



OSEHRA

Open Source Electronic Health Record Alliance

**Open Source Technical Support and Working Group
Services for VA VistA**

Gap Analysis



Contract Number: VA118-16-C-0841

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1. Introduction

1.1. Executive Summary

For the third quarter (Q3) deliverable cycle, the Gap Analysis has been updated and enhanced. Multiple sources of implementation and vision gaps have been identified. Key gaps for Open Source Software (OSS) include:

- Scheduling enhancements
- Population health and resource utilization metrics
- Suicide prevention
- Imaging interoperability
- Cyber security

The Q3 Gap Analysis focuses on expanding the analysis conducted on the Feature Set 3 (FS3) Roadmap elements to include Feature Set 4 (FS4). The Q3 Gap Analysis builds upon the work performed during the Q1 and Q2 deliverable cycles. The VistA 4 Product Roadmap was reviewed to gather detailed information for FS4.

Next steps include generating the OSS candidate recommendations for Q3 and continuing to enhance the Gap Analysis for Q4.

1.2. Overview

The purpose of this document is to produce a Gap Analysis of priority features and functions required to make progress with VA's VistA vision. Primary emphasis is on how the vision is elaborated in the Feature Set delivery schedule per the VistA 4 Product Roadmap.

Several factors are critical to the success of the OSS intake process. The emphasis must be on providing business value by identifying functional and technical gaps which focus efforts on identifying applicable OSS, and working with VA to "lay the pathway" for integration of OSS into VistA to fill identified gaps. Additionally, there must be a flexible approach to content and document development. This approach must accommodate continued content maturation based on usefulness and feedback, the inclusion of more detailed VistA Evolution (VE) content and stakeholder input over time, and a focus on gaps that can be quickly remedied.

2. Approach

The Gap Analysis adds value in conjunction with the other work products. The identification of gaps demonstrates where OSS products would add value, and drives the candidate evaluation documented in other work products. The OSS and Product Selection Criteria and Scoring Tool is used to screen OSS candidates for Strengths,

Weaknesses, Opportunities, and Threats (SWOT) analysis. The SWOT analysis results in recommended intake candidates to fill identified gaps. The Prioritization Description Document for VA Open Source Intake Candidates provides additional detail regarding each candidate for VistA intake. The work product relationship overview diagram (Figure 1) depicts these relationships.

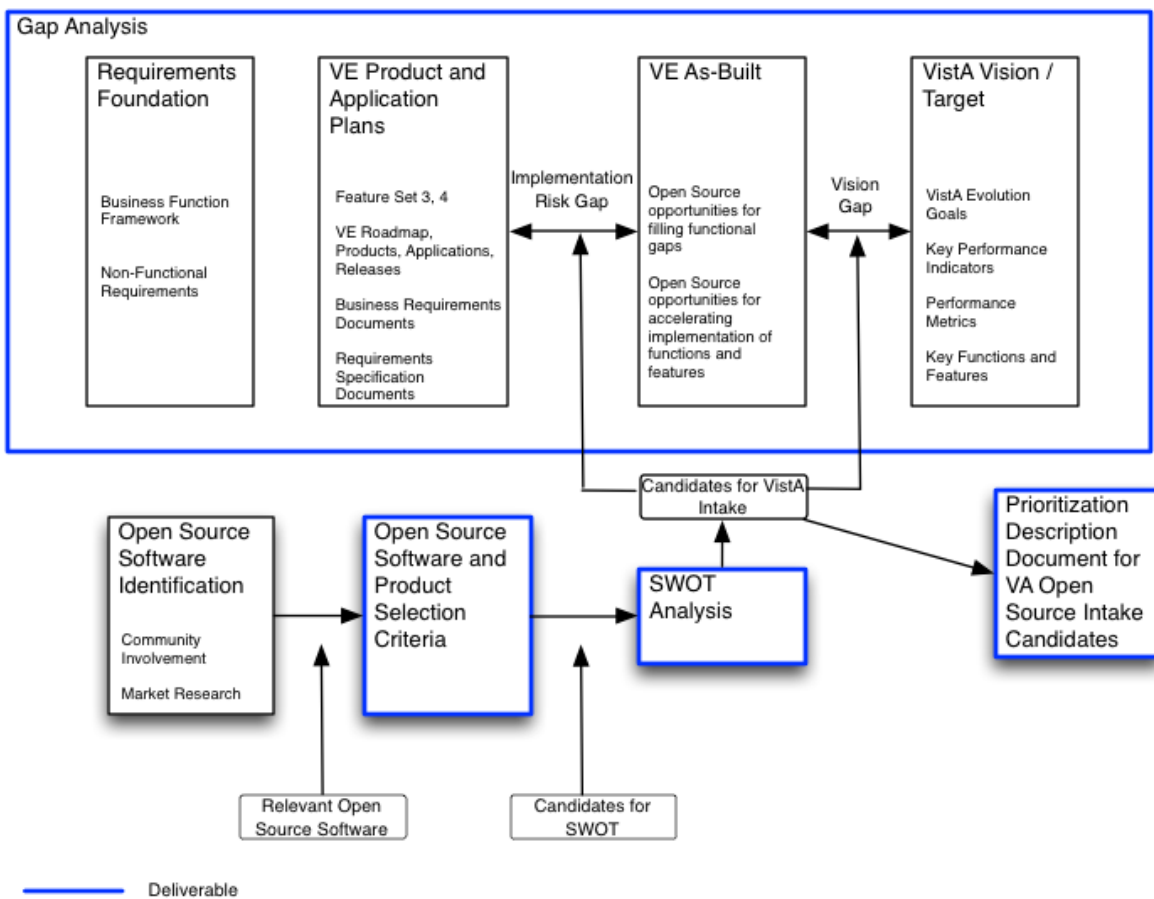


Figure 1. Work Product Relationship Overview

As shown in Figure 1, there are two possible types of gaps, implementation risk gap and vision gap, which could be filled by OSS candidates. An *implementation risk gap* exists when specific tactical implementation plans (such as applications or feature sets) may not be met. Questions to consider when identifying an implementation risk gap include: what VistA development projects are at risk of not meeting schedule, functional, performance or milestone goals in the next two years, and what open source products can be used to mitigate this risk? A *vision gap* exists when the VE strategic vision may not be met by currently planned implementations. Questions to consider when identifying a vision gap include what areas of VistA are not being developed due to other higher priority needs, and what long term goals of VistA are not being met with current efforts?

The Q3 Gap Analysis focuses on expanding the analysis conducted on the Feature Set 3 (FS3) Roadmap elements to include Feature Set 4 (FS4). Also, it builds upon the work performed during the Q1 and Q2 deliverable cycles. The VistA 4 Product Roadmap was reviewed to gather detailed information for FS4. The requirements and project areas were identified and assessed for potential implementation gaps. Information regarding project execution status, Innovations projects, stakeholder input, and items not implemented due to funding constraints were included. The mapping of VE Key Performance Indicators (KPIs) and Business Function Framework (BFF) elements to FS3 requirements to identify vision areas not covered by the Roadmap, were expanded to include FS4. Figure 2 depicts the quarterly maturation plan for the Gap Analysis, with emphasis on the current quarter's progress.

