 30 day quantities for high risk medications for Veterans with an active Category 1 High Risk Patient Record Flag without generating additional medication copayments within a Thirty (30) day period, so that I can decrease the financial burden for the Enhanced Care Model with Veterans at risk for suicide and improve access to care.. | • The Additional Medication Copayments for prescriptions written for less than 30day quantities are successfully eliminated within a thirty (30) day period.  • The Additional Medication Copayments for prescriptions written for less than 30 day quantities are successfully eliminated only for Veterans assigned Category 1 Patient Record Flag status. |  |
| User Story  913043 | | As a Provider, I need the ability to ensure that patients with an active High Risk Cat 1 Patient Record Flag be seen for outpatient visits as many times as indicated by the Enhanced Care Model without copayments being charged for the patient high risk status and until the Category I Flag has been inactivated, so that a financial burden is not caused to the Veteran by the need for enhanced level of care. | The Patient (Veteran) is successfully seen during outpatient visits as many times as necessary without copays.  The Patient (Veteran) is successfully not charged copays for visit only if assigned Patient Record Flag Category 1 status.The Patient (Veteran) is successfully seen during outpatient visits without copays until Cat 1 Flag is inactivated. |  |

#### About OTH Modifications Workstream Scope

The OTH executes the following workstream (Table 6).

Table : Other than Dishonorable Discharge (OTH) Modifications Workstream Scope

| Epic (EP)/Req. ID # | Owner Requirement (OWNR) | Acceptance Criteria | Supporting Information |
| --- | --- | --- | --- |
| Epic  959986 | Expanding VA Mental Health Care for Veterans with Other Than Honorable Discharge. | Provide the ability for former service members with OTH discharge type and eligibility for VA emergency mental health care services to be accurately identifiable and immediately visible in the electronic health record. |  |
| Sub-Epic  959988 | Identification of former service members with OTH discharge and eligibility for emergency mental health care services. | Provide the ability to capture and display a secondary eligibility code (OTH 90 Day MH) to capture the specific eligibility for former service members with OTH service discharge type being seen under this expanded authority. |  |
| Sub-Epic  960011 | Track former service member’s status within a 90-day episode of care. | Provide the ability to identify where the former service members falls within the 90-day episode of care during mental health care treatment. |  |
| Sub-Epic  960012 | View former service members eligibility and 90-day status in CPRS. | Provide the ability to view a former service members OTH discharge type, eligibility, and 90-day status in CPRS. |  |

### Overview of Functional Workload/Performance Requirements

Not applicable – this project is composed of multiple VistA applications: DG (Registration), TIU (Text Integration Utility) IB (Integrated Billing) and OR (CPRS). There are no changes to functional workload/performance requirements associated with this project.

### Overview of Operational Requirements

Not applicable – there are no changes to existing operational requirements.

### Overview of Technical Requirements

Not applicable – there are no changes to technical requirements that change the conceptual design of VistA.

### Overview of Security or Privacy Requirements

All VA and VHA security or privacy requirements will be adhered to. Cross-cutting security requirements are contained in the VA Enterprise Requirements Repository (ERR). Efforts that involve the collection and maintenance of Personally Identifiable Information (PII) must be covered by a Privacy Act system of records notice.

Applicable security and privacy requirements are loaded into Rational Tools (see Patient Record Flag Workstream Scope section).

### Overview of System Criticality and High Availability Requirements

The system modified in this project is composed of multiple VistA applications: DG (Registration), TIU (Text Integration Utility) IB (Integrated Billing) and OR (CPRS). Each of these applications has its own availability and downtime requirements which will be VAMC dependent. The applications listed above do not impose any requirements beyond the requirement already specified by each of the applications.

### Single Sign-on Requirements

Not applicable – access is controlled by the VistA application and the underlying operating system. This application does not mandate any additional access or sign-on requirements.

### Requirement for Use of Enterprise Portals

Not applicable – there are no changes to the requirements for use of enterprise portals.

### Special Device Requirements

Not applicable – no special devices are required.

# Conceptual Design

This project is composed of VistA, IB, Registration, TIU, and CPRS modifications, and there are no conceptual design considerations since the new functionality is embedded to the existing application code as modifications. The team has started making modifications as a part of the VIP Agile development process. Changes in the design can be made during the Agile processes in the future as necessary in response to customers' feedback.

The actual software detailed design is presented in Section 6.2.2*Specific Requirements.*

## Conceptual Application Design

Not applicable – there are no conceptual design considerations.

### Application Context

VistA comprises nearly 200 distinct applications/modules, 15,000 routines, and millions of lines of computer code (Table 7). VistA interoperates with numerous Commercial-Off-the-Shelf (COTS) software applications, with selected information technology systems of other federal agencies and, increasingly, with health information exchange networks (Figure 6).

Figure : Applications Context Diagram for OTH, Copay and PRF /TIU functionality

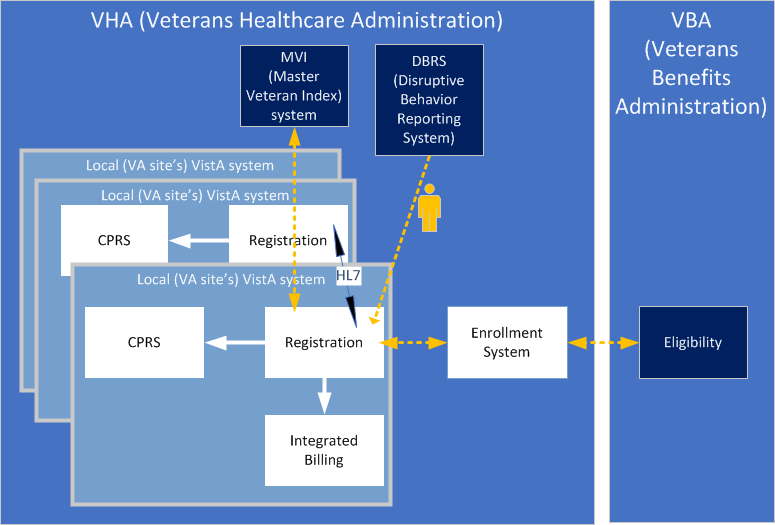


Table (Grouping): Application Context Description

| ID | Name | Description | Interface Name | Interface System |
| --- | --- | --- | --- | --- |
| No external interfaces are modified by this project. |  |  |  |  |

Table : Interfaces External to OIT

| ID | Name | Related Object | Input Messages | Output Messages | External Party |
| --- | --- | --- | --- | --- | --- |
| No external interfaces are modified by this project. |  |  |  |  |  |

| ID | Name | Related Object | Input Messages | Output Messages | External Party |
| --- | --- | --- | --- | --- | --- |
| HL7 | ORU^R01 | Registration module | unsolicited update, DBRS data sent to another site where the same patient is registrered | unsolicited update, DBRS data sent to another site where the same patient is registrered | Registration module in another VA site |
| HL7 | ORF^R04 | Registration module | query response, DBRS data sent to another site where the same patient is registrered | query response, DBRS data sent to another site where the same patient is registrered | Registration module in another VA site |

Table : Externally Shared Data Stores

| ID | Name | Data Stored | Owner | Access |
| --- | --- | --- | --- | --- |
| No changes to externally shared data |  |  |  |  |

### High-Level Application Design

This project does not require any changes to the high-level conceptual application design. There are no changes to the high-level application design of Registration, TIU, IB, and CPRS applications.

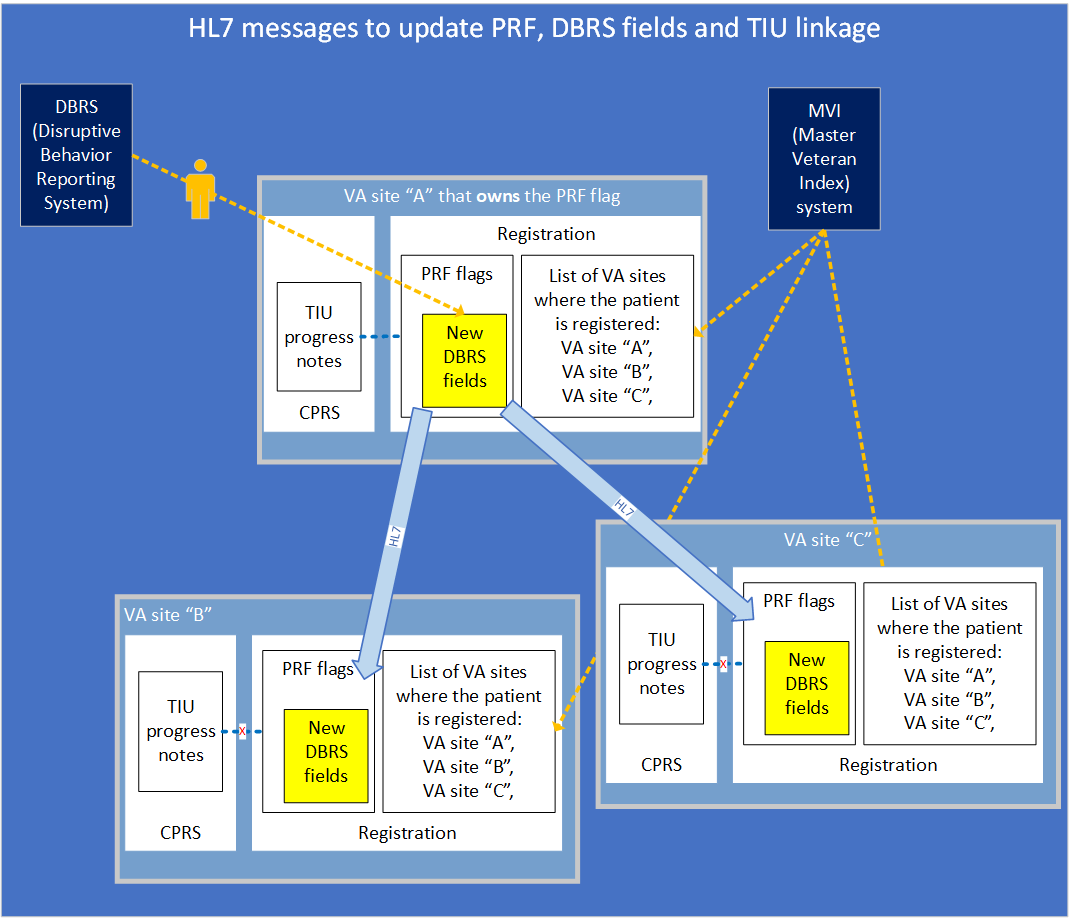
For informational purposes and application context, display the exiting interfaces that are used for three workstreams.

#### PRF/TIU Workstream

Figure 7.Figure 8. And Figure 9 display the HL7 messages exchange between different VA local system (VA sites) that ensure that the PRF flag changes are propagated and updated in all VA sites (in which the patient is registered).

The modification to the existing ICR 4383 DGPF ASSIGNMENT LINK TIU PN and the new ICR 6874 DGPF DBRS DATA have been submitted for approval for this workstream.

Figure : High-Level Application Design Diagram with HL7 Exchanges for Updating PRF Flags



#### Copayment Modifications Workstream

Requests to subscribe IB (Integrated Billing) application to existing ICRs 5491 and 4903 have abeen approved in FORUM. These APIs provide IB with the access to the Suicide High Risk Patient Flag data.

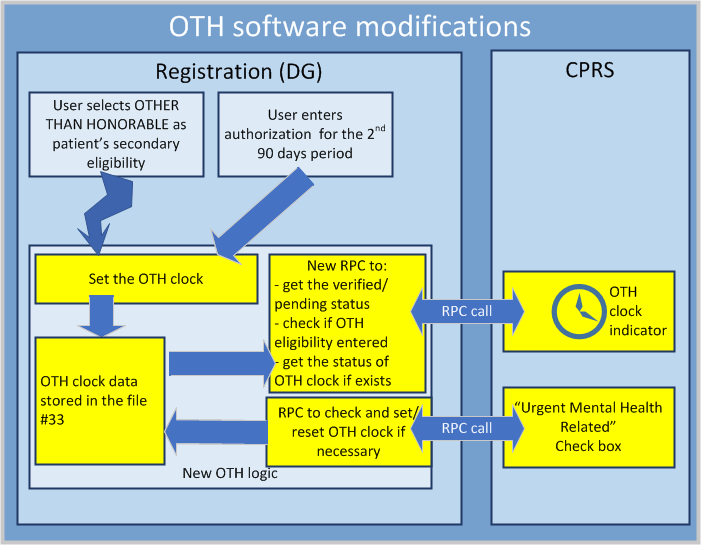
Figure : High-Level Application Design Diagram with HL7 Exchanges for Updating PRF FlagsHigh-Level Application Design Diagram with HL7 Exchanges for Updating PRF Flags

API call-IB call- API call

#### Other than Dishonorable Discharge Modifications Workstream

Figure 9 displays the internal interfaces between applications within VistA.

The the new ICR 6873 DG OTH ELIGIBILITY CLOCK STATUS has been submitted for the approval for this workstream.

Figure : High-Level Application Design Diagram with HL7 Exchanges for Updating PRF Flags

### Application Locations

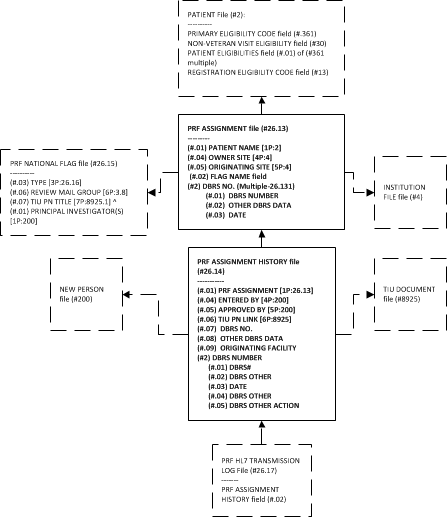
Not applicable – this project does not require any changes to the application locations.

## Conceptual Data Design

### Project Conceptual Data Model

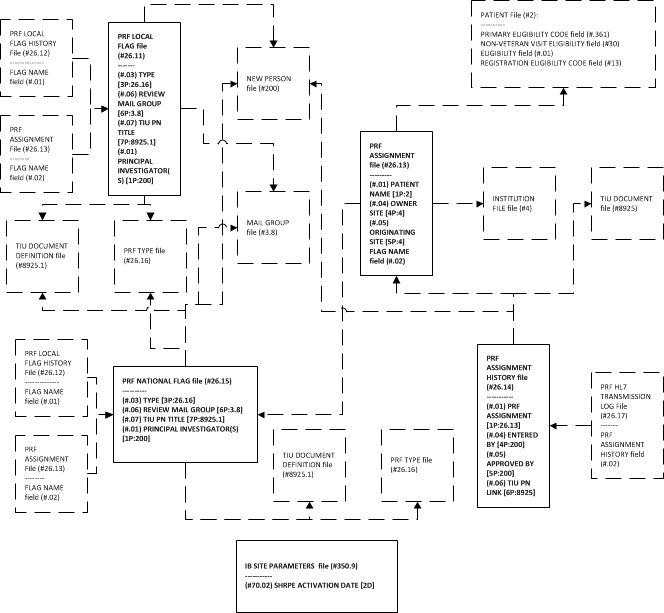
Models will be added in a later edition.

#### PRF/TIU workstream

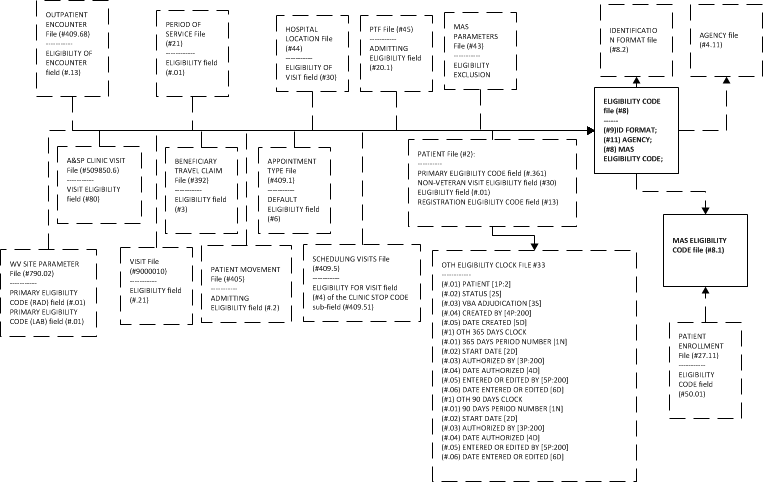
Figure : PRF/TIU Conceptual Data ModelFigure 

#### Copays Workstream

Figure : Copays Modifications Conceptual Data Model



#### OTH Workstream

Figure : (OTH) Modifications Conceptual Data Model

### Database Information

Table : Database Inventory

| Database Name | Description | Type | Steward |
| --- | --- | --- | --- |
| 26.13 | PRF ASSIGNMENT | Modify | REGISTRATION |
| 26.14 | PRF ASSIGNMENT HISTORY | Modify | REGISTRATION |
| 33 | OTH ELIGIBILITY CLOCK | Create | REGISTRATION |
| 350.9 | IB SITE PARAMETERS | Modify | INTEGRATED BILLING |
| 8 | ELIGIBILITY CODE | Modify | REGISTRATION |