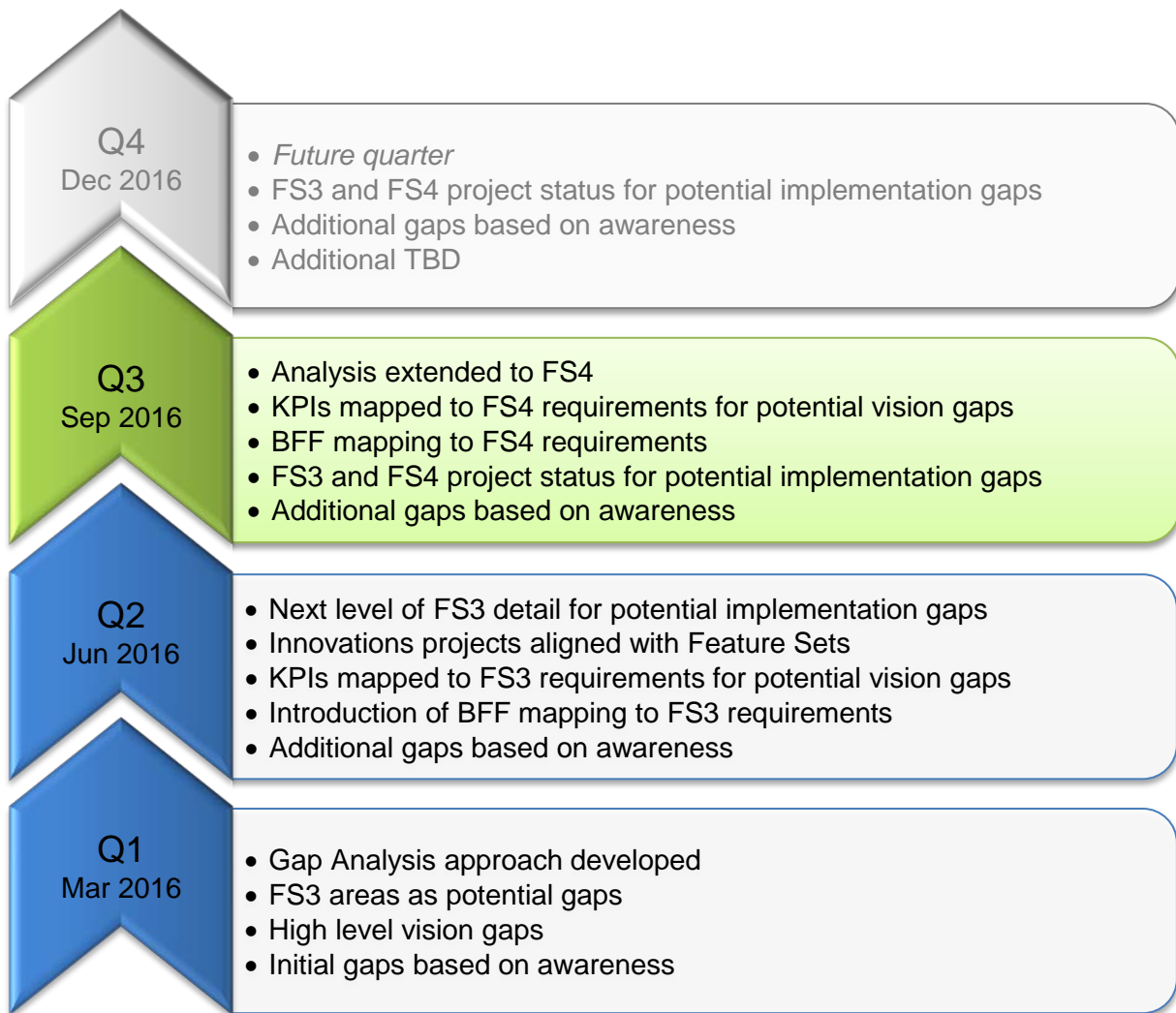


Figure 2. Quarterly Gap Analysis Maturation Plan

3. Analysis and Findings

3.1. Implementation Risk Gaps

There are multiple sources of VistA implementation risk gaps, as displayed in Figure 3. These sources include VistA 4 Product Roadmap requirements, items below the funding cut-line, Innovations projects, stakeholder input, and projects in transition. Each category will be reviewed individually below.

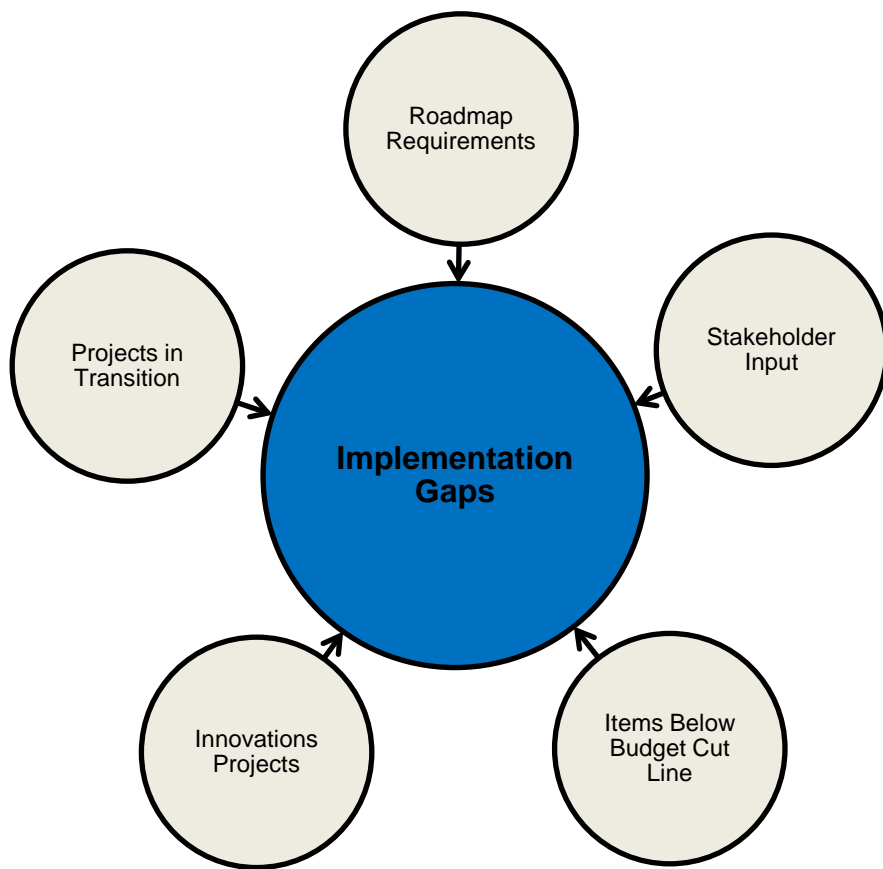


Figure 3. Sources of Implementation Risk Gaps

3.1.1. Roadmap Requirements

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3.1.2. Items Below the Funding Cut-Line

[REDACTED]

[REDACTED]

[REDACTED]

3.1.3. Innovations Projects

The VHA Innovations Program identifies, tests, and evaluates innovative solutions to help VA better serve Veterans. Innovations projects were initiated to address gaps and OSS innovations have the potential to fill these gaps. Current OSS Innovations projects were identified and reviewed for alignment with the VistA 4 Project Roadmap Feature Sets 3 and 4. Within the projects aligned with FS3, 13 of 14 projects fit with the eHMP requirement areas, though eHMP features included in the Roadmap are very broad. Overall, Innovations projects highlight potential lower-level requirement gaps within this area.

Within the projects aligned with FS4, the Roadmap specifically calls out the Maternity Tracker Innovations project as a requirement in the Women's Health portion of the Specialty Clinical Applications area. The majority of Innovations projects are currently in

[REDACTED]

the development cycle. Two Innovations projects have already initiated the OSEHRA certification process. The Increase Enrollment in My HealthVet (IEMHV) project is currently certified to OSEHRA Level 4™. Additionally, the Alert Watch and Respond Engine (AWARE) submitted initial OSEHRA documentation in January 2016. The Innovations projects aligned with Feature Set 3 are represented in Table 1, and projects aligned with Feature Set 4 are represented in Table 2.

FS3 Area	Innovations Project	Description
eHMP	Mobile VistA Exchange	Mobile VistA Exchange for veteran-facing applications using eHMP code as the basis
eHMP	InfoButtons	Context-sensitive links embedded in the EHR; use contextual information to help find answers to clinicians' and patients' questions using online health information resources
eHMP	After Visit Summary (AVS)	Automatically capture data from CPRS including visit information, orders, instructions, etc. and reformat into an easy to understand patient-centered discharge summary
eHMP	Pressure Ulcer Resource (PUR)	Mobile performance support tool to prevent pressure ulcers through education and enhanced communication between medical providers, Veterans, caregivers
eHMP	ehmp-app	eHMP ADK and Applets; a Single Page Application (SPA) written with Marionette/Backbone.js for implementing a VistA EHR User Interface
eHMP	Alert Watch And Respond Engine (AWARE)	Automated tool enabling clinicians, supervisors, and administrations to monitor and track alert responses in CPRS
eHMP	PseudoVet	Automated patient data fabrication engine; provides a set of active synthetic patients and clinical data that can be used for healthcare software development
eHMP	MyGuide	Waiting room application used by patients to obtain visit information and treatment goals with a survey component
eHMP	FamilyHistoryCPRS	Enhancement to the CPRS GUI application that adds the ability to enter a patient's family history data
eHMP	Enhanced Lab Order Management Menu (ELOMM)	Enhancements to the current Lab Order Menu system to allow caregivers more immediate access to time-sensitive lab test results
eHMP	Pre-Procedural Checklist Tool	Allows multiple authors to work together in completing pre-procedure statuses for patients in VistA

FS3 Area	Innovations Project	Description
eHMP	REVAMP (Remote Veteran Apnea Management Platform)	Personalized, interactive web application designed to improve management of Veterans with obstructive sleep apnea (OSA)
eHMP	Increase Enrollment in My HealthVet (IEMHV)	Modified the Preregistration Interface (PI) within the current VistA Registration package to increase enrollment in the MyHealthVet web portal
VistA Scheduling Enhancements	VANS	Web-based application to enable schedulers to preview, edit and send appointment letters electronically

Table 1. Innovations Projects Aligned with Feature Set 3

FS4 Area	Innovations Project	Description
Specialty Clinical Applications	Perceptive Reach	Combines technology, outreach and clinical support to deliver a clinically based data-driven early intervention and treatment solution aimed at suicide prevention
Enhancements to Ancillary Systems (VistA Imaging)	Radiology Protocol Tool Recorder (RAPTOR)	Automated, electronic tool for capturing data that is needed by radiologists to optimize advanced medical imaging protocols including CT, MRI and nuclear medicine
Specialty Clinical Applications	Benefits Claims Decision Support System (BCDSS)	Repository for predictive analysis platform for VBMS models
Specialty Clinical Applications	Mental Health eScreening (MHE)	Allows patient-directed reporting of health symptoms, immediate patient feedback and results documented to CPRS, real-time scoring of screens for staff notification of high-risk Veterans for same-day care
Specialty Clinical Applications (Women's Health)	Maternity Tracker	Assists the coordination of maternity care in a seamless fashion between VA and Non-VA providers, in order to support optimal care of pregnant Veterans
Surgical Risk Calculator	Automated Surgical Risk Calculator for Mortality (ASRCM)	Automatically populates pertinent information into the developed risk calculator; allows for manually entered data to support clinical decision-making; updates patient file in CPRS
Enhancements to Ancillary Systems	RemoteOrdering	This project aims to provide a means of remotely ordering and receiving results of tests for transplant patients through the VA's Computerized Patient Record System (CPRS)