### User Interface Data Mapping

#### Application Screen Interface

##### Patient Record Flag Workstream

Figure : DGPF RECORD FLAG ASSIGNMENT Screen Used to Enter DBRS Info

| RECORD FLAG ASSIGNMENT Mar 16, 2018@17:14 Page: 1 of 1  Patient: TEST,PATIENT (709010159P) DOB: 01/01/59  ICN: 4420041589V782553 CMOR: CHEYENNE VAMC  Flag Assigned Review Date Active Local Owner Site  1 BEHAVIORAL 01/29/18 N/A YES NO CHEYENNE VAMC  Enter ?? for more actions  SP Select Patient EF Edit Flag Assignment  DA Display Assignment Details CO Change Assignment Ownership  AF Assign Flag FT PRF Owner Transfer Pull/Request  Select Action:Quit// EF Edit Flag Assignment  Select one of the following:  C Continue Assignment  I Inactivate Assignment  E Entered in Error  X DBRS/Other Field Edit Only  Select an assignment action: X DBRS/Other Field Edit Only  Select DBRS NUMBER: ?  Answer with DBRS NUMBER  Choose from:  111AA.123456  333RR.111111  444RR.222222    You may enter a new DBRS NUMBER, if you wish  Answer must be 10-18 characters in length, <site#>.NNNNNN    Select DBRS NUMBER: 555.334567  Are you adding '555.334567' as a new DBRS NUMBER? No// y (Yes)  DBRS NUMBER "DBRS Other": test data  Select DBRS NUMBER:  Approved By: DG,CLERK  Enter the reason for editing this assignment:  Patient Record Flag - Edit Reason Text  ==[ WRAP ]==[INSERT ]===========< Edit Reason Text >=[Press <PF1>H for help]====  test  <=======T=======T=======T=======T=======T=======T=======T=======T=======T>====== |
| --- |
| REVIEW OF EDIT FLAG ASSIGNMENT DATA INPUT BEFORE FILING  -------------------------------------------------------  Patient Name: TEST,PATIENT  Flag Name: BEHAVIORAL  Flag Type: BEHAVIORAL  Flag Category: I (NATIONAL)  Assignment Status: ACTIVE  Initial Assignment: 1/29/2018@09:36:32  Last Review Date: 2/15/2018  Next Review Date: 0  Owner Site: CHEYENNE VAMC  Originating Site: CHEYENNE VAMC  Assignment Action: DBRS#/OTHER FIELD UPDATE  Action Date: 3/16/2018@17:15:22  Entered By: DG,CLERK  Approved By: DG,CLERK  DBRS No.: 555.334567  DBRS Other: test data  DBRS No.: 111AA.123456  DBRS Other: testing AAA  Type <Enter> to continue or '^' to exit:  REVIEW OF EDIT FLAG ASSIGNMENT DATA INPUT BEFORE FILING  -------------------------------------------------------  DBRS No.: 333RR.111111  DBRS Other: test 1111  DBRS No.: 444RR.222222  DBRS Other: test 2222  Record Flag Assignment Narrative:  ---------------------------------  test  Action Comments:  ----------------  test  Do you want to review again? NO// |

##### DGPF RECORD FLAG ASSIGNMENT Screen

Table : DGPF RECORD FLAG ASSIGNMENT Screen Description

| Graphical User Interface (GUI) Field | Table (Database Table that field connects to) | Field (Field in Table that the GUI field connects to) | Comments |
| --- | --- | --- | --- |
| DBRS number(s) associated with the flag: | PRF ASSIGNMENT file #(26.13) | (#.01) DBRS NO. of the (#2) DBRS NO. multiple | The DBRS # from the DBRS system |
| DBRS other information | PRF ASSIGNMENT file #(26.13) | (#.02) OTHER of the (#2) DBRS NO. multiple | Other DBRS information from the DBSR system |
| DBRS date | PRF ASSIGNMENT file #(26.13) | (#.03) DATE of the (#2) DBRS NO. multiple | The DBRS date from the DBRS system |
| DBRS number(s) associated with the flag: | PRF ASSIGNMENT HISTORY file #(26.14) | (#.07) DBRS NO. | The DBRS # from the DBRS system |
| DBRS other information | PRF ASSIGNMENT HISTORY file #(26.14) | (#.08) OTHER DBRS DATA | Other DBRS information from the DBSR system |
| Originated facility | PRF ASSIGNMENT HISTORY file #(26.14) | (#.09) ORIGINATING FACILITY | Originatiing facility |

##### The Copayment Modifications Workstream

No user interface changes are required for the visit copays exemption for the Cat 1 High Risk for Suicide patients’ modification that were implemented in Sprint 1 of Build 2.

No user interface changes are required for prorating RX prescription copays for the Cat 1 High Risk for Suicide patients’ modification that were implemented in Sprint 1 of Build 2.

The new cancellation reason “EXEMPT BY REGULATION” has been added to the file (#350.3) so it can be selected when the user cancels charges made for the Cat 1 High Risk for Suicide patients.

The new warning message is generated when the users attempts to add visit copay charges manually for the Cat 1 High Risk for Suicide patients.

In further sprints user interface changes will be made to process manual charges for copays.

The SHRPE copay functionality can be applied to the Cat 1 High Risk for Suicide patients only when the appropriate legialariton changes are approved by the government. If the software modifications are released prior to the date when the legislation comes to the effect then the new functionalit y will stay dormant until the new field (#70.02) SHRPE ACTIVATION DATE in the IB SITES PARAMETERS FILE (#350.9) will be populated with the effective date for this legislation. This new field serves as a switch that turns ON/OFF the functionality. This approach assumes that a separate “informational” patch will be issued juts before the effective date with instructions for VA sites how to access and populate that field and what date to use.

##### The Other Than Dishonorable Discharge Modifications Workstream

Please refer to the following sections to see the screenshots of CPRS screens modified in Sprint 1 of Build 2:

* 6.2.2.3.17.*Current Form*
* 6.2.2.3.18*Modified Form*
* 6.2.2.3.29.*Current Form*
* 6.2.2.3.30.*Modified Form*

#### Application Report Interface

Not applicable. No report changes are expected in the current build.

#### Unmapped Data Element

The data in the OTH ELIGIBILITY CLOCK FILE (#33)(Figure 14) will be used to track the Other Than Dishonorable Discharge (OTH) status for the patient and to calculate the OTH status information. These data will not be entered by the user and will not be displays directly to the user.

Figure : OTH Eligibility Clock File (#33)

| FIELD FIELD  NUMBER NAME  .01 PATIENT (RP2'), [0;1]  .02 STATUS (S), [0;2]  .03 VBA ADJUDICATION (S), [0;3]  .04 CREATED BY (P200'), [0;4]  .05 DATE CREATED (D), [0;5]  1 OTH 365 DAYS CLOCK (Multiple-33.01), [1;0]  .01 365 DAYS PERIOD NUMBER (MNJ3,0), [0;1]  .02 START DATE (D), [0;2]  .03 AUTHORIZED BY (P200'), [0;3]  .04 DATE AUTHORIZED (D), [0;4]  .05 ENTERED OR EDITED BY (P200'), [0;5]  .06 DATE ENTERED OR EDITED (D), [0;6]  1 OTH 90 DAYS CLOCK (Multiple-33.11), [1;0]  .01 90 DAYS PERIOD NUMBER (MNJ1,0), [0;1]  .02 START DATE (D), [0;2]  .03 AUTHORIZED BY (P200'), [0;3]  .04 DATE AUTHORIZED (D), [0;4]  .05 ENTERED OR EDITED BY (P200'), [0;5]  .06 DATE ENTERED OR EDITED (D), [0;6] |
| --- |

## Conceptual Infrastructure Design

Not applicable. This project relies on and uses the existing VistA infrastructure and doesn’t modify the existing mode modification.

### System Criticality and High Availability

Not applicable – no changes are being made, nor are there any design considerations taken into account with respect to system criticality and high availability for this project. The disaster relief plans for VistA are not affected by this patch.

### Special Technology

Not applicable. No special technology is involved in the patch.

### Technology Locations

Not applicable – there are no changes to technology locations.

### Conceptual Infrastructure Diagram

Not applicable. No conceptual production string diagram exists.

#### Location of Environments and External Interfaces

Not applicable. There are no external interfaces or special environments involved.

#### Conceptual Production String Diagram

Not applicable. No conceptual production string diagram exists.

# System Architecture

This project is to be composed of VistA patches that do not require changes to the VistA architecture or hardware architecture. However, brief descriptions of these entities are provided below.

## Hardware Architecture

The DG (Registration), TIU (Text Integration Utility) IB (Integrated Billing) and OR (CPRS) modules are part of the VistA suite of applications. The VistA Monograph states:

“VistA is deployed universally across VHA at more than 1,500 sites of care, including each VAMC, Community Based Outpatient Clinic (CBOC) and Community Living Center (CLC), as well as at nearly 300 VA Vet Centers. These locations will have a variety of hardware platforms but all meet a minimal standard required to support VistA.”

## Software Architecture

The entire VistA application consists of 200+ modules. The VistA monograph includes this description for VistA:

“VistA is an integrated Electronic Health Record (EHR) information technology system with application packages that share a common data store and common internal services. The data store and VistA kernel are implemented in the Massachusetts General Hospital Utility Multi-Programming System (MUMPS) computer language, and the Computerized patient record System (CPRS) Graphical User Interface (GUI) is implemented in Delphi. Application clients use a highly-efficient proprietary protocol to access data. VistA is highly configurable and customizable, and in addition to appropriate connectivity amongst VistA modules, VistA supports the integration of best-of-breed applications at multiple levels, including MUMPS, Application Programming Interface (API), Remote Procedure Call (RPC), Medical Domain Web Services (MDWS), Health Level 7 (HL7), and data exchange via Blue Button or eHealth Exchanges. VistA comprises nearly 200 distinct applications/modules, 15,000 routines, and millions of lines of computer code.

The backbone of VHA’s clinical and administrative information technology capability, VistA has historically been built on a client-server architecture, which ties together workstations and personal computers with GUIs at VA facilities. The CPRS GUI is as highly customizable and runs on workstations, laptops, tablets (including iPads) and smart phones. VistA interoperates with numerous COTS software applications and with selected information technology systems of other federal agencies and, increasingly, health information exchange networks. At the time of publication of this edition of the Monograph, comprehensive proposed enhancements to VistA were in the initial stages; referred to as “VistA Evolution” these enhancements are will reflect development and architecture enhancements to allow greater interaction with data and greater efficiency for the VistA system.”

Note that the changes required by this project are based in the MUMPS computer language and Delphi/Pascal computer language for CPRS GUI changes (Table 12).

GUE code changes for CPRS needs to be included in appropriate version of CPRS:

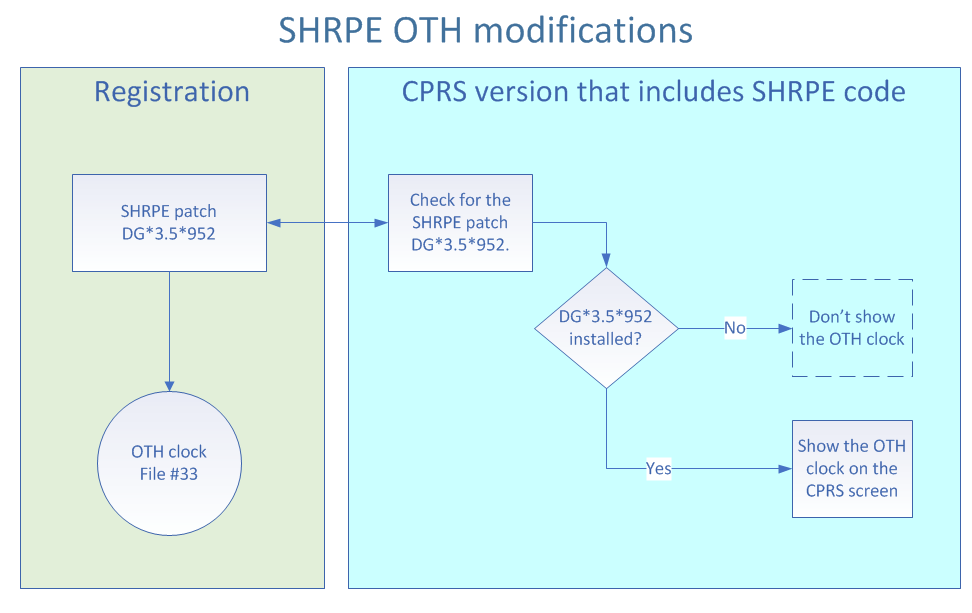
Table : Namespaces for MUMPS Codes

| Workstream | CPRS version | Namespaces for the MUMPS code that will be delivered with CPRS | Namespaces for the MUMPS code that will be delivered separately |
| --- | --- | --- | --- |
| OTH | V. 31b | OR | DG |
| PRF/TIU | TBD | TIU, OR | DG |

In order to minimize any negative impact on CPSR team schedule and eliminate any dependency between CPRS and SHRPE releases’ schedule, the team designed the solution(Figure 15) that allows to release CPRS and SHRPE products independently:

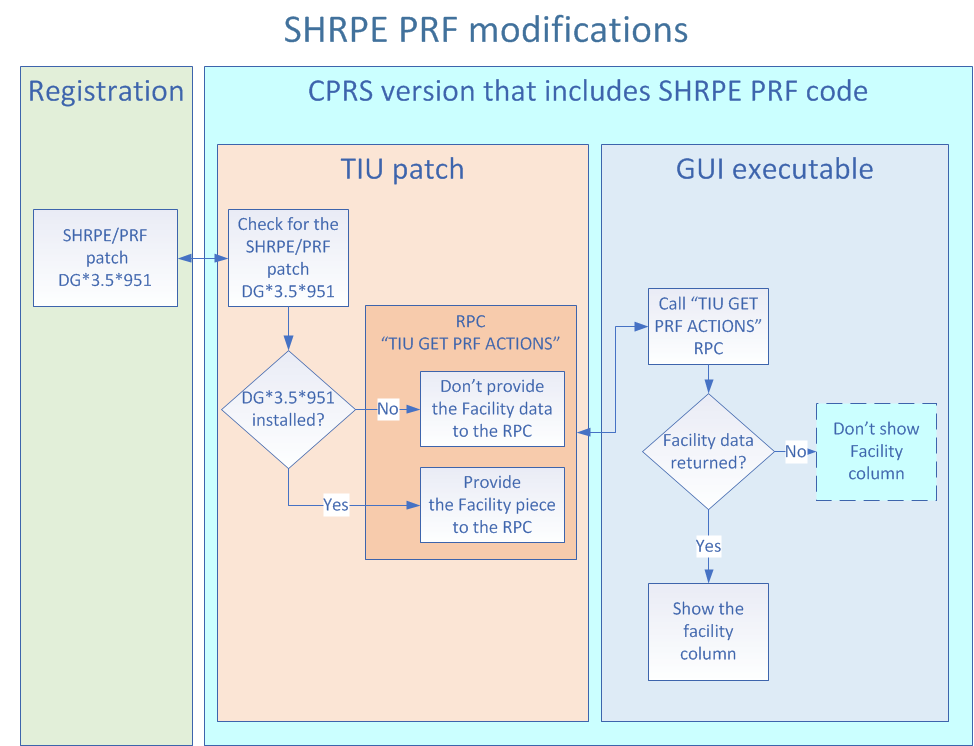
Solution for the OTH workstream:

Figure : SHRPE OTH Modifications



Solution for the PRF workstream (Figure 16):

Figure : SHRPE PRF Modifications



## Network Architecture

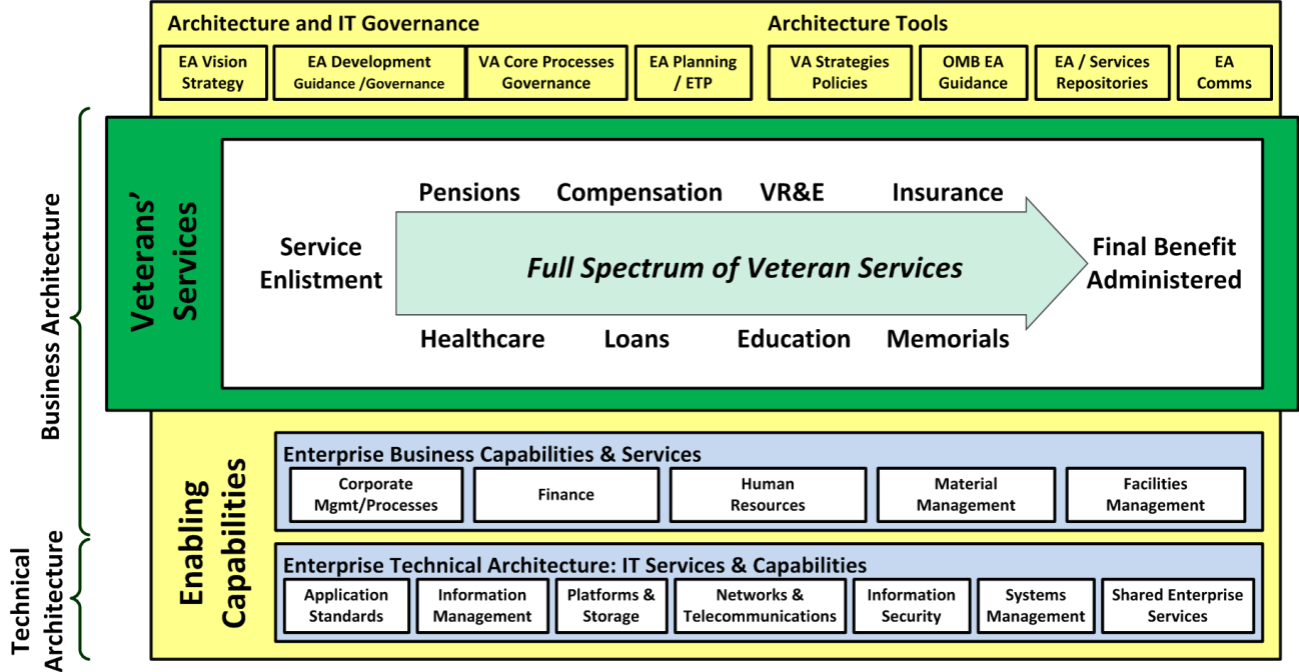
The DG (Registration), TIU (Text Integration Utility), IB (Integrated Billing), and OR (CPRS) applications modified in this project rely on existing Network architecture for VistA.

## Service Oriented Architecture / ESS

The DG (registration), TIU (Text Integration Utility), IB (Integrated Billing), and OR (CPRS) applications modified in this project do not use Service Oriented Architecture (SOA)/Enterprise Shared Services (ESS) (Figure 17).

## Enterprise Architecture

Figure : Enterprise Architecture



The scope of work does not introduce any new tools or technologies. The team will use existing VistA tools and technologies approved by the Technical Referance Model (TRM).

# Data Design

The DG (Registration), TIU (Text Integration Utility) and IB (Integrated Billing) modules are part of the VistA suite of applications. The Database Management System (DBMS) in use is VA FileMan.