FS4 Area	Innovations Project	Description
Enhancements to Ancillary Systems	Chemotherapy Ordering Management System (COMS)	Web-based application providing oncology teams with ordering, preparation, and documentation of chemotherapy
Enhancements to Ancillary Systems (VistA Imaging)	Telepathology	Stores and forwards reviews of anatomical pathology images for primary diagnosis and consultative services
Pharmacy Inbound ePrescribing	OneVA Pharmacy	Provide pharmacists direct access to any active refillable prescription from any VA Healthcare System facility; allows the Pharmacist to fill a prescription for the Veteran
Enhancements to Pharmacy (PPS/NDF Project)	Hazardous-Pharmaceuticals	Adds handling precautions and disposal instructions of hazardous pharmaceuticals within VistA and the Bar Code Administration (BCMA) application

Table 2. Innovations Projects Aligned with Feature Set 4

3.1.4. Stakeholder Input on Implementation Gaps

Based on stakeholder feedback, a gap currently exists in the area of cybersecurity. This is a critical area for VA, and OSS has the potential to bring rapid value. During the Senate Appropriations Subcommittee Hearing conducted July 13, 2016, cybersecurity was highlighted as both a priority and a concern.⁷

An additional implementation gap exists in the area of interoperability, particularly in regards to imaging. While VA and DoD certified interoperability on April 8, 2016, this certification applied only to data and not images. Members of the subcommittee were concerned that imaging interoperability had not yet been demonstrated; VA responded that imaging interoperability would be achieved with the next release of the Joint Legacy Viewer (JLV) Image Viewer, projected for September 2016 release.⁸ Until imaging interoperability has been demonstrated and certified, interoperability remains an implementation gap.

Technical implementation gaps may be identified when the current process or software tool set results in reduced efficiency in the development process. As discussed during the Q2 IPR, there are a large number of open waivers for software products not currently approved for use in the Technical Reference Model (TRM). These waivers represent implementation gaps which could potentially be filled by OSS. The full list is currently being reviewed to remove items which are no longer required. Once this review is

⁷ Hearing to Review the VA Electronic Health Record Network (VistA). (2016, July 13). Retrieved July 13, 2016, from <http://www.appropriations.senate.gov/hearings/hearing-to-review-the-va-electronic-health-record-network-vista>

⁸ Hearing to Review the VA Electronic Health Record Network (VistA). (2016, July 13). Retrieved July 13, 2016, from <http://www.appropriations.senate.gov/hearings/hearing-to-review-the-va-electronic-health-record-network-vista>

complete, the list of remaining open waivers is planned to be provided to OSEHRA for analysis.

3.1.5. Projects in Transition

Projects in transition provide an opportunity for OSS to fill the gap and accelerate aspects of projects with scope adjustments, changes in business or technical direction, funding changes, and changes in business urgency of requirements.

The Medical Appointment Scheduling System (MASS) transition to Scheduling has all of the above issues, and is a gap OSS could potentially fill since the MASS contract was paused in April 2016. Scheduling risks include development of standardized information sharing for scheduling data exchange, both internal and external to the VHA (outside MASS core function). This has the potential to impact VHA's ability to manage service demand and schedule staff resources.

Congress continues to raise concerns regarding the appointment scheduling process, particularly in regards to excessive wait times. This concern was again discussed during the Senate Appropriations Subcommittee Hearing conducted July 13, 2016. LaVerne Council, VA's Chief Information Officer (CIO) testified that two applications were currently being piloted to address scheduling issues. The VistA Scheduling Enhancement (VSE) is currently being tested at ten sites and will update the legacy scheduling application with a modern graphical user interface which will provide critical near-term enhancements. Currently being tested at two sites, the Veterans Appointment Request (VAR) application is a mobile application that allows the Veteran to directly request primary care and mental health appointments by specifying three desired appointment dates.⁹

3.2. Vision Gaps

There are multiple sources of VistA vision gaps, as displayed in Figure 4. These sources include stakeholder input, areas without major efforts on-going, VistA 4 Product Roadmap versus VE Key Performance Indicator (KPI) analysis, and VistA 4 Product Roadmap versus the Business Function Framework (BFF). Each category is discussed below.

⁹ Statement of the Honorable Laverne Council Assistant Secretary for Information and Technology and Chief Information Officer Department of Veterans Affairs Before the Senate Committee on Appropriations Subcommittee on Military Construction, Veterans Affairs, and Related Agencies. Hearing to Review the VA Electronic Health Record Network (VistA). (2016, July 13). Retrieved July 13, 2016, from <http://www.appropriations.senate.gov/hearings/hearing-to-review-the-va-electronic-health-record-network-vista>

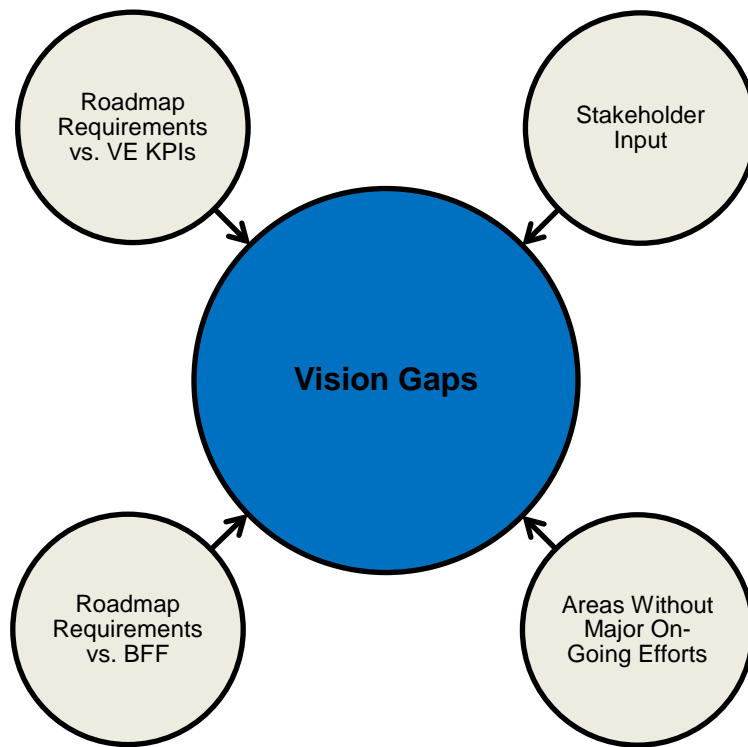


Figure 4. Sources of Vision Gaps

3.2.1. Stakeholder Input on Vision Gaps

Based on stakeholder input, population health is viewed as a significant vision gap area. Population health is defined as *“the health outcomes of a group of individuals, including the distribution of such outcomes within the group.”*¹⁰ At VA, this includes looking at the health outcomes of groups of patients with given health situations (e.g. traumatic brain injury, amputations), assessing the health outcomes of those populations, and potentially adjusting clinical practices to improve health outcomes for individual patients and for the group overall. VA’s population health services group measures, monitors and identifies trends that impact the health of all Veterans. There is limited planned VistA development devoted to software that would support and enhance VA’s population health efforts. Given the importance of population health in the overall health care of Veterans, this is a significant gap.

¹⁰ Kindig, D. & Stoddart, G. (2003, March). What Is Population Health? [Abstract]. American Journal of Public Health, 93, 380-383. doi:10.2105/AJPH.93.3.380

According to VA CIO LaVerne Council's Congressional Testimony on April 14, 2016, a vision gap exists related to an EHR with analytics, cloud, and patient experience capabilities.¹¹ Council also referred to a broader vision as a "digital health platform." She explained that it will consist of four key elements: clinical management, hospital operations, Veteran experience, and predictive analytics.

Another vision gap is known to exist in the area of suicide prevention. Although recognized as a high priority for VA, there is no direct reference to suicide prevention in the VistA 4 Product Roadmap. Suicide prevention aligns with enhancements to mental health specialty workflows called for within the Specialty Clinical Applications category of Feature Set 4. However, there are no specific or actionable requirements defined for either mental health in general or suicide prevention specifically. As has been widely reported, the VA's Suicide Data Report for 2012 estimated that in the 2010 calendar year, "22 Veterans will have died from suicide each day."¹² An updated report released August 3, 2016 finds that "in 2014, an average of 20 Veterans died by suicide each day."¹³ Discussions during the Senate Appropriations Subcommittee Hearing conducted July 13, 2016 highlighted continuing concerns in this area. During the hearing, VA confirmed that JLV does not have the ability to perform the types of analytics that would be required to predict suicide risk.¹⁴

3.2.2. Areas Without Major On-Going Efforts

Areas without major on-going development efforts indicate vision gaps. Population health functionality falls into this category, which includes capabilities for clinicians, managers, and researchers to define and manage patient populations. While a placeholder for analytics and population health product line exists, no programs are assigned, resulting in a vision gap.

The ability to use population-level data to assess quality of care at the institutional protocol level (e.g., how well is one care team doing versus another with their pool of patients) is another area without major on-going efforts resulting in a vision gap. This area includes the ability to use common/standard electronic clinical quality measures, integrate broader care coordination activities with non-VHA healthcare professionals, and display, share, and disseminate population health reporting.