The VistA The DG (registration), TIU (Text Integration Utility) and IB (Integrated Billing) packages use the standard VA FileMan Data Dictionaries (DDs) and files. (See [Appendix A](#_Appendix_A:_Data) for all data dictionaries modified by this project.)

## DBMS Files

The VistA The DG (Registration), TIU (Text Integration Utility) IB (Integrated Billing) packages store data in standard VA FileMan files.

### Logical Model

Not applicable. This is not a relational database.

### DBMS Schemas, Subschemas, Records, Sets, Tables, Storage Page Sizes

See Appendix A

### Access Methods

Standard FileMan APIs are used to access data for reading and writing. Certain fields are indexed and indexes are used to access the data.

### Estimate the Database File Size

Estimate the database file size or volume of data within the file, data pages, including overhead resulting from access methods and free space.

* Figure 14: OTH Eligibility Clock File (#33)

The project adds the new file (#33) for the OTH clock; the size of the file depends on the number of patients with the new OTH eligibility. The project team has requested this information from SMEs and doesn’t have this information at the moment.

* DBRS fields

The project adds three new fields for the VistA database files (#26.13) and 6 fields (#26.14) to capture the DBRS data from the DBRS system.

The growth rate of these two VistA database files due to storing DBRS data depends on the number DBRS cases are entered yearly in average.

The DBRS team provided the following information:

Below is the total number of events reported over the past four fiscal years (Table 13).

Table : Events over the Past 4 Fiscal Years

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fiscal Year** | **2014** | **2015** | **2016** | **2017** |
| **Events Reported** | **2,304** | **5,857** | **19,963** | **29,618** |

The DBRS team is not expecting the same rate of growth to continue as the years represent the roll out of DBRS to all facilities. DBRS is recording events at most VHA facilities. The DBRS team is expecting to see as much as a 10% growth this year, unless there are substantial changes to the practice norms for reporting disruptive behavior. They also expect to see events reported to top out at about 50,000 per year at some point in the future.

The project team is assuming 50,000 new DBRS records per year for all VA sites (approximately 150 Vista database instances). See Table 14 and Table 15.

Each new records requires:

Table : File #26.13, the (#26.131) DBRS NO. multiple

| **Field** | **Type** | **Length (ASCII characters/bytes)** |
| --- | --- | --- |
| (#.01) DBRS NO. | Number | 18 |
| Separator |  | 1 |
| (#.03) OTHER DBRS DATA | Free text | 60 |
| Separator |  | 1 |
| (#.02) DATE | Fileman Date | 7 |
| Total length |  | 87 |

Table : File #26.14

| **Field** | **Type** | **Length (ASCII characters/bytes)** |
| --- | --- | --- |
| (#.07) DBRS NO. | Number | 18 |
| Separator |  | 1 |
| (#.08) OTHER DBRS DATA | Free text | 60 |
| Separator |  | 1 |
| (#.09) ORIGINATING FACILITY | Pointer | 10 |
| DBRS NUMBER 2;0 Multiple #26.142 |  |  |
| (#.01) DBRS NO. | Number | 18 |
| Separator |  | 1 |
| (#.02) OTHER DBRS DATA | Free text | 60 |
| Separator |  | 1 |
| (#.03) DBRS DATE | Fileman Date | 7 |
| Separator |  | 1 |
| (#.04)DBRS OTHER ACTION | Set of codes | 10 |
| Total length |  | 188 |

The yearly growth for a single local Vista database instance is calculated as

= { [ File (#26.13) total DBRS records size + File (#26.14) total DBRS records size ] \* numbers of expected new DBRS records per year} / number of VA sites

The yearly growth for a single local Vista database instance = ((87+188)\*50000)/150 = 91667 = 92 kbytes/ year

### Update Frequency

Definition of the update frequency of the database tables, views, files, areas, records, and sets

* OTH clock file (#33)

The project adds the new file (#33) for the OTH clock, the update frequency depends on the number of patients with the new OTH eligibility. The project team has requested this information from SMEs and doesn’t have this information at the moment.

* DBRS fields

The project adds three new fields for the two VistA database files (#26.13) and (#26.14) to capture the DBRS data from the DBRS system manually.

The update frequency of these two VistA database files due to storing DBRS data depends on the number DBRS cases that are entered yearly on average.

The DBRS team expects to see DBRS events reported top out at about 50,000 per year in the future.

The update frequency for DBRS entries in the single local VistA database instance is calculated as number of new DBRS cases entered in VistA local site every day:

= Numbers of expected new DBRS records per year / number of VA sites /365 days

Expected number of new DBRS cases entered in VistA local site every day is 50000/150/365 = 0.91

### Estimates on the Number of Transactions

Estimates on the number of transactions that the database may have to process.

* OTH clock file (#33)

The project adds the new file (#33) for the OTH clock, the number of transactions depends on the number of patients with the new OTH eligibility. The project team has requested this information from SMEs and doesn’t have this information at the moment.

* DBRS fields

The project adds three new fields for the two VistA database files (#26.13) and (#26.14) to capture the DBRS data from the DBRS system manually.

The number of transactions for these two VistA database files due to storing DBRS data depends on the number DBRS cases are entered yearly in average.

The DBRS team expects to see DBRS events reported top out at about 50,000 per year in the future.

The number of transactions for DBRS entries in the single local VistA database instance is calculated as number of new DBRS cases in both files entered in VistA local site every year:

= 2 files \* (Numbers of expected new DBRS records per year / number of VA sites)

Expected number of transactions processed in a single VistA local site every year for DBRS records is 2\*50000/150 = 667

## Non-DBMS Files

Not applicable. No changes or updates Non-DBMS files are anticipated.

## Data View

Not applicable. The VistA database that is used in the project is MUMPS based non-relational database.

# Detailed Design

The detailed design will be updated as design and development continues; this section will be updated and included with later versions of this System Design Document (SDD*). Blank sections have been maintained for version control.*

## Hardware Detailed Design

This project does not require any changes to the existing hardware. These enhancements may require an additional amount of storage for the new files described above. Further analysis will be done as a part of the Systems Engineering and Design Review.

## Software Detailed Design

The following software must be installed prior to the release of this product:

* InterSystems Mumps Version Cache 2014.1.3 Ad Hoc 14809
* VA FileMan Version 22.2
* VistA Kernel Version 8.0
* VistA MailMan Version 8.0
* VistA Fee Basis Version 3.5
* Vista IB Version 2.0
* VistA Registration Version 5.3
* VistA CPRS Version 31b (the version that will be used as a baseline for the release needs to be determined)

Other tools utilized during development and testing:

* Rational Team Concert: Release 6.0 (VA Network-wide version)

### Conceptual Design

The project modifies the existing Vista applications DG (Registration), TIU (Text Integration Utility) IB (Integrated Billing), and CPRS by using standard VistA development tools approved by TRM like FileMan data dictionaries and APIs, Kernel infrastructure tools and APIs, ListMan, RPCs, Health Level Seven Optimized (HLO) application for HL7 messaging.

The access to other namespaces is controlled via ICRs in FORUM.

The software code is released by using the standard VistA Class 1 release process by issuing patches and registering them in FORUM.

#### Product Perspective

The portion of the VistA Registration (DG) application that is modified by the project interacts with the external Enrollment System (ES) and Master Veteran Index (MVI) systems. Note: the project doesn’t make modifications to these interfaces. It also interacts with CPRS via RPCs.

The portion of the VistA Integrated Billing (IB) application that is modified by the project doesn’t interact with external applications. It interacts with multiple VistA applications like Registration, Outpatient Pharmacy, Scheduling, CMOP, and AR via registered API calls (ICRs).

##### User Interfaces

This project doesn’t introduce any new interfaces. It modifies existing interfaces for CPRS users and Registration users.

For the CPRS GUI user interface changes, please refer to the SDD sections:

* 6.2.2.3.17.1. For fFrame
* 6.2.2.3.17.2. For PtSelDemog
* 6.2.2.3.18.1. For fFrame
* 6.2.2.3.18.2. For fPtSelDemog

For the Registration roll and scroll user interface changes, please refer to the SDD section:

* + - * + 3.2.3.1.1. DGPF RECORD FLAG ASSIGNMENT menu option

##### Hardware Interfaces

Communications between VistA sites pass through the Local Area Networks (LANs) and across the VA intranet.

##### Software Interfaces

The following software must be installed prior to the release of this product:

* InterSystems Mumps Version Cache 2014.1.3 Ad Hoc 14809
* VA FileMan Version 22.2
* VistA Kernel Version 8.0
* VistA MailMan Version 8.0
* VistA Fee Basis Version 3.5
* Vista IB Version 2.0
* VistA Registration Version 5.3
* VistA CPRS Version 31b (the version that will be used as a baseline for the release needs to be determined)

Other tools utilized during development and testing:

* Rational Team Concert: Release 6.0 (VA Network-wide version)

##### Communications Interfaces

The portion of the VistA Registration (DG) application that is modified by the project will modify the existing HL7 messages that are used to send information between VA sites.

The project doesn't make any modifications to the HL7 application that is responsible for HL7 messages processing.

The portion of the VistA Registration (DG) application that is modified by the project will introduce the new RPCs to set the OTH clock and get the OTH clock data. The RPC will be used by the CPSR GUI software to display the OTH status on the screen.

The project will also modify the existing TIU RPCs to set send facility information to CPRS.

The project doesn't make any modifications to the VistA software handles RPC calls with CPRS GUI.

##### Memory Constraints

There are no memory constraints associated with this project.

##### Special Operations

There are no special operations associated with this project.

#### Product Features

The project modifies the existing Vista applications DG (Registration), TIU (Text Integration Utility) IB (Integrated Billing), and CPRS.

##### Patient Record Flag Workstream

This part of the project modifies the existing VistA application DG (Registration) to provide the following functionality:

* Improve and fix issues with the HL7 messaging process which is supposed to keep the PRF data in synch amongst VistA instances and occasionally fails.

After this proposed enhancement, the root cause of the HL7 messaging failures for PRFs in the business scenarios provided, will be rectified, tested and implemented.

* Inactive National Category 1 PRFs HRfS will be electronically transferred to a requesting facility via one reassignment step. Active Category 1 PRFs HRfS will be electronically requested to have their ownership transferred, the request will be Accepted or Rejected and Ownership will transfer electronically or will remain assigned to its current facility.
* The bottom portion of the ‘Progress Notes Properties’ pop up box in CPRS which displays unlinked flag actions, will be filtered to only display unlinked flag actions which ‘belong’ to the same facility as the logged-in user.
* Implement the directive to NOT make the linking of a progress note to a flag action, mandatory. It will still be technically possible, but it will just not be mandatory within the business process. Because information from the current progress note linkage to a National Category 1 Behavior PRF, for example, flows downstream into the ***MyHealtheVet*** system, this has caused stress to patients who see that a ‘Behavioral’ PRF has been placed on their patient record.
* New fields will be placed on the National Category 1 ‘Behavioral’ PRF to capture ‘DBRS Case Number,’ ‘DBRS date’, ‘Other DBRS information’ and ‘DBRS action.’ This will allow health care providers within the VHA Workplace Violence Program the ability to link a Patient’s Behavioral PRF with a case number(s) from the VA’s Disruptive Behavioral Reporting System. These DBRS case numbers have no meaning to the patients and should induce no unnecessary emotional stress. These fields will be added to existing Record Flag Assignment options/screens as well as to the PRF history file. The report criteria will be updated on the Assignment Action Not Linked report to include new/different options.

##### Copayment Modifications Workstream

This part of the project modifies the existing VistA application IB (Integrated Billing) to provide the following functionality:

- Exempt the HRfS patients from outpatient visit copays.

- Apply pro-rated copay amounts for the HRfS patients when they were the original medication was broken down into several refills less than 30 days each

##### Other Than Dishonorable Discharge Modifications Workstream

This part of the project modifies the existing VistA application DG (Registration) to provide the following functionality:

* Add the new “Other Than Honorable” (OTH) eligibility to the Registration (DG) application so it can be selected only as the secondary/other eligibility for the patient and used to track patient eligibility
* Track the OTH eligibility 90 days and 365 days periods for the patient in the OTH clock (set the clock, reset the clock)
* Capture the authorization for the 2nd 90 days period in the database.
* Capture urgent mental health related treatment in the database.
* Display the OTH clock information on the CPRS screen.

#### User Characteristics

The resources that shall work with the IB need to be knowledgeable in the copay calculation.

The resources that shall work with the Registration (DG) need to be knowledgeable in the area of

* making decision of assigning eligibilities to the patient,
* entering/editing PRF information, transferring PRF ownership to another site

The resources that shall work with the Registration (DG) need to be knowledgeable in the policies and process of authorizing the OTH eligibility.

#### Dependencies and Constraints

* Regulatory policies: Policies that regulate the copays have not been approved by the government yet. The IB patch will be released as a dormant code that will require another activation patch to be released when the effective date becomes known. The project implements the switch that can turn the functionality ON by releasing the “informational” patch with instructions and the effective date.
* Parallel operation: The CPRS changes need to be included in the appropriate CPRS release.
* Interfaces with other applications: The team needs to get approvals for ICRs and HL7 message modifications.
* VA Standards and Conventions for MUMPS development.
* VA Technical Reference Model (TRM).

### Specific Requirements

Please see Section 2.3.1. *Overview of Functional Requirements.*

#### Database Repository

##### Patient Record Flag Workstream

Please refer to the section 3.2.1.1. PRF/TIU workstream for the Logical database design.

lists the new fields added to the database.

Table : New Fields Added to the Database

| VistA file | Field | Type of information | Frequency of use | Requirement |
| --- | --- | --- | --- | --- |
| PRF ASSIGNMENT | (#.01) DBRS NO. of the (#2) DBRS NO. multiple | The DBRS # from the DBRS system | See the section 5.1.5.Update frequency | B1S1 PRF TIU: As a developer, I need to develop the new Data Dictionary fields in VistA for DBRS so that I can test entry of DBRS Case Numbers and Other information on a Nat Category 1 PRF. |
| PRF ASSIGNMENT | (#.02) OTHER of the (#2) DBRS NO. multiple | Other DBRS information from the DBSR system | *See the section* 5.1.5.Update frequency | B1S1 PRF TIU: As a developer, I need to develop the new Data Dictionary fields in VistA for DBRS so that I can test entry of DBRS Case Numbers and Other information on a Nat Category 1 PRF. |
| PRF ASSIGNMENT | (#.03) DATE of the (#2) DBRS NO. multiple | The DBRS date from the DBRS system | See the section 5.1.5.Update frequency | B1S1 PRF TIU: As a developer, I need to develop the new Data Dictionary fields in VistA for DBRS so that I can test entry of DBRS Case Numbers and Other information on a Nat Category 1 PRF. |
| PRF ASSIGNMENT HISTORY | (#.07) DBRS NO. | The DBRS # from the DBRS system | See the section 5.1.5.Update frequency | B1S1 PRF TIU: As a developer, I need to develop the new Data Dictionary fields in VistA for DBRS so that I can test entry of DBRS Case Numbers and Other information on a Nat Category 1 PRF. |
| PRF ASSIGNMENT HISTORY | (#.08) OTHER DBRS DATA | Other DBRS information from the DBSR system | *See the section* 5.1.5.Update frequency | B1S1 PRF TIU: As a developer, I need to develop the new Data Dictionary fields in VistA for DBRS so that I can test entry of DBRS Case Numbers and Other information on a Nat Category 1 PRF. |
| PRF ASSIGNMENT HISTORY | (#.09) ORIGINATING FACILITY | Originating facility | *See the section* 5.1.5.Update frequency | B2S1 PRF TIU - As a VHA team member, I need to see the value of 'unknown' for any flag action listed in the Progress Notes Properties box if the originating site is not known. |

##### Copayment Modifications Workstream

Please refer to section 3.2.1.2. *Copays Workstream* for the current Logical database design.

The new field (#70.02) SHRPE ACTIVATION DATE in the IB SITES PARAMETERS FILE (#350.9) was added in the Sprint 1 of Build 2. Please see details about its current implementation in the [Appendix A](#_Appendix_A:_Data).

##### Other Than Dishonorable Discharge Modifications Workstream

Please refer to section 3.2.1.3. *Other Than Dishonorable Discharge (OTH) Workstream* for the current Logical database design.

The new file (#33) OTH ELIGIBILITY CLOCK was added to the database. Please see details about its current implementation in the [Appendix A](#_Appendix_A:_Data).

#### System Features

System features introduced by the project will implement the requirements listed in section 2.3.1. *Overview of Functional Requirements*.

#### Design Element Tables

Information in the sections below provides details about the implementation for specific software components.

##### Routines (Entry Points)

Routine changes below are grouped by worksterams.

###### Other Than Dishonorable Discharge Modifications Workstream

Note: The sections provides the code for major APIs implemented for the workstream.

The M-routine below implements the Get method (Table 17) used by the RPC to provide OTH clock data to CPRS screen to display the OTH clock.