¹¹ Sullivan, T. (2016, April 14). CIO LaVerne Council says VA needs new EHR with analytics, cloud, patient experience capabilities. Retrieved June 07, 2016, from <http://www.healthcareitnews.com/news/cio-laverne-council-says-va-needs-new-ehr-analytics-cloud-patient-experience-capabilities>

¹² Kemp, J., & Bossarte, R. (2013). Suicide data report: 2012. Washington, DC: Department of Veterans Affairs, Mental Health Services, Suicide Prevention Program. Retrieved August 16, 2016, from <http://www.va.gov/opa/docs/suicide-data-report-2012-final.pdf>

¹³ U.S. Department of Veterans Affairs, Office of Suicide Prevention. (2016, August 3). Suicide Among Veterans and Other Americans, 2001-2014. Retrieved August 31, 2016, from <http://www.mentalhealth.va.gov/docs/2016suicidedatareport.pdf>

¹⁴ Hearing to Review the VA Electronic Health Record Network (VistA). (2016, July 13). Retrieved July 13, 2016, from <http://www.appropriations.senate.gov/hearings/hearing-to-review-the-va-electronic-health-record-network-vista>

3.2.3. VistA 4 Roadmap Requirements versus VE KPIs

KPIs were developed by the VE Program to measure alignment with VA's strategic goals. The KPIs that have been established are:

- KPI 1 – Improve access to care
- KPI 2 – Improve care coordination
- KPI 3 – Improve resource utilization within the VA care delivery cycle
- KPI 4 – Improve patient outcomes through improved medication list accuracy
- KPI 5 – Improve clinical decision making
- KPI 6 – Increase quality and quantity of medical history data available to support clinical decision making
- KPI 7 – Improve resource utilization metrics in patients who receive care outside the VA
- KPI 8 – Increased health of populations through appropriate utilization of population health data
- KPI 9 – Shorten time to delivery of new HIT functionality
- KPI 10 – Improve user satisfaction with the Electronic Health Record

During the Q2 deliverable cycle, analysis was performed to align the VistA 4 Product Roadmap FS3 requirements with the VE KPIs to identify vision gaps. For the current quarter, this analysis has been expanded to include the FS4 requirements. The ten VE KPIs were mapped to the 179 FS3 and FS4 requirements identified in the Roadmap to identify vision areas not covered by the Feature Sets, as depicted graphically in Figure 5. (Refer to Appendix A for the full list of FS3 and FS4 requirements.) To determine the degree of alignment, the total number of requirements tied to each KPI was calculated, using a weighting of 1.0 for full alignment, and 0.5 for partial alignment.

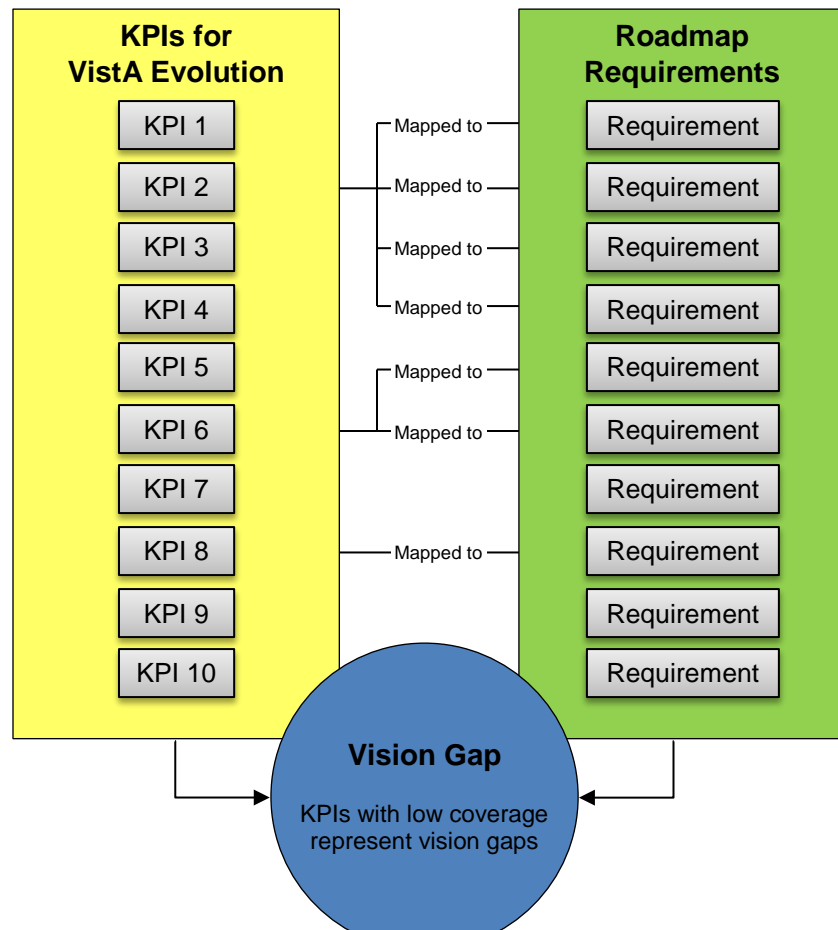


Figure 5. Vision Gaps Resulting from Low KPI Coverage

After mapping the FS3 and FS4 requirements to each VE KPI, the KPIs with the lowest number of requirements mapped to KPIs indicate vision gaps. These findings align with the analysis conducted during Q2; adding FS4 into the analysis adjusted the scores but did not change the ranking. The three KPIs with the lowest coverage in FS3 and FS4 are listed below:

- KPI 4 – Improve patient outcomes through improved medication list accuracy
- KPI 7 – Improve resource utilization metrics in patients who receive care outside the VA
- KPI 8 – Increased health of populations through appropriate utilization of population health data

The number of FS3 and FS4 requirements mapped to each KPI are summarized in Figure 6, below. The full list of KPI to requirements listing is detailed in Appendix B.

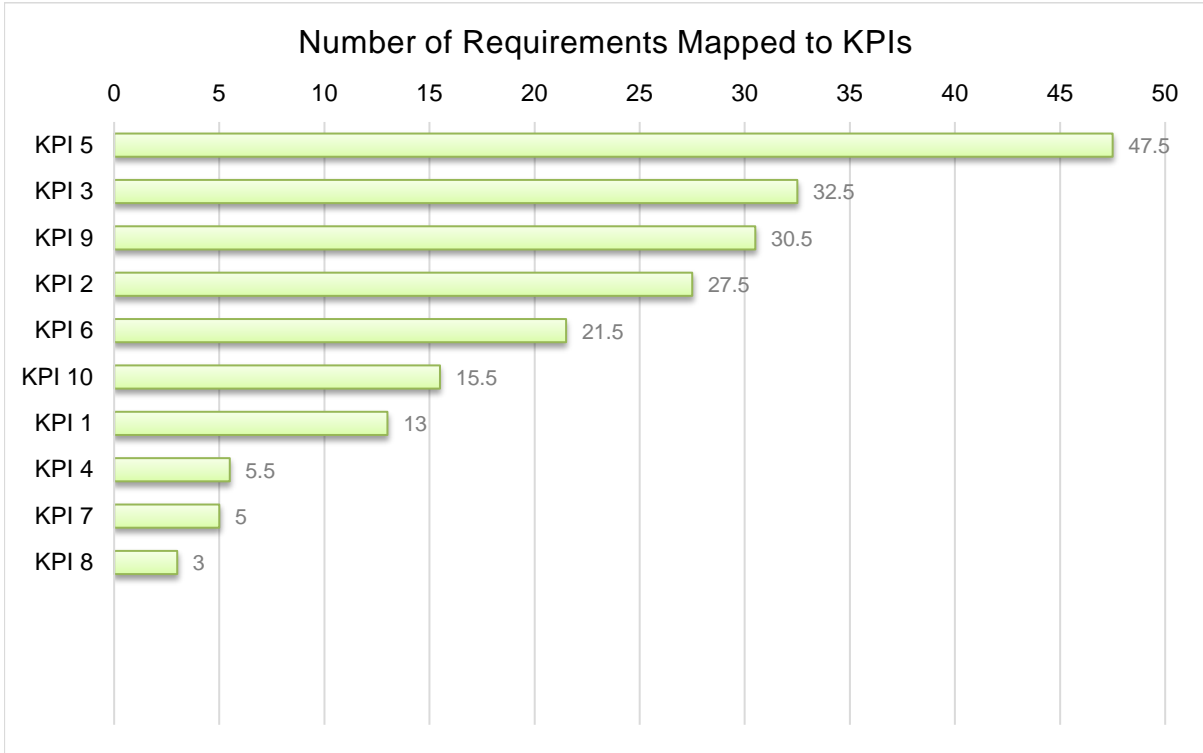


Figure 6. KPI Alignment with FS3 and 4 Requirements

3.2.4. Roadmap Alignment with the Business Function Framework

VHA's Business Function Framework (BFF) provides a standard description and functional baseline of the business functions performed at VHA. Mapping Feature Set requirements to the BFF can highlight functional areas that are not fully addressed. Areas not addressed are potential gaps that OSS could fill. For the Q2 Gap Analysis, an initial mapping to FS3 elements was performed. Table 3 displays where the FS3 requirement areas had functions that could be directly mapped to the BFF.

Feature Set 3 Area	Business Function Framework (BFF)
eHMP	Provide Patient Care Education [4.2.1] Provide Clinical Decision Support [4.3] Deliver Alerts for Patient Care [4.3.1] Provide Medication Order Checks [4.3.3] Provide Care Coordination [4.4.2] Provide Treatment Plans [4.4.5] Provide Case Management [4.4.6] Manage Orders [4.7.6] Provide Pharmacy Services [4.8.6] Provide Imaging Services [4.8.13] Manage Health Records [4.11] Record Patient History [4.11.4] Capture Patient Care Encounter Information [4.11.6] Maintain Patient Summary Lists [4.11.8] Obtain Patient Preferences and Directives [4.11.10]
Interoperable EHR	Provide Electronic Information Exchange [7.2.2.2]
VistA Scheduling Enhancements (VSE)	Manage Appointments [1.1.5] Provide Enterprise Reporting [7.7]
Enhancements to Pharmacy	Provide Medication Order Checks [4.3.3] Provide Pharmacy Services [4.8.6]
VistA Service Assembler (VSA), Phase 2	Provide Systems Development Lifecycle Management [7.2.4]
VistA Immunization Enhancements (VIMM), 2.0	Provide Clinical Decision Support [4.3] Provide Medication and Immunization Information [4.8.6.7] Capture Data and Documentation from External Sources [4.11.5] Capture Patient Care Encounter Information [4.11.6] Maintain Patient Summary Lists [4.11.8] Provide Electronic Information Exchange [7.2.2.2]
API Exposure, 2.0	Capture Data and Documentation from External Sources [4.11.5] Provide Electronic Information Exchange [7.2.2.2]
FileMan Modernization	Provide Systems Development Lifecycle Management [7.2.4]

Table 3. Mapping of FS3 Areas to the BFF

For the Q3 Gap Analysis, this mapping has been expanded to include FS4. Table 4 displays where the FS4 requirement areas had functions that could be directly mapped to the BFF.

Feature Set 4 Area	Business Function Framework (BFF)
Scheduling	Manage Appointments [1.1.5] Provide Access to Self-Services [1.6] Provide Business Architecture [7.6.3]
eHMP Full Deployment	Capture Patient Care Encounter Information [4.11.6]
Veteran’s Authorization and Preferences (VAP)	Obtain Patient Preferences and Directives [4.11.10]
Specialty Clinical Applications	Provide Medical Registry Service [2.5] Provide Dental Care Services [4.5.3] Provide Emergency Health Care [4.7.10] Provide Specialty Care [4.7.3] Provide Surgery [4.7.4] Provide Mental Health Services [4.7.5] Provide Medication and Immunization Information [4.8.6.7] Provide Nutrition and Food Services [4.8.9] Manage Health Records [4.11] Capture Patient Demographics [4.11.2] Capture Data and Documentation from External Sources [4.11.5]
Enhancements to Ancillary Systems	Manage Appointments [1.1.5] Manage Orders [4.7.6] Provide Radiology Services [4.8.1] Provide General Laboratory Services [4.8.2] Manage Images [4.8.13.2]
Enhancements to Pharmacy	Provide Pharmacy Services [4.8.6]
FileMan Modernization Phase 2	Provide Systems Development Lifecycle Management [7.2.4]

Table 4. Mapping of FS4 Areas to the BFF

After mapping the FS3 and FS4 requirements to the BFF, the business functions with the lowest number of requirements mapped to them indicate potential vision gaps. The gap analysis focused primarily on business functions within the “4.0 Deliver Health Care” function area as that is where the majority of VistA requirements align. The business functions without coverage in FS3 and FS4 are listed below:

- 4.1 – Provide Complementary and Alternative Medicine
- 4.6 – Provide Nursing Services
- 4.9 – Provide Medical Implant Logistics
- 4.10 – Provide Prosthetics and Sensory Aids

The number of FS3 and FS4 requirements mapped to each business function are summarized in Figure 7. Note that all BFF elements within the “4.0 Deliver Health Care” function area are represented in the graph, but functions outside of this area to which requirements were mapped are also included in the graph, both for context and relevance to VistA scope.

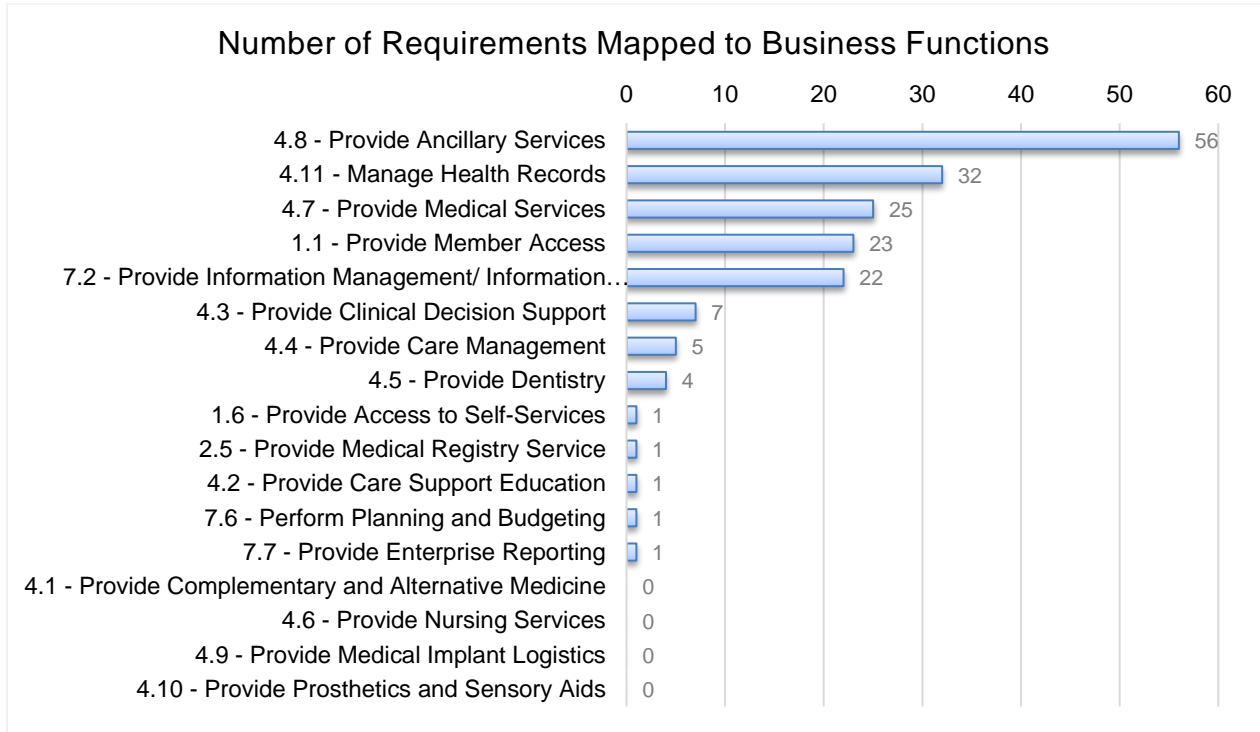


Figure 7. BFF Alignment with FS3 and FS4 Requirements

3.3. Recommended OSS Candidates

3.3.1. Alignment of OSS Candidates with Identified Gaps

To date, seven OSS candidates have been recommended for VA intake. A summary of these recommendations are presented in Table 5 below, aligned with the gaps they fill. The Appointment Postcard Notification Letter v4.0 fills a small implementation gap related to the Medical Appointment Scheduling System (MASS). Perceptive Reach fills a vision gap regarding suicide prevention. RAPTOR and HIEOS fill implementation gaps related to interoperability of imaging data. Enhanced XML Utilities for VistA and XU Digital Signature fill implementation gaps regarding inefficient development tools, as OpenInfobutton fills a vision gap related to KPI alignment.

OSS Candidate	Candidate Overview	Gap Alignment
Appointment Postcard Notification Letter v4.0	Converts existing appointment letters generated by the VistA Scheduling Package to a more user friendly reminder card.	Implementation gap related to projects in transition discussion of MASS (section 3.1.5).
OpenInfobutton	Implements context-aware knowledge retrieval on demand from more than 30 online resources to aid in clinical decision support.	Vision gap coverage related to KPI alignment with KPI 5; Clinical Decision Support (CDS) is a critical need requiring continuous improvement (section 3.2.3).
XU Digital Signature	Files that provide the interface between Delphi executables and the built-in Windows security functions.	Implementation gap related to stakeholder input regarding inefficient development tools (section 3.1.4).
Enhanced XML Utilities for VistA	Upgraded XML package that includes templating tools, XPath searching of documents, XML authoring facilities, and bug fixes.	Implementation gap related to stakeholder input regarding inefficient development tools (section 3.1.4).
Perceptive Reach	“Upstream suicide prevention” project that identifies Veterans at risk of suicide using existing VA clinical data.	Vision gap related to stakeholder input regarding suicide prevention (section 3.2.1) and Innovations projects (section 3.1.3).
RAPTOR	Automated, electronic tool for capturing data that is needed by radiologists to optimize advanced medical imaging protocols including CT, MRI, and nuclear medicine.	Implementation gap related to stakeholder input regarding interoperability of imaging data (section 3.1.4) and Innovations projects (section 3.1.3).
HIEOS	Document sharing information exchange platform that promotes interoperability by implementing standards related to sharing clinical care documents.	Implementation gap related to stakeholder input regarding interoperability of imaging data (section 3.1.4).