Table : OTHDCLCK Method

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | OTHDCLCK^DGOTHD | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **RTM** | Sub Epic 960012 | | | |
| **Related Options** | None | | | |

| Related Routines | Routines “Called By” | Routines “Called” |
| --- | --- | --- |
|  | None | None |

| Routines | Activities | | | | |
| --- | --- | --- | --- | --- | --- |
| **Data Dictionary (DD) References** | OTH ELIGIBILITY CLOCK FILE (#33) | | | | |
| **Related Protocols** | None | | | | |
| **Related Integration Control Registrations (ICRs)** | None | | | | |
| **Data Passing** | Input | Output Reference | Both | Global Reference | Local |
| **Input Attribute Name and Definition** | Parameters:  DGDFN - the patient's IEN in the file (#2)  DGDATE - the date to calculate status  default = DT (today | | | | |
| **Output Attribute Name and Definition** | Name: RET   Return values:    return 0    if patient is not eligible for OTHD in registration  if patient does not have an entry in the OTHD clock file (#33)      Returns the information to display information about the OTHD clock   The return string is of the following format:   if some kind of error condition is encountered, return      -1^error message   else return p1^p2^p3^p4^p5^p6^p7^p8 where:   p1 = 1 .. n   1..n - the latest sequence number of the 365 period   p2 = 1,2,or 3   1 if the patient is in the first 90 day period   2 if the patient is in the second 90 day period   3 if the patient has used all 180 days in this 365 day period   p3 = FM date for the start of the clock for the first 90 day period   p4 = FM date for the end of the clock for the first 90 day period   p5 = the number of days left in the first 90 day period   p6 = FM date for the start of the clock for the second 90 day period   p7 = FM date for the end of the clock for the second 90 day period   p8 = the number of days left in the second 90 day period   p9 = FM date of the authorization for the 2nd period (null if no authorization) | | | | |

| Current Logic |
| --- |
| Not applicable. |

| Modified Logic (Changes are in bold) |
| --- |
| ;Functionality:  ; Implements ICR# 6873  ; This function is called from GET^OROTHCL to support  ; the "OR OTHD CLOCK GET" RPC  ;It checks if the patient is eligible for OTHD  ;and returns the OTHD status on the given date  ;  ;  ;Parameters:  ; DGDFN - the patient's IEN in the file (#2)  ; DGDATE - the date to calculate status  ; default = DT (today)  ;  ;Return values:  ;  ;return 0   ; if patient is not eligible for OTHD in registration  ; if patient does not have an entry in the OTHD clock file (#33)  ;  ;  ;Returns the information to display information about the OTHD clock   ;The return string is of the following format:  ; if some kind of error condition is encountered, return     ; -1^error message  ; else return p1^p2^p3^p4^p5^p6^p7^p8 where:  ; p1 = 1 .. n  ; 1..n - the latest sequence number of the 365 period  ; p2 = 1,2,or 3  ; 1 if the patient is in the first 90 day period  ; 2 if the patient is in the second 90 day period  ; 3 if the patient has used all 180 days in this 365 day period  ; p3 = FM date for the start of the clock for the first 90 day period  ; p4 = FM date for the end of the clock for the first 90 day period  ; p5 = the number of days left in the first 90 day period  ; p6 = FM date for the start of the clock for the second 90 day period  ; p7 = FM date for the end of the clock for the second 90 day period  ; p8 = the number of days left in the second 90 day period  ; p9 = FM date of the authorization for the 2nd period (null if no authorization)  ; |
| OTHDCLCK(DGDFN,DGDATE) ;  N DGN,RET,DGIEN33,DGRET,DGLS365D,DGLS365I,DG90A,DGARR,DGDIF  N DGP0,DGP1,DGP2,DGP3,DGP4,DGP5,DGP6,DGP7,DGP8,DGP9,DGAUTH  I $$ISOTHD^DGOTHD(DGDFN)=0 Q 0  S DGDATE=$S($G(DGDATE)>0:DGDATE,1:DT)  S DGIEN33=+$O(^DGOTH(33,"B",DGDFN,0))  I DGIEN33=0 Q "0"  D GETS^DIQ(33,DGIEN33\_",",".01;.02;.03;1\*","I","DGARR")  I $G(DGARR(33,DGIEN33\_",",.02,"I"))'=1 Q 0 ;not eligible for OTHD because OTHD clock has been inactivated  I $G(DGARR(33,DGIEN33\_",",.03,"I"))=1 Q 0 ;not eligible for OTHD because VBA ADJUDICATION has been COMPLETED  S DGLS365D=+$O(^DGOTH(33,DGIEN33,1,"B",999),-1)  I DGLS365D'>0 Q "-1^no 365 days clocks started"  S DGLS365I=+$O(^DGOTH(33,DGIEN33,1,"B",DGLS365D,0))  S DGN=0 F  S DGN=+$O(^DGOTH(33,DGIEN33,1,DGLS365I,1,"B",DGN)) Q:DGN=0 S DG90A(DGN)=+$O(^DGOTH(33,DGIEN33,1,DGLS365I,1,"B",DGN,0))  I '$D(DG90A) Q "-1^there are no 90 days periods for the 365 days period # "\_DGLS365D  I '$D(DG90A(1)) Q "-1^missing the 1st 90 days period for the 365 days period # "\_DGLS365D  I $O(DG90A(2)) Q "-1^there are more than two 90 days periods for the 365 days period # "\_DGLS365D  S (DGP0,DGP1,DGP2,DGP3,DGP4,DGP5,DGP6,DGP7,DGP8,DGP9,DGAUTH)=""  S DGP1=DGLS365D  ;calculation for the 1st 90 days period  S DGP3=$G(DGARR(33.11,DG90A(1)\_","\_DGLS365I\_","\_DGIEN33\_",",.02,"I")),DGP4=$$FMADD^XLFDT(DGP3,90),DGDIF=$$FMDIFF^XLFDT(DGP4,DGDATE,1),DGP5=$S(DGDIF>0:DGDIF,1:0)  ;calculation for the 2nd 90 days period if any  I $D(DG90A(2)) D  . S DGP6=$G(DGARR(33.11,DG90A(2)\_","\_DGLS365I\_","\_DGIEN33\_",",.02,"I")) I DGP6>0 S DGP7=$$FMADD^XLFDT(DGP6,90),DGDIF=$$FMDIFF^XLFDT(DGP7,DGDATE,1),DGP8=$S(DGP5>0:90,DGDIF>0:DGDIF,1:0)  . S DGAUTH=$G(DGARR(33.11,DG90A(2)\_","\_DGLS365I\_","\_DGIEN33\_",",.03,"I"))  . I DGAUTH'="" S DGP9=$P($G(DGARR(33.11,DG90A(2)\_","\_DGLS365I\_","\_DGIEN33\_",",.04,"I")),".")  S DGP2=$S(((DGP5=0)&($D(DG90A(2))&(DGP6>0))&(DGP8=0)):3,($D(DG90A(2))&(DGP6>0)):2,'$D(DG90A(1)):-1,DGP3'>0:-1,1:1)  I DGP5>0 S DGP2=1  S DGRET=DGP1\_U\_DGP2\_U\_DGP3\_U\_DGP4\_U\_DGP5\_U\_DGP6\_U\_DGP7\_U\_DGP8\_U\_DGP9  Q DGRET  ; |

The M-routine below implements the FRSTCLCK method (Table 18) used by Registration [DG LOAD EDIT SCREEN 7] careen to set the OTH clock data.

Table : FRSTCLCK Method

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | FRSTCLCK^DGOTHD1 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **RTM** | Sub Epic 960011 | | | |
| **Related Options** | None | | | |

| Related Routines | Routines “Called By” | Routines “Called” |
| --- | --- | --- |
|  | None | None |

| Routines | Activities | | | | |
| --- | --- | --- | --- | --- | --- |
| **Data Dictionary (DD) References** | OTH ELIGIBILITY CLOCK FILE (#33) | | | | |
| **Related Protocols** | None | | | | |
| **Related Integration Control Registrations (ICRs)** | None | | | | |
| **Data Passing** | Input | Output Reference | Both | Global Reference | Local |
| **Input Attribute Name and Definition** | Parameters:  DGDFN - patient IEN  DGSTRTDT - starting date | | | | |
| **Output Attribute Name and Definition** | Return values:   <0 if error   1 if everything was created properly | | | | |

| Current Logic |
| --- |
| Not applicable. |

| Modified Logic (Changes are in bold) |
| --- |
| ;Set the very first clock   ;Parameters:  ; DGDFN - patient IEN  ; DGSTRTDT - starting date  ;Return values:  ; <0 if error  ; 1 if everything was created properly FRSTCLCK(DGDFN,DGSTRDT) ;  N DGIEN33,DGIEN365,DGIEN90  ;does the patient have the clock?  S DGIEN33=$$HASCLOCK^DGOTHD2(DGDFN) I DGIEN33>0 Q -2 ; already has clock  ;if not then create it  I DGIEN33=0 S DGIEN33=$$CROTHCLK^DGOTHD2(DGDFN)  ;if error then return error  I DGIEN33<0 Q DGIEN33  ;create the very first 365 days clock  S DGIEN365=$$CR365CLK^DGOTHD2(+DGIEN33,1,DGSTRDT)  ;if error then return error  I DGIEN365<0 Q DGIEN365  ;create the very first 90 days clock  S DGIEN90=$$CR90CLK^DGOTHD2(+DGIEN33,+DGIEN365,1,DGSTRDT)  ;if error then return error  I DGIEN90<0 Q DGIEN90  Q 1  ; |

The M-routine (Table 19) implements the post-install code for the patch DG\*5.3\*952 that adds the new eligibility code to the file (#8):

Table : M Routine

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | ^DG53P952 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **RTM** | Epic 959986, Sub Epic 959988 | | | |
| **Related Options** | None | | | |

| Related Routines | Routines “Called By” | Routines “Called” |
| --- | --- | --- |
|  | None | None |

| Routines | Activities | | | | |
| --- | --- | --- | --- | --- | --- |
| **Data Dictionary (DD) References** | The ELIGIBLITY CODE file (#8) | | | | |
| **Related Protocols** | None | | | | |
| **Related Integration Control Registrations (ICRs)** | None | | | | |
| **Data Passing** | Input | Output Reference | Both | Global Reference | Local |
| **Input Attribute Name and Definition** | None | | | | |
| **Output Attribute Name and Definition** | None | | | | |

| Current Logic |
| --- |
| Not applicable. |
| Modified Logic (Changes are in bold) |
| DG53P952 ;SLC/SS - POST-INIT ;12/05/17  ;;5.3;Registration;\*\*952\*\*;Aug 13, 1993;Build 29  ;  ;DG\*5.3\*952 post - install entry point  ;  ;ICRs Used:  ;DBIA #10141 XPDUTL  ;DBIA #2053 Data Base Server API: Editing Utilities EN ;  ;skip adding the new eligibility to the file #8 if it is already there  I $O(^DIC(8,"B","OTHER THAN HONORABLE",0))>0 D  Q  .D BMES^XPDUTL("The OTHER THAN HONORABLE already exists in the file #8 - ")  .D MES^XPDUTL(" skip adding OTHER THAN HONORABLE eligibility to the file #8.")  ;  ;otherwise add the new eligibility to the file #8  N DGVALS,DGIEN  D BMES^XPDUTL("Adding OTHER THAN HONORABLE eligibility entry to the file #8")  S DGVALS(.01)="OTHER THAN HONORABLE"  S DGVALS(1)="RED"  S DGVALS(2)="OTH"  S DGVALS(3)=6  S DGVALS(4)="N"  S DGVALS(5)="OTHER THAN HONORABLE"  S DGVALS(7)=1  S DGVALS(8)="OTHER THAN HONORABLE"  S DGVALS(9)="VA STANDARD"  S DGVALS(11)="VA"  S DGVALS(12)="YES"  S DGIEN=$$INSREC(8,"",.DGVALS,,"E",,,1)  I DGIEN<0 D  . D BMES^XPDUTL("Error:")  . D BMES^XPDUTL(" the OTHER THAN HONORABLE eligibility was not added to the file #8: ")  . D MES^XPDUTL(" "\_$P(DGIEN,U,2))  ;  I $O(^DIC(8,"B","OTHER THAN HONORABLE",0))>0 D  Q  .D BMES^XPDUTL("The OTHER THAN HONORABLE eligibility has been added to the file #8 successfully.")  Q  ;  ; |
| ;/\*\*  ;Creates a new entry (or node for multiple with .01 field)  ;  ;DGFILE - file/subfile number  ;DGIEN - ien of the parent file entry in which the new subfile entry will be inserted  ;DGZFDA - array with values for the fields  ; format for DGZFDA:  ; DGZFDA(.01)=value for #.01 field  ; DGZFDA(3)=value for #3 field  ;DGRECNO -(optional) specify IEN if you want specific value  ; Note: "" then the system will assign the entry number itself.  ;DGFLGS - FLAGS parameter for UPDATE^DIE  ;DGLCKGL - fully specified global reference to lock  ;DGLCKTM - time out for LOCK, if LOCKTIME=0 then the function will not lock the file   ;DGNEWRE - optional, flag = if 1 then allow to create a new top level record   ;   ;output :  ; positive number - record # created  ; <=0 - failure^error message  ;  ;Example:  ;S DGVALS(.01)="OTHD" W $$INSREC^DG53952(8.1,"",.DGVALS,,,,,1) INSREC(DGFILE,DGIEN,DGZFDA,DGRECNO,DGFLGS,DGLCKGL,DGLCKTM,DGNEWRE) ;\*/  I ('$G(DGFILE)) Q "0^Invalid parameter"  I +$G(DGNEWRE)=0 I $G(DGRECNO)>0,'$G(DGIEN) Q "0^Invalid parameter"  N DGSSI,DGIENS,DGERR,DGFDA,DIERR  N DGLOCK S DGLOCK=0  I '$G(DGRECNO) N DGRECNO S DGRECNO=$G(DGRECNO)  I DGIEN'="" S DGIENS="+1,"\_DGIEN\_"," I $L(DGRECNO)>0 S DGSSI(1)=+DGRECNO  I DGIEN="" S DGIENS="+1," I $L(DGRECNO)>0 S DGSSI(1)=+DGRECNO  M DGFDA(DGFILE,DGIENS)=DGZFDA  I $L($G(DGLCKGL)) L +@DGLCKGL:(+$G(DGLCKTM)) S DGLOCK=$T I 'DGLOCK Q -2 ;lock failure  D UPDATE^DIE($G(DGFLGS),"DGFDA","DGSSI","DGERR")  I DGLOCK L -@DGLCKGL  I $D(DGERR) Q "-1^"\_$G(DGERR("DIERR",1,"TEXT",1),"Update Error")  Q +$G(DGSSI(1))  ; |

The M-routine () implements the CPRS MUMPS code to provide OTH status for the RPC :

Table : FRSTCLCK Method

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | GET^OROTHCL | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **RTM** | Sub Epic 960011 | | | |
| **Related Options** | None | | | |

| Related Routines | Routines “Called By” | Routines “Called” |
| --- | --- | --- |
|  | None | None |

| Routines | Activities | | | | |
| --- | --- | --- | --- | --- | --- |
| **Data Dictionary (DD) References** | OTH ELIGIBILITY CLOCK FILE (#33) | | | | |
| **Related Protocols** | None | | | | |
| **Related Integration Control Registrations (ICRs)** | 6873 | | | | |
| **Data Passing** | Input | Output Reference | Both | Global Reference | Local |
| **Input Attribute Name and Definition** | Parameters:  DGDFN - patient IEN  DGSTRTDT - starting date | | | | |
| **Output Attribute Name and Definition** | Return values:   <0 if error   1 if everything was created properly | | | | |

| Current Logic |
| --- |
| Not applicable. |

| Modified Logic (Changes are in bold) |
| --- |
| OROTHCL ;SLC/SS/RM - OTHD CLOCK INTERFACE ;11/27/2017  ;;3.0;ORDER ENTRY/RESULTS REPORTING;\*\*437\*\*;Dec 17, 1997;Build 4  ;  ;  ;Functionality:  ;This function is called from the "OR OTHD CLOCK GET" RPC  ;  ;ICR:  ; Supports the ICR# 6873  ; between DG (custodial) and OR (subscriber) namespaces  ;  ;Parameters:  ; RET - reference type parameter to return data  ; DFN - patient's IEN in the file (#2)  ; ORDATE - the date to calculate status  ; default = DT (today)  ;  ; RET(0) - contains the number of array elements with data  ; RET(1) - contains all the information the client needs  ; to display information about the OTHD clock without the client having to  ; do any calculations. The return string is of the following format:  ;If some kind of error condition is encountered, return  ; -2^OTH functionality is not available (DG API is not available)  ; -1^error message  ; Else return p1^p2^p3^p4^p5^p6^p7^p8 where  ; p1 = 0,1,2,or 3  ; 0 means patient is not OTHD eligible  ; 1 if the patient is in the first 90 day period  ; 2 if the patient is in the second 90 day period  ; 3 if the patient has used all 180 days in a 365 day period |
| ; p2 = FM date for the start of the clock for the first 90 day period  ; p3 = FM date for the end of the clock for the first 90 day period  ; p4 = the number of days left in the first 90 day period  ; p5 = FM date for the start of the clock for the second 90 day period  ; p6 = FM date for the end of the clock for the second 90 day period  ; p7 = the number of days left in the second 90 day period  ; p8 = FM date of the authorization for the 2nd period (null if no authorization)  ; RET(2) - Customized message for the local VA site for the pop-up OTH details window on the CPRS screen.  ; GET(RET,DFN,ORDATE) ;  ;check if DG patch with OTHD clock functionality is installed/released  S RET(0)=1  I $T(OTHDCLCK^DGOTHD)="" S RET(1)="-2^OTHD clock functionality is not available" Q  N ORZ1  I $G(DFN)'>0 S RET(1)="-1^patient IEN is not defined" Q  ;an error   K RET  S ORDATE=$S($G(ORDATE)>0:ORDATE,1:DT)  S ORZ1=$$OTHDCLCK^DGOTHD(DFN,ORDATE)  I ORZ1'>0 S RET(1)=ORZ1 Q  S RET(1)=$P(ORZ1,U,2,99) ;remove the first piece (the 365 days period number to meet the format expected by the RPC)  ;insert text to get the local message  S RET(0)=2,RET(2)="Call Registration team for details."  Q  ;GET  ; |

###### Copayment Modifications Workstream

Note: The sections provides the code for major APIs implemented for the workstream.

Routine changes below implement the logic to exempt the patient with HRfS from visit copay charges ().