Table 5. Alignment of OSS Candidates to Gaps

3.3.2. Near-Term Opportunities

Efforts such as FileMan and Immunization display successes that have been achieved in the open source area for larger projects. In conjunction with those types of efforts, it is important to also successfully fill gaps in the short-term. Opportunities for short-term success come from candidates that fit the Existing Product Intake Program (EPIP) requirements, as well as those that clearly fit the needs for active development teams. To be accepted for intake through EPIP, a candidate must (1) be an existing product, (2) require no additional sustainment effort, (3) meet all functional requirements as-is, and (4) be within acceptable size, complexity, and funding limits. The SWOT candidates recommended during the Q1 and Q2 deliverable cycles have aimed to fill both short-term and long-term gaps. Table 6 below depicts the candidates recommended to date that are anticipated to be near-term smaller implementation opportunities.

OSS Candidate	Intake Status
Appointment Postcard Notification v4.0	Does not qualify for EPIP, but VA would like to pursue intake of this candidate. Currently in the queue awaiting funding.
XU Digital Signature	VA analysis beginning to determine if candidates meets EPIP criteria.
Enhanced XML Utilities for VistA	VA analysis beginning to determine if candidates meets EPIP criteria.

Table 6. Near-Term OSS Candidates

4. Next Steps

The gaps identified in this document will be used to populate the selection criteria for OSS analysis. The OSS Selection Criteria and Scoring Tool will be utilized to screen OSS candidates potentially filling gaps for SWOT analysis. SWOT analyses will be conducted on appropriate candidates, and the Prioritization Description Document will be generated to incorporate additional detail. The feedback received during the Q2 IPR will be incorporated into the process.

The Gap Analysis will continue to be enhanced for Q4, and additional gaps for OSS candidates will be identified along with the sources of data for identifying the gaps. The content and level of detail per approach will be expanded through the various methods of research. Finally, there will be a focus on near-term opportunities and the enhancement of integration with other work products.

4.1. Stakeholder Interviews

Interviews are being conducted with relevant stakeholders to gather information and additional perspectives. Several interviews have been conducted to date, and will continue throughout the next several quarters. Refer to Table 7 for a list of stakeholder interviews and a summary of current status.

Stakeholder	Status
Jane Parsons (VA)	Conducted April 13
Aneel Advani (Global Virtual Group)	Initial conducted April 21, multiple follow-ups
Fred Mingo (VA)	Conducted April 27
Alex Hacala (VA)	Initial conducted April 27, follow-up May 5
Chris Rhodes (VA)	Initial conducted April 27, follow-up May 5, July 7
David Alvey (Savvee)	Initial conducted May 13, follow-up quarterly
Dr. Paul Tibbits (VA)	Conducted June 1
Jonathon Nebeker (VA)	Initial conducted June 6, multiple follow-ups
Kristopher Teague (VA)	Conducted July 12
Kevin Troutner (VA)	Conducted July 15
Michael Bell (Technatomy)	Conducted July 21
Eddie Brito (DSS, Inc.)	Planned for September 9
Linda Hebert (VA)	TBD
Michael O'Neil (HP)	TBD
Wendell Ocasio (Accenture)	TBD
Larry Albert (Accenture)	TBD
Bill Synder (Accenture)	TBD

Stakeholder	Status
Dave Parker (Defined IT)	TBD
Rick Miller (Red Hat)	TBD
Oscar Diaz (HSPC)	TBD
Intermountain Health	TBD

Table 7. Stakeholder Interviews

Appendix A – VistA 4 Product Roadmap Feature Set 3 and 4 Requirements

Row	FS	Feature Set Area	Feature Set Requirement
1	FS3	eHMP	Achieve certification of ONC 2014 Edition EHR Criterion
2	FS3	eHMP	Develop structured data management
3	FS3	eHMP	Develop basic orders
4	FS3	eHMP	Develop patient goal management
5	FS3	eHMP	Develop patient self-description
6	FS3	eHMP	Develop image viewer
7	FS3	eHMP	Develop scanned document search
8	FS3	eHMP	Develop Clinical Decision Support (CDS) (e.g., Immunizations)
9	FS3	eHMP	Develop Medication Reconciliation
10	FS3	eHMP	Develop Alert Management
11	FS3	eHMP	Develop basic care team & plans
12	FS3	eHMP	Develop Women's Health / Family, Military & Social History
13	FS3	eHMP	Develop complete outpatient encounter
14	FS3	eHMP	Develop After Visit Summary/Patient Education
15	FS3	eHMP	Develop Patient List Creation
16	FS3	eHMP	Develop multi-patient views
17	FS3	eHMP	Develop Advance Directives
18	FS3	eHMP	Develop Secure Messaging
19	FS3	eHMP	Develop enterprise orders selection/management services
20	FS3	eHMP	Develop advanced task/team management
21	FS3	eHMP	Develop Goal-based care plans
22	FS3	eHMP	Develop Advanced Clinical Decision Support (CDS)
23	FS3	eHMP	Develop Clinical Reconciliation
24	FS3	eHMP	Develop Outbound ePrescribing

Row	FS	Feature Set Area	Feature Set Requirement
25	FS3	Interoperable EHR	Deliver interoperability enabling capabilities that meet FY14 NDAA directives
26	FS3	Interoperable EHR	Update eHMP and VistA Exchange to include all remaining data domains (for which there are structured data sources) with national standard terminologies
27	FS3	VistA Scheduling Enhancements (VSE)	VSE GUI will include an interface to the mobile Veteran Appointment Request servers that will allow schedulers to book appointments for appointments requested by Veterans
28	FS3	VistA Scheduling Enhancements (VSE)	Appointment request GUI that the Welcome to VA call center can use to create appointment requests on behalf of new Veterans
29	FS3	VistA Scheduling Enhancements (VSE)	Single Queue of Request Lists: Improve schedulers' ability to effectively sort, filter and manage scheduling resources
30	FS3	VistA Scheduling Enhancements (VSE)	Single Queue of Request Lists: Consolidate all appointment request lists in a single queue; allow scheduler to view all open appointment requests collectively
31	FS3	VistA Scheduling Enhancements (VSE)	Aggregated View of Clinic Profile Scheduling Grids: Provide aggregated view of clinic profile scheduling grids; allow schedulers to view resource availability and schedule the appointment for the Veteran from the same screen
32	FS3	VistA Scheduling Enhancements (VSE)	Resource Management Dashboard: Allow enterprise to use VistA scheduling data more effectively, provide greater visibility for scheduling operations, and better manage scheduling resources
33	FS3	VistA Scheduling Enhancements (VSE)	Resource Management Dashboard: Display pertinent resource management metrics in a single view; allow individual facilities and staff at various levels to measure and track supply, demand, and efficiency metrics related to outpatient scheduling operations
34	FS3	VistA Scheduling Enhancements (VSE)	Resource Management Dashboard: Develop a comprehensive dashboard that will display metrics at the facility, VISN and National level
35	FS3	VistA Service Assembler (VSA), Phase 2	Improve compatibility with 'open source' participation objectives by incorporating Node.js functionality into the architectural design
36	FS3	VistA Service Assembler (VSA), Phase 2	The Vista.js solution uses the following new technologies: Node.js, EWD.js, EWD Federator, Node Package Manager, Node Version Manager, Sinopia, Cache.node

Row	FS	Feature Set Area	Feature Set Requirement
37	FS3	Enhancements to Pharmacy	SUMPM: Modify the algorithm to associate the appropriate IV additive to the correct orderable item, based on additive strength
38	FS3	Enhancements to Pharmacy	Pharmacy Interface Automation: bi-directional interface between VistA Inpatient Medication Package and Pharmacy Automated Dispensing Units for inpatient and outpatient care settings
39	FS3	Enhancements to Pharmacy	MOCHA FY16: implement enhancements that refine the current alert system for Remote Order Allergy Checks and Clinical Reminder Order Checks
40	FS3	Enhancements to Pharmacy	MOCHA FY17: implement enhancements to add an alert for maximum daily dose for simple orders (MOCHA 2.1)
41	FS3	Enhancements to Pharmacy	PECS FY16: update software to be compliant with current IT policies including migrating from file transfer protocol (FTP) to secure FTP (sFTP) (PECS v6.0)
42	FS3	Enhancements to Pharmacy	SUMPM FY16: allow greater than 90-day fill for outpatient prescriptions and greater than 90-day interval for administration frequency of inpatient and clinic orders, where appropriate for a given medication
43	FS3	API Exposure, 2.0	Expose up to 250 APIs and associated RPCs in VistA clinical applications
44	FS3	API Exposure, 2.0	Integrate foundational suite of VistA packages with the DoD/VA interoperability infrastructure
45	FS3	API Exposure, 2.0	Provide a read or write of data to and from VistA that serves as an "event driver" (trigger) to notify when a noteworthy write has taken place within VistA
46	FS3	API Exposure, 2.0	Allows integration of data from legacy clinical packages with the EHR
47	FS3	API Exposure, 2.0	Services will be compliant with OneVA Enterprise Architecture, accessible through eMI, and secured using IAM Services
48	FS3	FileMan Modernization	Data standardization to permit FileMan-based querying and aggregation of structured data between all VistA databases, allowing for a FileMan-based enterprise-wide view of patient data
49	FS3	FileMan Modernization	Provide Internationalization Enhancements (FileMan 22.2E Capability)
50	FS3	FileMan Modernization	Improved Data Analysis Tools (FileMan 22.2E Capability)
51	FS3	FileMan Modernization	Enhance User interface (FileMan 22.2E Capability)

Row	FS	Feature Set Area	Feature Set Requirement
52	FS3	FileMan Modernization	Data Dictionary Enhancement (FileMan 22.2E Capability)
53	FS3	VistA Immunizations Enhancements (VIMM), 2.0	Accommodate standardized data required for immunization capture and interoperability
54	FS3	VistA Immunizations Enhancements (VIMM), 2.0	Fulfill the required vocabulary standard for the 2014 EHR certification
55	FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc1) Standardization: 09/16/14 – 03/13/15. Establish new unidirectional interfaces between CDC's IIS and DAS and between DAS and STS to allow VistA to obtain the CVX/MVX codes from STS (leveraging existing integration between STS and VistA)
56	FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc2) Meaningful Use: 03/15/15 – 09/11/15. Back end file structures to access, record, update immunization information and transmission to immunization registries criteria
57	FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc2) Meaningful Use: 03/15/15 – 09/11/15. Create a standardized Health Summary that includes all new Immunization data
58	FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc2) Meaningful Use: 03/15/15 – 09/11/15. Standardize Units of Measure for all VistA packages
59	FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc3) Interoperability: 09/14/15 – 03/11/16. Create capability in VistA immunization files for clinicians and providers to read, write and edit all new fields for Immunizations and Skin Test data
60	FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc4) CDS: 03/14/16 – 09/16/16. Provide CDS via recommended immunization treatments, alerts/reminders and ad hoc reporting to meet Meaningful Use Stage 3 requirements for Immunizations
61	FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc4) CDS: 03/14/16 – 09/16/16. Send immunization data outbound to external partners outside VA, to include DoD, to state Health Department Immunization Registries; meet Meaningful Use Stage 2 requirements for Immunizations
62	FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc4) CDS: 03/14/16 – 09/16/16. Intake immunization data from external partners outside VA (including DoD); transmit VA data to other healthcare systems and state agencies
63	FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc4) CDS: 03/14/16 – 09/16/16. Create capability in CPRS and eHMP for clinicians and providers to read, write and edit all new fields for Immunizations and Skin Test data

Row	FS	Feature Set Area	Feature Set Requirement
64	FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including TeleHealth
65	FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including rural health care
66	FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including home health care
67	FS4	Scheduling	Accommodate electronic access to allow patients to work collaboratively as integral members of the health care team
68	FS4	Scheduling	Move VA's scheduling solution into an SOA, in compliance with the OneVA Architecture
69	FS4	Scheduling	Remedy excessive VA patient wait times
70	FS4	Scheduling	Enable cross location scheduling
71	FS4	Scheduling	Enable resource-centric scheduling
72	FS4	Scheduling	Enable supply-to-demand matching
73	FS4	Scheduling	Reduce the amount of time required to schedule an appointment
74	FS4	Scheduling	Enable web functionality to allow patients to request / view information via Internet
75	FS4	Scheduling	Improve utilization of provider and clinic resources to include equipment and rooms
76	FS4	Scheduling	Develop accurate, maintainable system and user documentation
77	FS4	Scheduling	Provide a formalized repository of scheduling business rules maintainable without developer intervention to promote standardization of business practices across the enterprise
78	FS4	Scheduling	Provide web based graphical user interfaces (GUIs)
79	FS4	Scheduling	Provide for open connectivity promoting regular upgrades and enhancements
80	FS4	Scheduling	Link scheduling system with CPRS and other VistA packages to provide a seamless interface to clinicians and clerical staff alike
81	FS4	eHMP (Full Deployment)	Replace CPRS as VA's primary point of care application
82	FS4	eHMP (Full Deployment)	Provide for enhanced patient search: when searching for a patient not registered in the user's local VistA site
83	FS4	eHMP (Full Deployment)	Provide for free text search: finding entries in patient records based on user entered criteria

Row	FS	Feature Set Area	Feature Set Requirement
84	FS4	eHMP (Full Deployment)	Provide for context persistence: returning to the same patient when moving from one workstation to another
85	FS4	Veteran's Authorization and Preferences (VAP)	Provide ability for users of VAP to create and print letters to alert Veterans or Service members of expiring authorizations
86	FS4	Veteran's Authorization and Preferences (VAP)	Provide safeguards to ensure authorizations are up to date
87	FS4	Veteran's Authorization and Preferences (VAP)	Ensure conformance to mandated cross-Agency requirements for identity management
88	FS4	Veteran's Authorization and Preferences (VAP)	Streamline ability to add partner systems
89	FS4	Veteran's Authorization and Preferences (VAP)	Re-design business / technical architecture to improve performance and reliability
90	FS4	Specialty Clinical Applications	Support women's health specialty workflow
91	FS4	Specialty Clinical Applications	Support emergency-department care specialty workflow
92	FS4	Specialty Clinical Applications	Support surgical care specialty workflow
93	FS4	Specialty Clinical Applications	Support dental care specialty workflow
94	FS4	Specialty Clinical Applications	Support eye care specialty workflow
95	FS4	Specialty Clinical Applications	Support dermatology specialty workflow
96	FS4	Specialty Clinical Applications	Support disability evaluation specialty workflow
97	FS4	Specialty Clinical Applications	Support consults and referral management specialty workflow
98	FS4	Specialty Clinical Applications	Support anesthesia documentation specialty workflow
99	FS4	Specialty Clinical Applications	Support mental health specialty workflow
100	FS4	Specialty Clinical Applications	Support nutrition care specialty workflow
101	FS4	Specialty Clinical Applications	Support genomics specialty workflow
102	FS4	Specialty Clinical Applications	Support intensive care nursing and medicine specialty workflow
103	FS4	Specialty Clinical Applications	Support occupational health specialty workflow

Row	FS	Feature Set Area	Feature Set Requirement
104	FS4	Specialty Clinical Applications	Deliver technical components that require minimal engineering to support specialty workflows
105	FS4	Specialty Clinical Applications (Women's Health)	Create a new women's health management platform that utilizes a robust, user friendly, GUI
106	FS4	Specialty Clinical Applications (Women's Health)	Integrate and enhance functionality of the System for Mammography Results Tracking and the Breast Care Registry (BCR) to include the ability to identify, monitor and track test results for gynecologic, the new System for Mammography and Reproductive Health Tracking
107	FS4	Specialty Clinical Applications (Women's Health)	Enhance the Notification of Teratogenic Drugs (TDrugs) project
108	FS4	Specialty Clinical Applications (Women's Health)	Expand gender characterization of Veterans to include aspects of gender identity and phenotype
109	FS4	Specialty Clinical Applications (Women's Health)	Ensure that a full set of reproductive health data elements exists in VistA for use across all projects
110	FS4	Specialty Clinical Applications (Women's Health)	Make data available for viewing at the patient, provider's panel, patient-aligned care team (PACT), or aggregate patient level
111	FS4	Specialty Clinical Applications (Women's Health)	Provide reporting functionality that allows for the building of data cubes and multi-functional analysis for more robust clinical reports
112	FS4	Specialty Clinical Applications (Women's Health)	Track and incorporate results of health care and diagnostic testing done outside VA
113	FS4	Specialty Clinical Applications (Dental Health)	Allow clinicians the ability to record, store, and forward dental specific diagnostic information in a computable format
114	FS4	Specialty Clinical Applications (Dental Health)	Provide for dental specific care plans customized to each patient
115	FS4	Specialty Clinical Applications (Dental Health)	Manage dental specific patient populations at the provider, facility and national levels to enhance the quality and safety of the care provided
116	FS4	Specialty Clinical Applications (Surgical Care)	Allow VA to provide a national, standardized and automated approach to managing surgical care
117	FS4	Specialty Clinical Applications (Surgical Care)	Improve the availability and timeliness of information

Row	FS	Feature Set Area	Feature Set Requirement
118	FS4	Specialty Clinical Applications (Surgical Care)	Reduce problems associated with unmet surgical case needs
119	FS4	Specialty Clinical Applications (Surgical Care)	Provide a patient-centric approach to the waiting room display
120	FS4	Specialty Clinical Applications (Surgical Care)	Automate the process of converting biologic and non-biologic implant information
121	FS4	Specialty Clinical Applications (Surgical Care)	Allow for the entry of complete implant information
122	FS4	Specialty Clinical Applications (Surgical Care)	Allow entry of additional fields
123	FS4	Specialty Clinical Applications (Surgical Care)	Enable facilitated entry of information (e.g., bar code scanning)
124	FS4	Specialty Clinical Applications (Surgical Care)	Access Surgical Risk Calculator (developed as part of the VHA Innovations project) through CPRS
125	FS4	Enhancements to Ancillary Systems (Radiology)	Meet regulatory requirements, including Digital Imaging and Communications in Medicine (DICOM) for radiology
126	FS4	Enhancements to Ancillary Systems (Radiology)	Transition radiology operations from a paper-based to a paper-light practice
127	FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI for the enter order function
128	FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI for the schedule study function
129	FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI for the register patient function
130	FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI for the case edit study function
131	FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI for the protocol study function