Table : Copayment Modifications Workstream

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | NEW^IBAMTC1 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **RTM** | NSR: 20160415 | | | |
| **Related Options** | None | | | |

| Related Routines | Routines “Called By” | Routines “Called” |
| --- | --- | --- |
|  | ^IBAMTS | $$CHKHRFS(DFN |

| Routines | Activities | | | | |
| --- | --- | --- | --- | --- | --- |
| **Data Dictionary (DD) References** | None | | | | |
| **Related Protocols** | None | | | | |
| **Related Integration Control Registrations (ICRs)** | ICR 3860 | | | | |
| **Data Passing** | Input | Output Reference | Both | Global Reference | Local |
| **Input Attribute Name and Definition** | Name: DFN  Definition: Patient IEN in the file (#2) | | | | |
| **Output Attribute Name and Definition** | None | | | | |

| Current Logic |
| --- |
| ; - perform batch of edits  I '$$CHKS G NEWQ  ;  ; - quit if AO/IR/SWA/MST/HNC/CV/SHAD exposure is indicated, or SC related  D CLSF(0,.IBCLSF)  I IBCLSF[1 G NEWQ  ;  S IBSL="409.68:"\_IBOE |

| Modified Logic (Changes are in bold) |
| --- |
| ; - perform batch of edits  I '$$CHKS G NEWQ  ;  ; - quit if AO/IR/SWA/MST/HNC/CV/SHAD exposure is indicated, or SC related  D CLSF(0,.IBCLSF)  I IBCLSF[1 G NEWQ  ;  ; - quit if the Pt is Visit Copay exempt based on HRfS flag (IB\*2.0\*614)  I $$CHKHRFS^IBAMTS3(DFN,IBDAT) G NEWQ  ;  S IBSL="409.68:"\_IBOE  ; |

Routine changes below implement the logic to exempt the patient with HRfS from visit copay charges (Table 22).

Table : Exempt the Patient with HRfS from Visit Copay Charges

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | CHKHRFS^IBAMTS3 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **RTM** | NSR: 20160415 | | | |
| **Related Options** | None | | | |

| Related Routines | Routines “Called By” | Routines “Called” |
| --- | --- | --- |
|  | NEW^IBAMTS1 | ^DGPFAPI |

| Routines | Activities | | | | |
| --- | --- | --- | --- | --- | --- |
| **Data Dictionary (DD) References** | None | | | | |
| **Related Protocols** | None | | | | |
| **Related Integration Control Registrations (ICRs)** | ICR 3860 | | | | |
| **Data Passing** | Input | Output Reference | Both | Global Reference | Local |
| **Input Attribute Name and Definition** | Name: IBDFN  Definition: Patient IEN in the file (#2) | | | | |
| **Output Attribute Name and Definition** | None | | | | |

| Current Logic |
| --- |
| Not applicable |

| Modified Logic (Changes are in bold) |
| --- |
| CHKHRFS(IBDFN,STDT,ENDDT) ; Function to determine Visit Copay exemption based on HRfS flag (IB\*2.0\*614)  ;input: IBDFN - Patient IEN  ; STDT - (optional) date to begin looking for the flag  ; ENDDT - (optional) End date to look for Flag, defaults to today if not entered.  ;  ;Output: 1 - HRfS flag active on date of service  ; 0 - HRfS not active or non-existent  N IBFLAG,RESULT,IBREF,SHRPEDT  ;Due to legislative requirements, this function is active only after approved, when IB\*2.0\*614 is released the SHRPE activation date will be null  S SHRPEDT=$$GET1^DIQ(350.9,1,70.02,"I") ; Activation date for SHRPE copayment calculations/waivers  I $G(SHRPEDT)="" Q 0\_"^SHRPE copayment adjustments have not been activated yet!"  ; Quit if date not active  S STDT=$G(STDT),STDT=$S(STDT="":DT,1:STDT),ENDDT=$S($G(ENDDT)="":STDT,1:ENDDT)  I STDT<SHRPEDT Q 0\_"^HRfS Flag wasn't active on date of service"  ; Date of service is before activation date, quit  S IBFLAG="HIGH RISK FOR SUICIDE",IBREF=$$GETFLAG^DGPFAPIU(IBFLAG,"N")  I $G(IBREF)="" Q 0\_"^Pt doesn't have the HRfS flag"  ; Natl flag not found   I $G(IBDFN)="" Q 0 ; No Pt entered  N IBARR,REVDT K IBARR  S RESULT=$$GETINF^DGPFAPIH(IBDFN,IBREF,STDT,ENDDT,"IBARR")  I RESULT=0 Q 0\_"^HRfS flag NOT active for this Pt at date of service"  Q 1\_"^HRfS flag is active at date of service"  ; |

Routine changes below implement the logic to prorate RX copay amount for the patient with HRfS (Table 23).

Table : Prorating RX copays for the patient with HRfS

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PRORATE^IBAMTS3 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **RTM** | NSR: 20160415 | | | |
| **Related Options** | None | | | |

| Related Routines | Routines “Called By” | Routines “Called” |
| --- | --- | --- |
|  | ^IBARX1 | None |

| Routines | Activities | | | | |
| --- | --- | --- | --- | --- | --- |
| **Data Dictionary (DD) References** | None | | | | |
| **Related Protocols** | None | | | | |
| **Related Integration Control Registrations (ICRs)** | None | | | | |
| **Data Passing** | Input | Output Reference | Both | Global Reference | Local |
| **Input Attribute Name and Definition** | IBAMNT - Amount of the Normal copayment Tier cost for an Rx  IBDAYS - Number of days supply (ceck to see if less than 30) | | | | |
| **Output Attribute Name and Definition** | Output: Returns either the unadjusted cost, or a prorated cost  Example if Tier cost is $11.00 for 30 day but supply is for 15 days, prorate amount to $5.50 - Days supply/30 \* Tier cost (AMOUNT) | | | | |

| Current Logic |
| --- |
| Not applicable |

| Modified Logic (Changes are in bold) |
| --- |
| PRORATE(IBAMNT,IBDAYS) ;prorate the cost if HRfS flag and days supply is less that 30 days  ; Inputs: IBAMNT - Amount of the Normal copayment Tier cost for an Rx   ; IBDAYS - Number of days supply (ceck to see if less than 30)  ; Output: Returns either the unadjusted cost, or a prorated cost  ; Example if Tier cost is $11.00 for 30 day but supply is for 15 days, prorate amount to $5.50 - Days supply/30 \* Tier cost (AMOUNT)  ;  N IBCOST S IBCOST=IBAMNT  S IBAMNT=$G(IBAMNT),IBDAYS=$G(IBDAYS)  I 'IBAMNT Q IBAMNT   ;check for not equal to 0   I IBDAYS>29 Q IBAMNT   ;greater than 29 day supply  S IBCOST=IBDAYS/30\*IBAMNT  ;calculate new amount to bill  S IBCOST=$S($P(IBCOST,".",2)="":IBCOST,1:$P(IBCOST,".",1)\_"."\_$E($P(IBCOST,".",2),1,2)) ;pass back dollar amount rounded down not up  Q IBCOST  ; |

###### Patient Record Flag Workstream

Note: The sections provides the code for major APIs implemented for the workstream.

Routine changes below implement the logic to provide DBRS information for the patient with PRF flag to CPRS (Table 24).

Table : Return DBRS data for the patient with PRF flag

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | GETDBRS^DGPFDBRS | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **RTM** |  | | | |
| **Related Options** | None | | | |

| Related Routines | Routines “Called By” | Routines “Called” |
| --- | --- | --- |
|  | ^ORPRF | GETS^DIQ |

| Routines | Activities | | | | |
| --- | --- | --- | --- | --- | --- |
| **Data Dictionary (DD) References** | None | | | | |
| **Related Protocols** | None | | | | |
| **Related Integration Control Registrations (ICRs)** | 6874 | | | | |
| **Data Passing** | Input | Output Reference | Both | Global Reference | Local |
| **Input Attribute Name and Definition** | Parameters:  DGDFN - patient's DFN  DGRETARR - array to return information in the format:  ARR(1)="DBRS#^DBRS date^DBRS other information"  ARR(2)="DBRS#^DBRS date^DBRS other information"  ...  ARR(n)="DBRS#^DBRS date^DBRS other information"  Note: the DBRS entries are listed in the reversed order.  ARR(1) contains the latest entry  DGFLAG - for which flag the DBRS entry data need to be returned  Note: Default is "BEHAVIORAL" | | | | |
| **Output Attribute Name and Definition** | Returns:  the latest entry ARR(1) - if any entries exist  or  "" - if no entries found  "" - if the patient doesn't have a PRF flag | | | | |

| Current Logic |
| --- |
| Not applicable |

| Modified Logic (Changes are in bold) |
| --- |
| ;The API to get the DBRS information  ;Implements the ICR# 6874  ;Parameters:  ; DGDFN - patient's DFN  ; DGRETARR - array to return information in the format:  ; ARR(1)="DBRS#^DBRS date^DBRS other information"  ; ARR(2)="DBRS#^DBRS date^DBRS other information"  ; ...  ; ARR(n)="DBRS#^DBRS date^DBRS other information"  ; Note: the DBRS entries are listed in the reversed order.   ; ARR(1) contains the latest entry  ; DGFLAG - for which flag the DBRS entry data need to be returned   ; Note: Default is "BEHAVIORAL"  ;  ;Returns:  ; the latest entry ARR(1) - if any entries exist  ;or  ; "" - if no entries found  ; "" - if the patient doesn't have a PRF flag  ; GETDBRS(DGDFN,DGRETARR,DGFLAG) ;  N DG2613,DGARR,DGIEN,DGCNT,DGCURFLG  S DGFLAG=$G(DGFLAG,"BEHAVIORAL")  S DG2613=0 F  S DG2613=$O(^DGPF(26.13,"B",DGDFN,DG2613)) Q:+DG2613=0 D  . K DGARR  . D GETS^DIQ(26.13,DG2613\_",",".02;2\*","E","DGARR")  . S DGCURFLG=$G(DGARR(26.13,DG2613\_",",.02,"E"))  . I DGCURFLG']"" Q  . S DGIEN="Z",DGCNT=0  . F  S DGIEN=$O(DGARR(26.131,DGIEN),-1) Q:DGIEN']""  D  . . S DGCNT=DGCNT+1 S DGRETARR(DGCURFLG,DGCNT)=DGARR(26.131,DGIEN,.01,"E")\_U\_DGARR(26.131,DGIEN,.02,"E")  I '$D(DGRETARR) Q ""  Q $G(DGRETARR(DGFLAG,1)) |

Routine changes below implement the logic to return facilty toTIU

Table 22: Add facility column to RPC for TIU

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | GETACTS ^TIUPRF2 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **RTM** |  | | | |
| **Related Options** | None | | | |

| Related Routines | Routines “Called By” | Routines “Called” |
| --- | --- | --- |
|  | N/A | $$GETHTIU^DGPFAPI1  $$AVAILACT^TIUPRFL |

| Routines | Activities | | | | |
| --- | --- | --- | --- | --- | --- |
| Data Dictionary (DD) References | None | | | | |
| Related Protocols | None | | | | |
| Related Integration Control Registrations (ICRs) | 3860 | | | | |
| **Data Passing** | Input | Output Reference | Both | Global Reference | Local |
| **Input Attribute Name and Definition** | Input:   DFN - [Required] IEN of PATIENT (#2) file   TIUTTL - [Required] IEN of TIU DOCUMENT DEFINITION (#8925.1) file   RETURN ARRAY   .TIUY - passed by reference   see description of return array from GETHTIU^DGPFAPI1   reformat data for TIU RPC return   dg\*951 brought in p8   TIUY(ACTID) = p1^p2^p3^p4^p5^p6^p7^p8 where   p1 = flag name p5 = action date, FM internal   p2 = assignment ien [.001/#26.13] p6 = action date, external   p3 = action name [.03/#26.14] p7 = file 8925 ien   p4 = action ien p8 = originate facility name | | | | |
| **Output Attribute Name and Definition** | Returns linkable action for Patient DFN and flag assoc w/ TIUTTL   Action may be currently linked or not   Excludes UNLINKABLE actions   Entered in Error actions (EIE)   Actions taken prior to that EIE action   Prior to DG\*5.3\*951, return array used ACTID from GETHTIU^DGPFAPI1   DG\*5.3\*951 sort array by Originating Facility, always lists the   History records created by the local facility first. | | | | |

| Current Logic |
| --- |
| GETACTS(TIUY,TIUTTL,DFN) ;RPC Gets PRF Action info  ;"Action" is shorthand for Assignment History entry  ;Returns data in the following format for each Action:  ;TIUY(ACTID) =  ; FLAGNAME^ASSGNIEN^ACTIONNAME^ACTIONIEN^ACTIONDATEI^ACTIONDATEE^TIUIEN  ; where Integer ACTID = subscript after "HISTORY" in array returned  ; by GETHTIU^DGPFAPI1  ;Returns linkable actions (whether linked or not) for Patient DFN  ; and flag assoc w/ TIUTTL.  ;Excludes UNLINKABLE actions = Entered in Error actions (EIE) or  ; actions taken prior to an EIE action.  ;Erroneous and EIE actions may be for the wrong patient, etc.  N TIUDG,ACTID,TIUFLAG,UNLINKBL,ARRAYNM  S TIUY=1,ARRAYNM="^TMP(""TIUPRFH"",$J)"  S TIUDG=$$GETHTIU^DGPFAPI1(DFN,TIUTTL,ARRAYNM)  I 'TIUDG S TIUY="0^"\_$P(TIUDG,U,2) G GETACTX  ; -- If no unlinked, linkable actions exist, say so but go on:  I '$$AVAILACT^TIUPRFL("^TMP(""TIUPRFH"",$J)",,.UNLINKBL) S TIUY="0^All linkable Flag actions are already linked"  ; -- Return ALL linkable actions (linked or not):  S TIUFLAG=$P(^TMP("TIUPRFH",$J,"FLAG"),U,2)\_U\_$P(^TMP("TIUPRFH",$J,"ASSIGNIEN"),U)  S ACTID=0  F  S ACTID=$O(^TMP("TIUPRFH",$J,"HISTORY",ACTID)) Q:'+ACTID  D  . Q:$G(UNLINKBL(ACTID))  . S TIUY(ACTID)=TIUFLAG  . S TIUY(ACTID)=TIUY(ACTID)\_U\_$P(^TMP("TIUPRFH",$J,"HISTORY",ACTID,"ACTION"),U,2)  . S TIUY(ACTID)=TIUY(ACTID)\_U\_$P(^TMP("TIUPRFH",$J,"HISTORY",ACTID,"HISTIEN"),U,1)  . S TIUY(ACTID)=TIUY(ACTID)\_U\_$P(^TMP("TIUPRFH",$J,"HISTORY",ACTID,"DATETIME"),U,1)  . S TIUY(ACTID)=TIUY(ACTID)\_U\_$P(^TMP("TIUPRFH",$J,"HISTORY",ACTID,"DATETIME"),U,2)  . S TIUY(ACTID)=TIUY(ACTID)\_U\_$P(^TMP("TIUPRFH",$J,"HISTORY",ACTID,"TIUIEN"),U,1) GETACTX ;  K ^TMP("TIUPRFH",$J)  Q |

| Modified Logic (Changes are in bold) |
| --- |
| **GETACTS(TIUY,TIUTTL,DFN) ; RPC TIU GET PRF ACTIONS  ; RPC Gets PRF Action info  ; Action in PRF is the reason a History (#26.14) record was created  ; Input:  ; DFN - [Required] IEN of PATIENT (#2) file  ; TIUTTL - [Required] IEN of TIU DOCUMENT DEFINITION (#8925.1) file  ; RETURN ARRAY  ; .TIUY - passed by reference  ; see description of return array from GETHTIU^DGPFAPI1  ; reformat data for TIU RPC return  ; dg\*951 brought in p8  ; TIUY(ACTID) = p1^p2^p3^p4^p5^p6^p7^p8 where  ; p1 = flag name p5 = action date, FM internal  ; p2 = assignment ien [.001/#26.13] p6 = action date, external  ; p3 = action name [.03/#26.14] p7 = file 8925 ien  ; p4 = action ien p8 = originate facility name  ;  ; Returns linkable action for Patient DFN and flag assoc w/ TIUTTL  ; Action may be currently linked or not  ; Excludes UNLINKABLE actions  ; Entered in Error actions (EIE)  ; Actions taken prior to that EIE action  ; Prior to DG\*5.3\*951, return array used ACTID from GETHTIU^DGPFAPI1  ; DG\*5.3\*951 sort array by Originating Facility, always lists the  ; History records created by the local facility first.  ;  N I,X,ACTID,ARRAYNM,APPRVBY,FLAG,HERE,UNLINKBL  ;  S ARRAYNM=$$SET  S HERE=$$HERE  K ^TMP($J)  S TIUY=1  S X=$$GETHTIU^DGPFAPI1(DFN,TIUTTL,ARRAYNM)  I 'X S TIUY="0^"\_$P(X,U,2) G KILL  ;** |
| **; -- If no unlinked, linkable actions exist, say so but go on:  I '$$AVAILACT^TIUPRFL(ARRAYNM,,.UNLINKBL) D  . S TIUY="0^All linkable Flag actions are already linked"  . Q  ;  ; -- Return ALL linkable actions (linked or not)  S FLAG=$$GETP("FLAG",2)\_U\_$$GETP("ASSIGNIEN",1)  S ACTID=0  F  S ACTID=$O(@ARRAYNM@("HISTORY",ACTID)) Q:'ACTID  D  . Q:$G(UNLINKBL(ACTID))  . N X,Y,APPRVBY,FNM,IEN,ST3,STR  . S APPRVBY=$$GETPA("APPRVBY",1)  . S STR=FLAG  . S $P(STR,U,3)=$$GETPA("ACTION",2)  . S $P(STR,U,4)=$$GETPA("HISTIEN",1)  . S $P(STR,U,5)=$$GETPA("DATETIME",1)  . S $P(STR,U,6)=$$GETPA("DATETIME",2)  . S $P(STR,U,7)=$$GETPA("TIUIEN",1)  . ;  . ; dg\*951 - format by originating facility name  . S IEN=$$GETPA("ORIG FAC")  . S X=$$STN("SN",IEN,1,APPRVBY)  . S ST3=$P(X,U,5),FNM=$P(X,U,4)  . S $P(STR,U,8)=FNM  . S ^TMP($J,ST3,FNM,ACTID)=STR  . Q  ; now set up the return array  S I=0,X=$NA(^TMP($J))  F  S X=$Q(@X) Q:X=""  Q:$QS(X,1)'=$J  S I=I+1,TIUY(I)=@X  K ^TMP($J)  G KILL** |

##### Templates

No templates are used/modified/created/designed in Sprint 1 of Build 2.

##### Bulletins

No bulletins are used/modified/created/designed in Sprint 1 of Build 2.

##### Data Entries Affected by the Design

The new entries have been added to the files (#8)(Figure 18) and (#8.1)(Figure 19):

Figure : File (#8)

NAME: OTHER THAN HONORABLE CARD COLOR: RED

ABBREVIATION: OTH VA CODE NUMBER: 6

TYPE: NON-VETERAN PRINT NAME: OTHER THAN HONORABLE

SELECT AS ADDITIONAL: YES

MAS ELIGIBILITY CODE: OTHER THAN HONORABLE

ID FORMAT: VA STANDARD AGENCY: VA

ADDITIONAL ONLY: YES

Figure : File (#8.1)

NAME: OTHER THAN HONORABLE CARD COLOR: RED

ABBREVIATION: OTH VA CODE NUMBER: 6

TYPE: NON-VETERAN PRINT NAME: OTHER THAN HONORABLE

SELECT AS ADDITIONAL: YES

##### Unique Record(s)

The new entries have been added to the files (#8)(Figure 20) and (#8.1)(Figure 21):

Figure : File (#8, updated)

**File (#8)**

NAME: OTHER THAN HONORABLE CARD COLOR: RED

ABBREVIATION: OTH VA CODE NUMBER: 6

TYPE: NON-VETERAN PRINT NAME: OTHER THAN HONORABLE

SELECT AS ADDITIONAL: YES

MAS ELIGIBILITY CODE: OTHER THAN HONORABLE

ID FORMAT: VA STANDARD AGENCY: VA

ADDITIONAL ONLY: YES

Figure : File (#8.1, updated)

**File (#8.1)**

NAME: OTHER THAN HONORABLE CARD COLOR: RED

ABBREVIATION: OTH VA CODE NUMBER: 6

TYPE: NON-VETERAN PRINT NAME: OTHER THAN HONORABLE

SELECT AS ADDITIONAL: YES

##### File or Global Size Changes

* OTH clock file (#33)

The project adds the new file (#33) for the OTH clock; the size of the file depends on the number of patients with the new OTH eligibility. The project team has requested this information from SMEs and does not have this information at the moment.

* DBRS fields

The project adds new fields for the two VistA database files (#26.13) and (#26.14) to capture the DBRS data from the DBRS system manually.

The growth rate of these two VistA database files due to storing DBRS data depends on the number DBRS cases are entered yearly in average.

Based on the information provided by the DBRS team the numbers of expected new DBRS records per year is 50000:

The yearly growth for a single local Vista database instance for each file calculated as

= {File (#26.13) total DBRS records size \* number of expected new DBRS records per year} / number of VA sites

= {File (#26.14) total DBRS records size \* number of expected new DBRS records per year} / number of VA sites

Each DBRS records takes 87 bytes for the file (#26.13) and 188 bytes for the file (#26.14) and (See section 5.1. DBMS Files for more details)

Thus the yearly growth for each files for a single local Vista database instance = (87\*50000)/150 = 29000 = 29 Kbytes/ year (Table 25)

(188\*50000)/150 = 62666 = 63 Kbytes/ year (Table 25)

Table : File or Global Size Changes

| File/Global Name(s) | Estimated Increase | Estimated Decrease |
| --- | --- | --- |
| (#26.13) | *29 Kbytes/ year* | Not applicable. |
| (#26.14) | *63 Kbytes/ year* | Not applicable. |

##### Mail Groups

No mail groups are used/modified/created/designed in Sprint 1 of Build 2.

##### Security Keys

No security keys are used/modified/created/designed in Sprint 1 of Build 2.

##### Options

No options are used/modified/created/designed in Sprint 1 of Build 2.

##### Protocols

No protocols are used/modified/created/designed in Sprint 1 of Build 2.

##### Remote Procedure Call (RPC)

###### Patient Record Flag Workstream

Table : OR OTHD CLOCK GET RPC

| RPCs | Activities | | |
| --- | --- | --- | --- |
| **Name** | TIU GET PRF ACTIONS | | |
| **TAG^RTN** | GETACTS^TIUPRF2 | | |
| **Input Parameters** | DFN This is a pointer to the PATIENT file (#2). | | |
| **Results Array** | Single Value | Array | Word Processing |
| Global Array | Global Instance |  |
| **Description** | NAME: TIU GET PRF ACTIONS TAG: GETACTS  ROUTINE: TIUPRF2 RETURN VALUE TYPE: ARRAY  INACTIVE: ACTIVE APP PROXY ALLOWED: Yes  DESCRIPTION:  This RPC gets the Patient Record Flag History Assignments/Actions for a  Patient/Title Combination.  INPUT PARAMETER: TIUTTL PARAMETER TYPE: LITERAL  REQUIRED: YES SEQUENCE NUMBER: 1  DESCRIPTION:  TIU DOCUMENT DEFINITION (TITLE) IEN  INPUT PARAMETER: DFN PARAMETER TYPE: LITERAL  REQUIRED: YES SEQUENCE NUMBER: 2  DESCRIPTION:  Patient Pointer (file 2 IEN)  RETURN PARAMETER DESCRIPTION:  Returns data in the following format for each Flag Assignment/Action    FLAG NAME^FLAG IEN^ACTION NAME^ACTION IEN^ACTION DATE I^ACTION DATE E^TIU  IEN^ORIGINATING FACILITY E | | |
|  | Else return p1^p2^p3^p4^p5^p6^p7 where  p1 = 0,1,2,or 3  p2 = FM date for the start of the clock for the first 90 day period  p3 = FM date for the end of the clock for the first 90 day period  p4 = the number of days left in the first 90 day period  p5 = FM date for the start of the clock for the second 90 day  period  p6 = FM date for the end of the clock for the second 90 day period  p7 = the number of days left in the second 90 day period  Type <Enter> to continue or '^' to exit:  p8 = FM date of the authorization for the 2nd period (null if no  authorization)    p1 = 0 means patient is not OTH eligible  p1 = 1 if the patient is in the first 90 day period  p1 = 2 if the patient is in the second 90 day period  p1 = 3 if the patient has used all 180 days in a 365 day period    ARR(2): contains the customized message for the local VA site for the  pop-up OTH details window on the CPRS screen. | | |

###### Other Than Dishonorable Discharge Modifications Workstream

Table : OR OTHD CLOCK GET RPC

| RPCs | Activities | | |
| --- | --- | --- | --- |
| **Name** | OR OTHD CLOCK GET | | |
| **TAG^RTN** | GET^OTOTHC | | |
| **Input Parameters** | DFN This is a pointer to the PATIENT file (#2). | | |
| **Results Array** | Single Value | Array | Word Processing |
| Global Array | Global Instance |  |
| **Description** | NAME: OR OTHD CLOCK GET TAG: GET  ROUTINE: OROTHCL RETURN VALUE TYPE: ARRAY  AVAILABILITY: SUBSCRIPTION  DESCRIPTION:  The Other Than Honorable Discharge initiative allow for certain patients  to have limited mental health access. These individuals are entitled to  two 90 day terms of care in a 365 day period. These RPC returns the  status of the clock for an application to display as it sees fit.  INPUT PARAMETER: DFN PARAMETER TYPE: LITERAL  MAXIMUM DATA LENGTH: 100 REQUIRED: YES  SEQUENCE NUMBER: 1  DESCRIPTION:  This is a pointer to the PATIENT file.  INPUT PARAMETER: ORDATE PARAMETER TYPE: LITERAL  MAXIMUM DATA LENGTH: 100 REQUIRED: NO  SEQUENCE NUMBER: 2  DESCRIPTION:  (Optional) The date to calculate status in FileMan format.  RETURN PARAMETER DESCRIPTION:  This return parameter should contain all the information the client needs  to display information about the OTH clock without the client having to  Type <Enter> to continue or '^' to exit:  do any calculations. The return string is of the following format:    Array of strings:  ARR(0): the number of arrays elements with data  If error then ARR(0) will always be 1,  if no errors, then can be either 1 (if no local message provided)  or 2 (if the local message is returned).    ARR(1): contains all the information the client needs to display  information about the OTH clock.  If some kind of error condition is encountered, return  -1^error message | | |
|  | Else return p1^p2^p3^p4^p5^p6^p7 where  p1 = 0,1,2,or 3  p2 = FM date for the start of the clock for the first 90 day period  p3 = FM date for the end of the clock for the first 90 day period  p4 = the number of days left in the first 90 day period  p5 = FM date for the start of the clock for the second 90 day  period  p6 = FM date for the end of the clock for the second 90 day period  p7 = the number of days left in the second 90 day period  Type <Enter> to continue or '^' to exit:  p8 = FM date of the authorization for the 2nd period (null if no  authorization)    p1 = 0 means patient is not OTH eligible  p1 = 1 if the patient is in the first 90 day period  p1 = 2 if the patient is in the second 90 day period  p1 = 3 if the patient has used all 180 days in a 365 day period    ARR(2): contains the customized message for the local VA site for the  pop-up OTH details window on the CPRS screen. | | |

##### Constants Defined in Interface

No constants Defined in Interface are used/modified/created in Sprint 1 of Build 2.

##### Variables Defined in Interface

No Variables Defined in Interface are used/modified/created in Sprint 1 of Build 2.

##### Types Defined in Interface

No types defined in Interface are used/modified/created in Sprint 1 of Build 2.

##### GUI - fFrame

Table 28 and Table 29 are descriptions of GUIs changes for this project.

Table : GUI - fFrame

| Unit Name | Description |
| --- | --- |
| fFrame | Main form of CPRS |

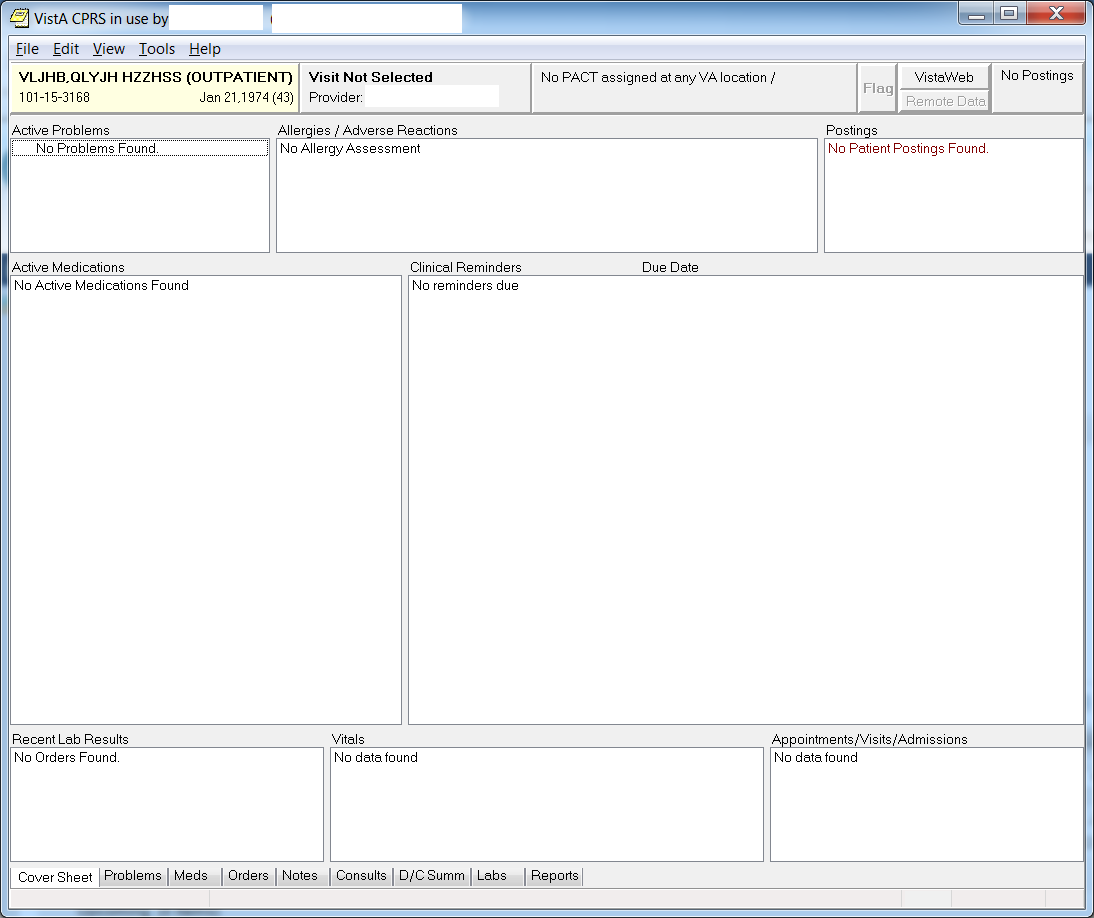
##### GUI Classes

Table : For fFrame

| GUI Classes | Description |
| --- | --- |
| **Class Name** | TfrmFrame |
| **Derived From Class** | TfrmBase508Form |
| **Purpose** | Main form |

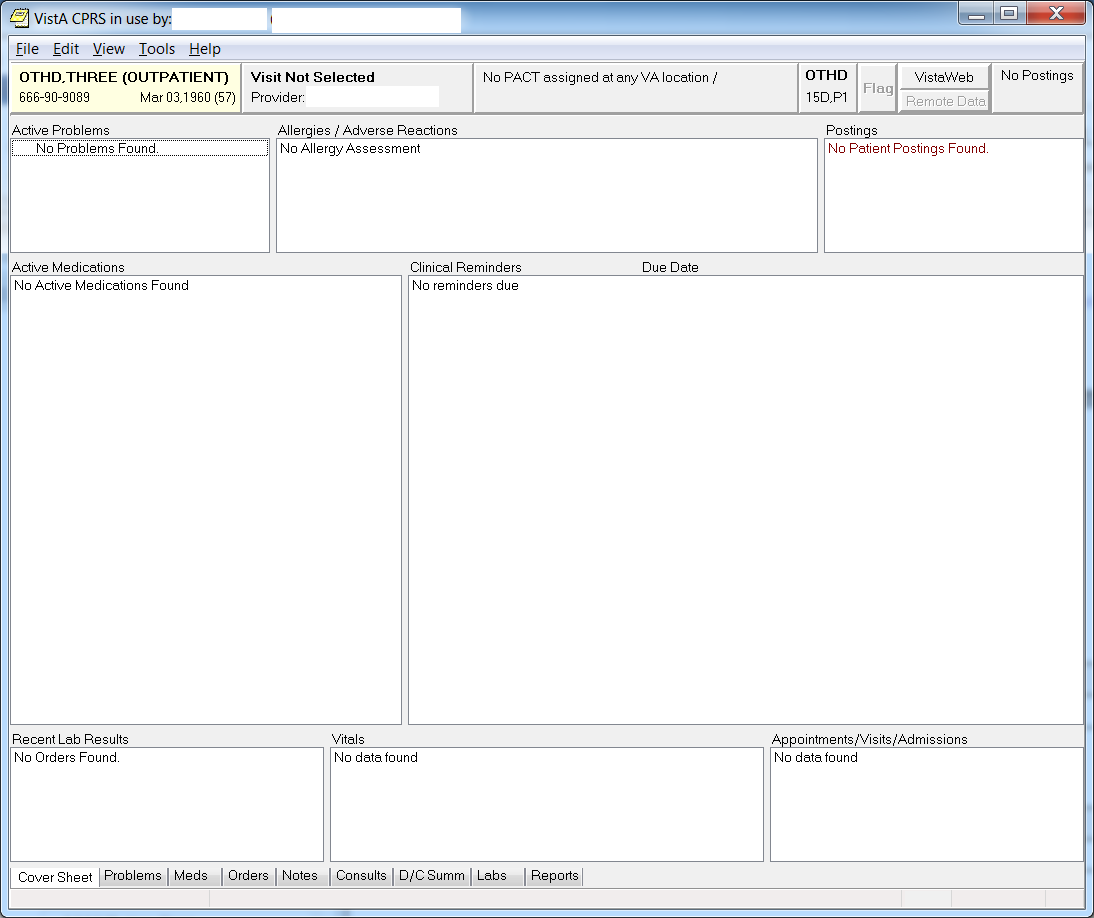
##### Current Form

Figure : Main CPRS screen (fFrame)



##### Modified Form

Figure : Main CPRS Screen (fFrame)



##### Components on Form

Table : fFrame

| Name | Type | Description |
| --- | --- | --- |
| pnlOTHD | TKeyClickPanel | Container for OTHD countdown clock |
| lblOTHDTitle | TStaticText | Title for countdown clock |
| lblOTHD | TStaticText | Countdown clock display |

##### Events

Table : Events

| Name | Type | Description |
| --- | --- | --- |
| pnlOTHD | onClick | Calls pnlOTHDClick |
| pnlOTHD | onEnter | Calls pnlOTHDEnter |
| pnlOTHD | onExit | Calls pnlOTHDExit |
| lblOTHD | onClick | Calls lblOTHDClick |
| lblOTHDTitle | onClick | Calls lblOTHDTitleClick |

##### Methods

Table : Methods

| Method Name | Procedure/Function | Description |
| --- | --- | --- |
| ChangeFont | Procedure | Added lblOTHD and lblOTHDTitle to reset of font sizes |
| ClearPatient | Procedure | Hide and disable pnlothd, disable lblothdtitle, clear lblOTHD.Caption, OTHDShortStr, OTHDLongStr1, OTHDLongStr2, OTHDLocalMsg |
| SetupPatient | Procedure | Call getOTHD. If successful, setup pnlOTHD and subcomponents; assign global versions of OTH strings |
| pnlOTHDClick | Procedure | Display OTHDLongStr1, non-empty OTHDLongStr2, and non-empty OTHDLocalMsg in a popup. |
| pnlOTHDEnter | Procedure | Display wide version of OTH messages by widening “button” |
| pnlOTHDExit | Procedure | Return “button” to normal width and display abbreviated OTH message |
| lblOTHDClick | Procedure | Call pnlOTHDClick(lblOTHD) |
| lblOTHDTitleClick | Procedure | Call pnlOTHDClick(lblOTHDTitle) |

##### Special References

Table : Special References

| Special Reference Name | Type | Description |
| --- | --- | --- |
| OTHDShortStr | String | Implementation-level abbreviated string used in “button” |
| OTHDLongStr1 | String | Implementation-level first line of expanded text |
| OTHDLongStr2 | String | Implementation-level second line of expanded text |
| OTHDLocalMsg | String | Implementation-level locally (facility) defined todo message |

##### Class Events

Table : Class Events

| Name | Type | Description |
| --- | --- | --- |
| n/a | n/a | n/a |

##### Class Methods

Table : Class Methods

| Name | Procedure/Function | Description |
| --- | --- | --- |
| getOTHD | Function | function getOTHD(DFNStr, NameStr: String; out ShortStr, LongStr1, LongStr2, LocalMsg: String): Boolean; Retrieves countdown clock data and outputs formatted remaining days, period, and local message based on status from RPC OR OTHD CLOCK GET. |
| TfrmFrame.ClearPatient | Procedure | Modified to setup pnlOTHD |
| TfrmFrame.SetupPatient | Procedure | Added code to call getOTHD and update pnlOTHD, lblOTHDTitle, and lblOTHD |

##### Class Properties

Table : Class Properties

| Class Properties Name | Type | Visibility | Description |
| --- | --- | --- | --- |
| n/a | n/a | n/a | n/a |

##### Uses Clause

N/AGUI - fNoteProps

Table : GUI

| Unit Name | Description |
| --- | --- |
| fNoteProps | Progress Notes Properties dialog |

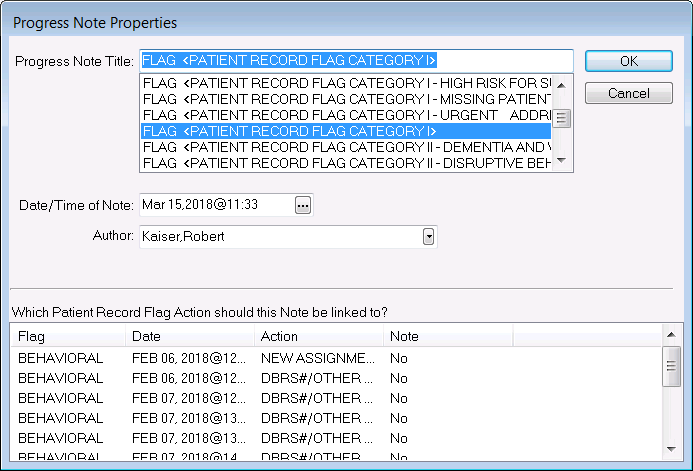
##### GUI Classes

Table : GUI Classes

| GUI Classes | Description |
| --- | --- |
| **Class Name** | TfrmNoteProperties |
| **Derived From Class** | TfrmBase508Form |
| **Purpose** | Progress Notes Properties dialog |

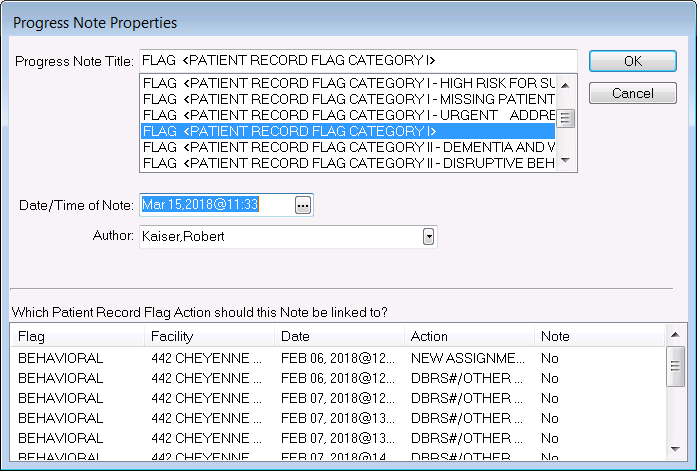
##### Current Form

Figure : Current Form



##### Modified Form

Figure : Modified Form



##### Components on Form

Table : Components on Form

| Name | Type | Description |
| --- | --- | --- |
| n/a | **n/a** | **n/a** |

##### Events

Table : Events

| Name | Type | Description |
| --- | --- | --- |
| lvPRF | **onColumnClick** | **Calls lvPRFColumnClick** |
| lvPRF | **onCompare** | **Calls lvPRFCompare** |

##### Methods

Table : Methods

| Method Name | Procedure/Function | Description |
| --- | --- | --- |
| lvPRFColumnClick | Procedure | Sorts column in ascending/descending order |
| lvPRFCompare | procedure | Calls CompareText to do alphanumeric sort |
| formShow | Procedure | Modified to initialize sort direction and column in lvPRF |
| ShowPRFList | Procedure | Initialize lvPRF sort direction arrows to show no image |
| ShowActionsOnList | Procedure | Insert Facility column in second position using eighth piece returned from RPC. If eighth piece is empty, set facility column width to 0 to hide the column. Facility column shows only for CAT 1 Behavioral flag with TIU patch installed. |

##### Special References

Table : Special References

| Special Reference Name | Type | Description |
| --- | --- | --- |
| n/a | n/a | n/a |

##### Class Events

Table : Class Events

| Name | Type | Description |
| --- | --- | --- |
| n/a | n/a | n/a |

##### Class Methods

Table : Class Methods

| Name | Procedure/Function | Description |
| --- | --- | --- |
| n/a | n/a | n/a |

##### Class Properties

Table : Class Properties

| Class Properties Name | Type | Visibility | Description |
| --- | --- | --- | --- |
| n/a | n/a | n/a | n/a |

##### Uses Clause

n/a

##### Forms

No forms are used/modified/created so far in Sprint 1 of Build 2.

##### Functions

No functions are used/modified/created so far in Sprint 1 of Build 2.

##### Dialog

No dialog messages are used/modified/created so far in Sprint 1 of Build 2.

##### Help Frame

No Help Frames are used/modified/created so far in Sprint 1 of Build 2.

##### HL7 Application Parameter

No HL7 Application Parameters are used/modified/created so far in Sprint 1 of Build 2.

##### HL7 Logical Link

No HL7 Logical Link are used/modified/created so far in Sprint 1 of Build 2.

##### COTS Interface

No COTS Interface are used/modified/created in Sprint 1 of Build 2.

## Network Detailed Design

Communications between VistA sites pass through the Local Area Networks (LANs) and across the VA intranet.

While project modifications for VistA Registration (DG) rely on the network infrastructure, they do not make any changes to this infrastructure. The number of additional messages sent between sites due to the project changes insignificant.

## Security and Privacy

The workstreams employs measures for security and privacy.

### Security

The project modifications do not make any changes to the security mechanisms of existing VistA applications.

The scope of work does not impact existing security controls and privacy considerations.

### Privacy

The project modifications do not make any changes that impact privacy mechanisms at the existing VistA applications.

The scope of work does not impact existing security controls and privacy considerations.

Service Oriented Architecture / ESS Detailed Design

Not applicable.

### Service Description for <Consumed Service Name>

Not applicable.

### Service Design for <Provided Service Name>

Not applicable.

#### Introduction

##### Purpose and Scope of Service

Not applicable.

##### Links to Other Documents

Not applicable.

#### Service Details

Not applicable.

##### Service Identification

Not applicable.

##### Service Versions

Not applicable.

##### Summary of Design and Platform Details

###### SOA Pattern(s) Implemented

Not applicable.

###### COTS Platform Vendor Names and Versions for Hosting Platform

Not applicable.

#### Dependencies

Enrollment System (ES)

#### Service Design Details

Not applicable.

##### Service Name

Not applicable.

##### Interface

Not applicable.

##### End Points

Not applicable.

Table : Operations or Methods

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Operation Name | Inputs | Outputs | Transactional Qualities if relevant (Updating? Atomic?, Can participate in transaction?) | Pre and Post Conditions | Exception (s) |
| Not applicable. | Not applicable. | Not applicable. | Not applicable. | Not applicable. | Not applicable. |
| Not applicable. | Not applicable. | Not applicable. | Not applicable. | Not applicable. | Not applicable. |

##### Message Schemas

Not applicable.

##### Information Model

Not applicable.

###### Mappings from ELDM to Standards Based Schemas

Not applicable.

###### Use Cases (Use Case Model)

Not applicable.

###### Interaction Diagrams

Not applicable.

#### Gap Analysis

Not applicable.

##### Variances from Enterprise Target Architecture

Not applicable.

##### Variances from SLDs

Not applicable.

##### Variances from Standards and Policies

Not applicable.

##### Justification for Exceptions and Mitigation

Not applicable.

# External System Interface Design

There are no external interfaces or special environments involved.

## Interface Architecture

There are no external interfaces or special environments involved.

## Interface Detailed Design

There are no external interfaces or special environments involved.

# Human-Machine Interface

This project does not change the human-machine interface, which is done via the VistA user options and CPRS GUI.

## Interface Design Rules

Not applicable.

## Inputs

Not applicable.

## Outputs

Not applicable.

## Navigation Hierarchy

Not applicable.

### Screen [x.1]

Not applicable.

### Screen [x.2]

Not applicable.

### Screen [x.3]

Not applicable.

# Attachment A – Approval Signatures

This section is used to document the approval of the System Design Document. The review should be conducted face to face where signatures can be obtained ‘live’ during the review. If unable to conduct a face-to-face meeting then it should be held via LiveMeeting and concurrence captured during the meeting. The Scribe should add /es/name by each position cited. Example provided below.

The Business Sponsor and Project Manager are required to sign.

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

Signed: Date:

< Business Sponsor >

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

Signed: Date:

Loren Behuniak, Project Manager

1. Additional Information

This section and its sub-sections are to be determined. Blank sections have been maintained for version control.

* 1. Identification of Technology and Standards

Not applicable.

* 1. Constraining Policies, Directives and Procedures

Not applicable.

* 1. Requirements Traceability Matrix

Not applicable.

* 1. Packaging and Installation

Not applicable.

* 1. Design Metrics

Not applicable.

# Appendix A: Data Dictionaries Created/Modified

**(See Below)**

| Data Dictionaries Created/Modified  CONDENSED DATA DICTIONARY---OTH ELIGIBILITY CLOCK FILE (#33)UCI: VISTA,ROU VERSION: 5.3  STORED IN: ^DGOTH(33, MAR 16,2018 PAGE 1  ------------------------------------------------------------------------------------------------------------------------------------  FILE SECURITY  DD SECURITY : @ DELETE SECURITY: @  READ SECURITY : @ LAYGO SECURITY : @  WRITE SECURITY : @  CROSS REFERENCED BY:  PATIENT(B)  FILE STRUCTURE  FIELD FIELD  NUMBER NAME  .01 PATIENT (RP2'), [0;1]  .02 STATUS (S), [0;2]  .03 VBA ADJUDICATION (S), [0;3]  .04 CREATED BY (P200'), [0;4]  .05 DATE CREATED (D), [0;5]  1 OTH 365 DAYS CLOCK (Multiple-33.01), [1;0]  .01 365 DAYS PERIOD NUMBER (MNJ3,0), [0;1]  .02 START DATE (D), [0;2]  .03 AUTHORIZED BY (P200'), [0;3]  .04 DATE AUTHORIZED (D), [0;4]  .05 ENTERED OR EDITED BY (P200'), [0;5]  .06 DATE ENTERED OR EDITED (D), [0;6]  1 OTH 90 DAYS CLOCK (Multiple-33.11), [1;0]  .01 90 DAYS PERIOD NUMBER (MNJ1,0), [0;1]  .02 START DATE (D), [0;2]  .03 AUTHORIZED BY (P200'), [0;3]  .04 DATE AUTHORIZED (D), [0;4]  .05 ENTERED OR EDITED BY (P200'), [0;5]  .06 DATE ENTERED OR EDITED (D), [0;6]  Select DATA DICTIONARY UTILITY OPTION: |
| --- |
| FILE STRUCTURE  FIELD FIELD  NUMBER NAME  .001 NUMBER (NJ15,0I), [ ]  .01 PATIENT NAME (RP2'I), [0;1]  .02 FLAG NAME (RV), [0;2]  .03 STATUS (RS), [0;3]  .04 OWNER SITE (RP4'I), [0;4]  .05 ORIGINATING SITE (RP4'I), [0;5]  .06 REVIEW DATE (DI), [0;6]  1 ASSIGNMENT NARRATIVE (Multiple-26.132), [1;0]  .01 ASSIGNMENT NARRATIVE (WL), [0;1]  2 DBRS NUMBER (Multiple-26.131), [2;0]  .01 DBRS NUMBER (MFJ18), [0;1]  .02 OTHER DBRS DATA (FJ60), [0;2]  .03 DATE (D), [0;3] |
| FILE STRUCTURE  FIELD FIELD  NUMBER NAME  .001 NUMBER (NJ15,0I), [ ]  .01 PRF ASSIGNMENT (RP26.13'I), [0;1]  .02 DATE/TIME (RDI), [0;2]  .03 ACTION (RSI), [0;3]  .04 ENTERED BY (RP200'I), [0;4]  .05 APPROVED BY (RP200'OI), [0;5]  .06 TIU PN LINK (RP8925'I), [0;6]  .07 DBRS NO. (FJ14), [0;7]  .08 OTHER DBRS DATA (FJ60), [0;8]  .09 ORIGINATING FACILITY (P4'), [0;9]  1 HISTORY COMMENTS (Multiple-26.141), [1;0]  .01 HISTORY COMMENTS (WL), [0;1]  2 DBRS NUMBER (Multiple-26.142), [2;0]  .01 DBRS# (MFJ18), [0;1]  .02 DBRS OTHER (FJ60), [0;2]  .03 DATE (D), [0;3]  .04 DBRS OTHER (FJ60), [0;4]  .05 DBRS OTHER ACTION (S), [0;5] |
| FILE STRUCTURE  FIELD FIELD  NUMBER NAME  .01 NAME (RNJ1,0X), [0;1]  .02 FACILITY NAME (R\*P4'), [0;2]  .03 FILE IN BACKGROUND (S), [0;3]  .04 FILER STARTED (D), [0;4]  .05 FILER STOPPED (D), [0;5]  .06 FILER LAST RAN (D), [0;6]  .07 FILER UCI,VOL (F), [0;7]  .08 FILER HANG TIME (NJ2,0), [0;8]  .09 COPAY BACKGROUND ERROR GROUP (P3.8'), [0;9]  .1 FILER QUEUED (S), [0;10]  .11 MEANS TEST BILLING MAIL GROUP (P3.8'), [0;11]  .12 PER DIEM START DATE (D), [0;12]  .13 COPAY EXEMPTION MAIL GROUP (P3.8), [0;13]  .14 USE ALERTS (\*S), [0;14]  .15 SUPPRESS MT INS BULLETIN (S), [0;15]  .16 LAST LTC COMPLETION DATE (D), [0;16]  1.01 NAME OF CLAIM FORM SIGNER (F), [1;1]  1.02 TITLE OF CLAIM FORM SIGNER (F), [1;2]  1.03 \*CAN REVIEWER AUTHORIZE? (S), [1;3]  1.04 \*REMARKS ON EACH EDI CLAIM (F), [1;4]  1.05 FEDERAL TAX NUMBER (RF), [1;5]  1.06 BLUE CROSS/SHIELD PROVIDER # (RF), [1;6]  1.07 BILL CANCELLATION MAILGROUP (P3.8'), [1;7]  1.08 BILLING SUPERVISOR NAME (RP200'), [1;8]  1.09 BILL DISAPPROVED MAILGROUP (P3.8'), [1;9]  1.11 \*CAN INITIATOR REVIEW (S), [1;11]  1.14 MAS SERVICE POINTER (RP49'), [1;14]  1.15 CAN CLERK ENTER NON-PTF CODES? (S), [1;15]  1.16 ASK HINQ IN MCCR (S), [1;16]  1.17 USE OP CPT SCREEN? (S), [1;17]  1.18 \*DEFAULT AMB SURG REV CODE (\*P399.2'), [1;18]  1.19 TRANSFER PROCEDURES TO SCHED? (S), [1;19]  1.2 HOLD MT BILLS W/INS (S), [1;20]  1.21 MEDICARE PROVIDER NUMBER (F), [1;21]  1.22 MULTIPLE FORM TYPES (S), [1;22]  1.23 CAN INITIATOR AUTHORIZE? (S), [1;23]  1.24 BASC START DATE (D), [1;24]  1.25 DEFAULT DIVISION (P40.8'), [1;25]  1.27 CMS-1500 ADDRESS COLUMN (NJ2,0), [1;27]  1.28 \*DEFAULT RX REFILL REV CODE (\*P399.2'), [1;28]  1.29 DEFAULT RX REFILL DX (\*P80'), [1;29]  1.3 DEFAULT RX REFILL CPT (\*P81'), [1;30]  1.31 UB-04 ADDRESS COLUMN (NJ2,0), [1;31]  1.32 CMS-1500 PRINT LEGACY ID (S), [1;32]  1.33 UB-04 PRINT LEGACY ID (S), [1;33]  2.01 \*AGENT CASHIER MAIL SYMBOL (F), [2;1]  2.02 \*AGENT CASHIER STREET ADDRESS (F), [2;2]  2.03 \*AGENT CASHIER CITY (F), [2;3]  2.04 \*AGENT CASHIER STATE (P5'), [2;4]  2.05 \*AGENT CASHIER ZIP CODE (FX), [2;5]  2.06 \*AGENT CASHIER PHONE NUMBER (F), [2;6]  2.07 CANCELLATION REMARK FOR FISCAL (F), [2;7]  2.08 INPT HEALTH SUMMARY (P142'), [2;8]  2.09 OUTPT HEALTH SUMMARY (P142'), [2;9]  2.1 \*FACILITY NAME FOR BILLING (RF), [2;10]  2.11 SITE CONTACT PHONE NUMBER (F), [2;11]  3.01 \*CONVERSION LAST BILL DATE (D), [3;1]  3.02 \*CONVERSION BREAK DATE (D), [3;2]  3.03 COPAY EXEMPTION CONV. STARTED (NJ7,0), [3;3]  3.04 COPAY EXEMPTION LAST DFN (NJ9,0), [3;4]  3.05 TOTAL PATIENTS CONVERTED (NJ9,0), [3;5]  3.06 TOTAL PATIENTS EXEMPT (NJ9,0), [3;6]  3.07 TOTAL PATIENT NON-EXEMPT (NJ9,0), [3;7]  3.08 COUNT OF EXEMPT BILLS (NJ9,0), [3;8]  3.09 AMOUNT OF CHARGES CHECKED (NJ9,0), [3;9]  3.1 TOTAL EXEMPT DOLLAR AMOUNT (NJ9,0), [3;10]  3.11 AMOUNT OF NON-EXEMPT CHARGES (NJ9,0), [3;11]  3.12 AMOUNT OF CANCELED CHARGES (NJ9,0), [3;12]  3.13 COPAY EXEMPTION START DATE (RD), [3;13]  3.14 COPAY EXEMPTION STOP DATE (RDI), [3;14]  3.15 NON-EXEMPT PATIENTS CONVERTED (NJ9,0), [3;15]  3.16 TOTAL BILLS DURING CONVERSION (NJ9,0), [3;16]  3.17 COUNT OF BILLS CANCELED (NJ9,0), [3;17]  3.18 INSURANCE CONVERSION COMPLETE (RDI), [3;18]  3.19 BILL/CLAIMS CONV. COMPLETE (RDI), [3;19]  3.2 CURRENT INPATIENTS LOADED (RDI), [3;20]  4.01 INSURANCE EXTENDED HELP (S), [4;1]  4.02 PATIENT OR INSURANCE COMPANY (V), [4;2]  4.03 HEALTH INSURANCE POLICY (F), [4;3]  4.04 NEW INSURANCE MAIL GROUP (P3.8'), [4;4]  4.05 CENTRAL COLLECTION MAIL GROUP (F), [4;5]  4.06 INSURANCE COMPANY (\*P36'), [4;6]  4.07 IVM CENTER MAIL GROUP (F), [4;7]  4.08 INS. CO. DELETION TASK (NJ12,0), [4;8]  5.01 ADMISSION SHEET HEADER LINE 1 (F), [5;1]  5.02 ADMISSION SHEET HEADER LINE 2 (F), [5;2]  5.03 ADMISSION SHEET HEADER LINE 3 (F), [5;3]  6.01 CLAIMS TRACKING START DATE (D), [6;1]  6.02 INPATIENT CLAIMS TRACKING (S), [6;2]  6.03 OUTPATIENT CLAIMS TRACKING (S), [6;3]  6.04 PRESCRIPTION CLAIMS TRACKING (S), [6;4]  6.05 PROSTHETICS CLAIMS TRACKING (S), [6;5]  6.06 USE ADMISSION SHEETS (S), [6;6]  6.07 RANDOM SAMPLE DATE (D), [6;7]  6.08 MEDICINE SAMPLE SIZE (RNJ2,0), [6;8]  6.09 MEDICINE WEEKLY ADMISSIONS (NJ2,0), [6;9]  6.1 MEDICINE RANDOM NUMBER (NJ2,0), [6;10]  6.11 MEDICINE ENTRIES MET (NJ2,0), [6;11]  6.12 MEDICINE ADMISSION COUNTER (NJ2,0), [6;12]  6.13 SURGERY SAMPLE SIZE (NJ2,0), [6;13]  6.14 SURGERY WEEKLY ADMISSIONS (NJ2,0), [6;14]  6.15 SURGERY RANDOM NUMBER (NJ2,0), [6;15]  6.16 SURGERY ENTRIES MET (NJ2,0), [6;16]  6.17 SURGERY ADMISSION COUNTER (NJ2,0), [6;17]  6.18 PSYCH SAMPLE SIZE (NJ2,0), [6;18]  6.19 PSYCH WEEKLY ADMISSIONS (NJ2,0), [6;19]  6.2 PSYCH RANDOM NUMBER (NJ2,0), [6;20]  6.21 PSYCH ENTRIES MET (NJ2,0), [6;21]  6.22 PSYCH ADMISSION COUNTER (NJ2,0), [6;22]  6.23 REPORTS ADD TO CLAIMS TRACKING (S), [6;23]  6.24 AUTO PRINT UNBILLED LIST (S), [6;24]  6.25 UNBILLED MAIL GROUP (P3.8'), [6;25]  7.01 AUTO BILLER FREQUENCY (NJ4,0), [7;1]  7.02 LAST AUTO BILLER DATE (D), [7;2]  7.03 INPATIENT STATUS (AB) (S), [7;3]  7.04 NUMBER OF DAYS PT CHARGES HELD (RNJ2,0), [7;4]  7.05 DEFAULT RX REFILL DX ICD-10 (\*P80'), [7;5]  8.01 LIVE TRANSMIT 837 QUEUE (F), [8;1]  8.02 DAYS TO WAIT TO PURGE MSGS (NJ3,0), [8;2]  8.03 AUTO TRANSMIT BILL FREQUENCY (NJ4,0), [8;3]  8.04 MAX # BILLS IN A BATCH (NJ2,0), [8;4]  8.05 LAST 837 AUTO-TRANSMIT DATE (D), [8;5]  8.06 HOURS TO TRANSMIT BILLS (FX), [8;6]  8.07 ONLY 1 INS CO PER CLAIM BATCH (S), [8;7]  8.09 TEST TRANSMIT 837 QUEUE (F), [8;9]  8.1 EDI/MRA ACTIVATED (S), [8;10]  8.11 AUTOMATIC MRA EOB PROCESS? (S), [8;11]  8.12 ALLOW MRA EOB PROCESSING? (S), [8;12]  8.13 DATE MRA FIRST ACTIVATED (D), [8;13]  8.14 CMS-1500 AUTO PRINTER (P3.5'), [8;14]  8.15 UB-04 AUTO PRINTER (P3.5'), [8;15]  8.16 EOB AUTO PRINTER (P3.5'), [8;16]  8.17 AUTOMATIC REG EOB PROCESS? (S), [8;17]  8.19 MRA AUTO PRINTER (P3.5'), [8;19]  9.01 BILLING PORT (F), [9;1]  9.02 AWP PORT (F), [9;2]  9.03 TCP/IP ADDRESS (F), [9;3]  9.04 PRIMARY BILLING TASK (F), [9;4]  9.05 SECONDARY BILLING TASK (F), [9;5]  9.06 PRIMARY AWP TASK (F), [9;6]  9.07 SECONDARY AWP TASK (F), [9;7]  9.08 DATE PRIMARY TASK STARTED (D), [9;8]  9.09 DATE PRIMARY TASK LAST RAN (D), [9;9]  9.1 SHUTDOWN BACKGROUND JOBS (S), [9;10]  9.11 TASK UCI,VOL (F), [9;11]  9.12 AWP CHARGE SET (\*P363.1'), [9;12]  9.13 PRESCRIBER ID (F), [9;13]  9.14 DEA# OVERRIDE PRESC. ID (S), [9;14]  9.15 PHARM CALC COMPOUND CODE (S), [9;15]  10.01 PATIENT OR FACILITY (V), [10;1]  10.02 TP INPATIENT ACTIVE (S), [10;2]  10.03 TP OUTPATIENT ACTIVE (S), [10;3]  10.04 TP PHARMACY ACTIVE (S), [10;4]  10.05 TP PROSTHETICS ACTIVE (S), [10;5]  11.01 HIPAA NCPDP ACTIVE FLAG (Sa), [11;1]  11.03 DEFAULT PAY-TO PROVIDER (NJ4,0), [11;3]  11.04 DEFAULT TRICARE PAY-TO PROV (NJ4,0), [11;4]  13.01 HMS DIRECTORY (F), [13;1]  13.02 EII ACTIVE (S), [13;2]  13.03 RESULT FILE NAME (F), [13;3]  13.04 DAY OF MONTH RESULT FILE DUE (NJ2,0), [13;4]  13.05 DAYS BEFORE LATE MESSAGE SENT (NJ2,0), [13;5]  13.06 MAX EXT FILE QUE CONFIRM TIME (NJ2,0), [13;6]  13.07 MAX NUM OF RECORDS PER MESSAGE (NJ4,0), [13;7]  13.08 EXTRACT FILES (Multiple-350.9006), [13.08;0]  .01 EXTRACT FILE TYPE (MS), [0;1]  .02 EXTRACT FILE ACTIVE (S), [0;2]  .03 FILE NAME (F), [0;3]  .04 AITC DMI QUEUE EMAIL ADDRESS (F), [0;4]  .05 DAY OF MONTH EXTRACT FILE DUE (NJ2,0), [0;5]  .06 DAYS BEFORE LATE MESSAGE SENT (NJ1,0), [0;6]  15 PRINTED CLAIMS RC EXCLUSIONS (Multiple-350.9399), [15;0]  .01 REVENUE CODE (P399.2'), [0;1]  19 PAY-TO PROVIDERS (Multiple-350.9004), [19;0]  .01 FACILITY (M\*P4'), [0;1]  .02 NAME (RF), [0;2]  .03 FEDERAL TAX NUMBER (F), [0;3]  .04 TELEPHONE NUMBER (F), [0;4]  .05 PARENT PAY-TO PROVIDER (NJ4,0), [0;5]  1.01 STREET ADDRESS 1 (FJ55), [1;1]  1.02 STREET ADDRESS 2 (FJ55), [1;2]  1.03 CITY (F), [1;3]  1.04 STATE (P5'), [1;4]  1.05 ZIP (F), [1;5]  20 BILLING PROVIDER FAC TYPES (Multiple-350.9005), [20;0]  .01 BILLING PROVIDER FAC TYPES (M\*P4.1'), [0;1]  .02 PAY-TO PROVIDER TYPE? (S), [0;2]  29 TRICARE PAY-TO PROVIDERS (Multiple-350.929), [29;0]  .01 TC FACILITY (\*P4'), [0;1]  .02 TC NAME (RF), [0;2]  .03 TC FEDERAL TAX NUMBER (F), [0;3]  .04 TC TELEPHONE NUMBER (F), [0;4]  .05 TC PARENT PAY-TO PROVIDER (NJ4,0), [0;5]  1.01 TC STREET ADDRESS 1 (F), [1;1]  1.02 TC STREET ADDRESS 2 (F), [1;2]  1.03 TC CITY (F), [1;3]  1.04 TC STATE (P5'), [1;4]  1.05 TC ZIP (F), [1;5]  50.01 RUNNING CLAIMSMANAGER? (S), [50;1]  50.02 CLAIMSMANAGER WORKING OK? (S), [50;2]  50.03 GENERAL ERROR MSG MAIL GROUP (P3.8'), [50;3]  50.04 COMM ERR MSG MAIL GROUP (P3.8'), [50;4]  50.05 CLAIMSMANAGER TCP/IP (F), [50;5]  50.06 CLAIMSMANAGER PORTS (Multiple-350.9001), [50.06;0]  .01 CLAIMSMANAGER PORTS (MF), [0;1]  50.07 MAILMAN MESSAGE FLAG (S), [50;7]  51.01 FRESHNESS DAYS (RNJ3,0), [51;1]  51.02 DAILY MAILMAN MSG (S), [51;2]  51.03 DAILY MSG TIME (FX), [51;3]  51.04 MESSAGES MAILGROUP (RP3.8'), [51;4]  51.05 TIMEOUT DAYS (NJ1,0), [51;5]  51.06 NUMBER RETRIES (NJ1,0), [51;6]  51.07 TIMEOUT MAILMAN MSG (S), [51;7]  51.08 INQUIRE INACTIVE INSURANCE (S), [51;8]  51.09 INQUIRE POPULAR PAYERS (S), [51;9]  51.1 NO. POPULAR PAYERS (NJ2,0), [51;10]  51.11 POPULAR INSUR CO. FROM DATE (D), [51;11]  51.12 POPULAR INSUR CO. THRU DATE (D), [51;12]  51.13 HL7 RESPONSE PROCESSING (RS), [51;13]  51.14 HL7 START TIME (RFX), [51;14]  51.15 HL7 MAXIMUM NUMBER (RNJ5,0), [51;15]  51.16 \*CONTACT PERSON (RP200'), [51;16]  51.17 BATCH EXTRACTS (Multiple-350.9002), [51.17;0]  .01 BATCH EXTRACTS (MRS), [0;1]  .02 ACTIVE? (RS), [0;2]  .03 SELECTION CRITERIA #1 (NJ3,0), [0;3]  .04 SELECTION CRITERIA #2 (NJ3,0), [0;4]  .05 MAXIMUM EXTRACT NUMBER (RNJ5,0), [0;5]  .06 SUPPRESS BUFFER CREATION (S), [0;6]  51.18 POPULAR PAYERS (Multiple-350.9003), [51.18;0]  .01 POPULAR PAYER (MP365.12'), [0;1]  51.19 HL7 STOP TIME (RFX), [51;19]  51.2 FAILURE MAILMAN MSG (S), [51;20]  51.21 MOST POPULAR LAST SAVE DATE (D), [51;21]  51.22 REGISTRATION COMPLETE (S), [51;22]  51.23 INQUIRE SECONDARY INSURANCES (S), [51;23]  51.24 MOST POPULAR LAST SAVED BY (RP200'), [51;24]  51.25 MEDICARE PAYER (P365.12'), [51;25]  51.26 RETRY FLAG (S), [51;26]  51.27 270 MASTER SWITCH REALTIME (S), [51;27]  51.28 270 MASTER SWITCH NIGHTLY (S), [51;28]  51.29 DAILY NIF STATUS CHECK TIME (FX), [51;29]  52.01 PURGE DAYS 277 RFAI (NJ4,0), [52;1]  52.02 WORKLIST PURGE DAYS 277 RFAI (NJ2,0), [52;2]  60.01 DEFAULT SERVICE TYPE CODE 1 (RP365.013'), [60;1]  60.02 DEFAULT SERVICE TYPE CODE 2 (P365.013'), [60;2]  60.03 DEFAULT SERVICE TYPE CODE 3 (P365.013'), [60;3]  60.04 DEFAULT SERVICE TYPE CODE 4 (P365.013'), [60;4]  60.05 DEFAULT SERVICE TYPE CODE 5 (P365.013'), [60;5]  60.06 DEFAULT SERVICE TYPE CODE 6 (P365.013'), [60;6]  60.07 DEFAULT SERVICE TYPE CODE 7 (P365.013'), [60;7]  60.08 DEFAULT SERVICE TYPE CODE 8 (P365.013'), [60;8]  60.09 DEFAULT SERVICE TYPE CODE 9 (P365.013'), [60;9]  60.1 DEFAULT SERVICE TYPE CODE 10 (P365.013'), [60;10]  60.11 DEFAULT SERVICE TYPE CODE 11 (P365.013'), [60;11]  61.01 SITE SELECTED SERVICE CODE 1 (P365.013'), [61;1]  61.02 SITE SELECTED SERVICE CODE 2 (P365.013'), [61;2]  61.03 SITE SELECTED SERIVCE CODE 3 (P365.013'), [61;3]  61.04 SITE SELECTED SERVICE CODE 4 (P365.013'), [61;4]  61.05 SITE SELECTED SERVICE CODE 5 (P365.013'), [61;5]  61.06 SITE SELECTED SERVICE CODE 6 (P365.013'), [61;6]  61.07 SITE SELECTED SERVICE CODE 7 (P365.013'), [61;7]  61.08 SITE SELECTED SERVICE CODE 8 (P365.013'), [61;8]  61.09 SITE SELECTED SERVICE CODE 9 (P365.013'), [61;9]  62.01 LIMIT LENGTH OF EIV FIELDS? (S), [62;1]  62.02 CPAC ADM FUTURE DAYS (NJ3,0), [62;2]  62.03 CPAC APPT PAST DAYS (NJ3,0), [62;3]  62.04 CPAC ADM PAST DAYS (NJ3,0), [62;4]  62.05 TRICARE APPT FUTURE DAYS (NJ3,0), [62;5]  62.06 TRICARE ADM FUTURE DAYS (NJ3,0), [62;6]  62.07 TRICARE APPT PAST DAYS (NJ3,0), [62;7]  62.08 TRICARE ADM PAST DAYS (NJ3,0), [62;8]  62.09 PURGE DAYS (RNJ4,0), [62;9]  62.1 INQUIRY TRIGGER APPT (NJ2,0), [62;10]  62.11 INQUIRY TRIGGER ADM (NJ2,0), [62;11]  62.12 HSCR RESPONSE PURGE DAYS (NJ2,0), [62;12]  62.13 CPAC APPT FUTURE DAYS (NJ3,0), [62;13]  63 HCSR CLINIC LIST (Multiple-350.963), [63;0]  .01 NAME (P44'), [0;1]  .02 INCLUDE FOR ALL PAYERS? (S), [0;2]  1 INCLUDE CLINIC FOR PAYERS (Multiple-350.9631), [1;0]  .01 PAYER (P365.12'), [0;1]  64 HCSR WARD LIST (Multiple-350.964), [64;0]  .01 NAME (P42'), [0;1]  .02 INCLUDE FOR ALL PAYERS? (S), [0;2]  1 INCLUDE WARD FOR PAYERS (Multiple-350.9641), [1;0]  .01 PAYER (P365.12'), [0;1]  65 HCSR INSCO APPT LIST (Multiple-350.965), [65;0]  .01 NAME (P36'), [0;1]  .02 PROTECTED (NJ1,0), [0;2]  66 HCSR INSCO ADM LIST (Multiple-350.966), [66;0]  .01 NAME (P36'), [0;1]  .02 PROTECTED (NJ1,0), [0;2]  70.01 HPID/OEID ACTIVE? (S), [70;1]  70.02 SHRPE ACTIVATION DATE (D), [70;2]  81 PRIMARY PAYER ID TYPES MED (Multiple-350.981), [81;0]  .01 PRIMARY PAYER ID TYPES MED (MP355.98), [0;1]  82 PRIMARY PAYER ID TYPES COM (Multiple-350.982), [82;0]  .01 PRIMARY PAYER ID TYPES COM (MP355.98), [0;1]  99 INS. CO's WITHHOLDING SUPPLIMENTAL PAYMENTS (Multiple-350.999), [99;0]  .01 INS. CO'S FOR MRA EXTRACT (MP36'), [0;1]  100 IB SSVI DISABLE/ENABLE (S), [100;1]  101 IB SSVI LAST INS DATE XFER (DX), [100;2]  102 IB CURRENT PIVOT ENTRY (NJ9,0), [HL7;1]  103 IB PIVOT FILE DAYS TO RETAIN (NJ3,0), [HL7;2]  Select DATA DICTIONARY UTILITY OPTION: |

# Appendix B: Future Capabilities

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