Row	FS	Feature Set Area	Feature Set Requirement
132	FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI to display status of patients who are in the department
133	FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI to display key management parameters (unscheduled orders, incomplete studies, un-dictated studies)
134	FS4	Enhancements to Ancillary Systems (Radiology)	Allow for scheduling exams from a list of orders
135	FS4	Enhancements to Ancillary Systems (Radiology)	Enhance functionality of the scheduling application to allow auto-populating in the radiology application of the scheduled appointment time
136	FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to assign orders for imaging studies to radiologists so they can be protocolled
137	FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to select acquisition protocols for ordered and scheduled imaging studies with rationale for selection
138	FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to communicate imaging instructions to technologists
139	FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to communicate patient communications from clerk to radiologist and technologist
140	FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to enter radiation dosage
141	FS4	Enhancements to Ancillary Systems (Radiology)	Include best practices functionality such as support for electronic protocols and a dashboard display of the patient's status
142	FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to CDS capabilities to improve ordering guidelines to follow appropriateness criteria, as defined by the American College of Radiologists
143	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Support enterprise image distribution and viewing
144	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow for the ability to import studies from external entities
145	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Improve image viewing functions

Row	FS	Feature Set Area	Feature Set Requirement
146	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Provide support for structured DICOM reports
147	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow for integration and tracking of radiation dose metrics
148	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Enable imaging interoperability with our partners, including DoD
149	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow simultaneous availability of patient images and data
150	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Implement a new operating system, hosted by servers versus desktops (Tier I)
151	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Standardize Tier I systems across all 4 Regions (Tier I)
152	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow all sites the capacity to store 5 years of studies on Tier 1 storage (Tier I)
153	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Improve performance and disaster recovery through high availability storage, Microsoft HyperV virtualization (Tier I)
154	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Reduce risk for critical patient data loss for End of Life (EOL)/End of Service (EOS) VistA Imaging Systems (Tier I)
155	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Reduce overall storage cost by moving to a true deep archive system (Tier II)
156	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Improve disaster recovery by moving data to a regional data center vs. VISN (Tier II)
157	FS4	Enhancements to Ancillary Systems (VistA Imaging)	Flatten imaging footprint to 4 regional centers versus 21 VIS, reducing the FTEs required to manage (Tier II)
158	FS4	Enhancements to Ancillary Systems (Laboratory)	Meet regulatory requirements, including multiple accrediting bodies for VA laboratory (Joint Commission, AABB, and the College of American Pathologists)
159	FS4	Enhancements to Ancillary Systems (Laboratory)	Allow auto-verification: optimize resource utilization by setting lab-established boundaries for test results

Row	FS	Feature Set Area	Feature Set Requirement
160	FS4	Enhancements to Ancillary Systems (Laboratory)	Upgrade VistA Blood Establishment Computer Software (VBECS): help ensure continued patient safety and quality; implement new clinical functionality
161	FS4	Enhancements to Ancillary Systems (Laboratory)	Provide microbiology upgrades
162	FS4	Enhancements to Ancillary Systems (Laboratory)	Provide an Anatomic Pathology (AP) ordering mechanism: for clinicians to provide required information to facilitate specimen processing
163	FS4	Enhancements to Ancillary Systems (Laboratory)	Support interoperability of laboratory data with internal VA systems, DoD, and other health care partners
164	FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to receive inbound electronic prescriptions (eRx) coming from external entities, process them, and dispense them at VA pharmacies
165	FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to electronically transfer prescriptions to other VA and non-VA pharmacies
166	FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to electronically receive transferred prescriptions from other VA and non-VA pharmacies
167	FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Adopt NCPDP standards
168	FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Use RXnorm terminology
169	FS4	Enhancements to Pharmacy (Fixed Medication Copayment Tiers)	Redesign current structure for charges for first party pharmacy claims to support implementation of three new regulatory approved copayment medication tiers for outpatient medications charges dependent on medication type
170	FS4	Enhancements to Pharmacy (PPS/NDF Project)	Automate the updating of PPS/NDF information at sites; PPS/NDF updates will occur weekly with the option of daily updates
171	FS4	Enhancements to Pharmacy (PPS/NDF Project)	Add support for hazardous waste drugs, and length of clinical effect, to pinpoint duplicate therapy alerts on expired medications
172	FS4	Enhancements to Pharmacy (PPS/NDF Project)	Allow RxNorm information to be directly updated in PPS daily
173	FS4	FileMan Modernization Phase 2	Allow for universal time zone support (FileMan 23 Capability)

Row	FS	Feature Set Area	Feature Set Requirement
174	FS4	FileMan Modernization Phase 2	Allow for Pharmacy APIs (FileMan 23 Capability)
175	FS4	FileMan Modernization Phase 2	Allow for additional application APIs (FileMan 23 Capability)
176	FS4	FileMan Modernization Phase 2	Allow for Lexicon enhancements (FileMan 23 Capability)
177	FS4	FileMan Modernization Phase 2	Update meta-data and file structure (FileMan 23 Capability)
178	FS4	FileMan Modernization Phase 2	Implement security updates (FileMan 23 Capability)
179	FS4	FileMan Modernization Phase 2	Revise Laboratory API (FileMan 23 Capability)

Appendix B – VistA Evolution KPI Mapping to Feature Set Requirements

KPI 1: Improve access to care

FS	FS Area	Feature Set Requirement	Fit
FS3	VistA Scheduling Enhancements (VSE)	VSE GUI will include an interface to the mobile Veteran Appointment Request servers that will allow schedulers to book appointments for appointments requested by Veterans	Full
FS3	VistA Scheduling Enhancements (VSE)	Appointment request GUI that the Welcome to VA call center can use to create appointment requests on behalf of new Veterans	Full
FS3	VistA Scheduling Enhancements (VSE)	Improve schedulers' ability to effectively sort, filter and manage scheduling resources	Full
FS3	VistA Scheduling Enhancements (VSE)	Consolidate all appointment request lists in a single queue; allow scheduler to view all open appointment requests collectively	Full
FS3	VistA Scheduling Enhancements (VSE)	Provide aggregated view of clinic profile scheduling grids; allow schedulers to view resource availability and schedule the appointment for the Veteran from the same screen	Full
FS3	VistA Scheduling Enhancements (VSE)	Display pertinent resource management metrics in a single view; allow individual facilities and staff at various levels to measure and track supply, demand, and efficiency metrics related to outpatient scheduling operations	Partial
FS3	VistA Scheduling Enhancements (VSE)	Develop a comprehensive dashboard that will display metrics at the facility, VISN and National level	Partial
FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including TeleHealth	Full
FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including rural health care	Full
FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including home health care	Full
FS4	Scheduling	Remedy excessive VA patient wait times	Full
FS4	Scheduling	Enable cross location scheduling	Full
FS4	Scheduling	Enable resource-centric scheduling	Partial
FS4	Scheduling	Enable supply-to-demand matching	Partial
FS4	Scheduling	Provide a formalized repository of scheduling business rules maintainable without developer intervention to promote standardization of business practices across the enterprise	Partial

FS	FS Area	Feature Set Requirement	Fit
FS4	Veteran's Authorization and Preferences (VAP)	Ensure conformance to mandated cross-Agency requirements for identity management	Partial

KPI 2: Improve care coordination

FS	FS Area	Feature Set Requirement	Fit
FS3	eHMP	Develop basic orders	Full
FS3	eHMP	Develop patient goal management	Partial
FS3	eHMP	Develop Basic care team & plans	Full
FS3	eHMP	Develop Secure Messaging	Partial
FS3	eHMP	Develop Advanced task/team management	Full
FS3	eHMP	Develop Goal-based care plans	Full
FS3	eHMP	Develop Outbound ePrescribing	Full
FS3	Interoperable EHR	Update eHMP and VistA Exchange to include all remaining data domains (for which there are structured data sources) with national standard terminologies	Partial
FS3	Enhancements to Pharmacy	Pharmacy Interface Automation: bi-directional interface between VistA Inpatient Medication Package and Pharmacy Automated Dispensing Units that are used in both inpatient and outpatient care settings	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Accommodate standardized data required for immunization capture and interoperability	Partial
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc4) CDS: 03/14/16 – 09/16/16. Send immunization data outbound to external partners outside VA, to include DoD, to state Health Department Immunization Registries; meet Meaningful Use Stage 2 requirements for Immunizations	Full
FS3	eHMP	Develop Secure Messaging	Partial
FS3	eHMP	Develop Advanced task/team management	Full
FS3	eHMP	Develop Goal-based care plans	Full
FS3	eHMP	Develop Outbound ePrescribing	Full
FS3	Interoperable EHR	Update eHMP and VistA Exchange to include all remaining data domains (for which there are structured data sources) with national standard terminologies	Partial

FS	FS Area	Feature Set Requirement	Fit
FS3	Enhancements to Pharmacy	Pharmacy Interface Automation: bi-directional interface between VistA Inpatient Medication Package and Pharmacy Automated Dispensing Units that are used in both inpatient and outpatient care settings	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Accommodate standardized data required for immunization capture and interoperability	Partial
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc4) CDS: 03/14/16 – 09/16/16. Send immunization data outbound to external partners outside VA, to include DoD, to state Health Department Immunization Registries; meet Meaningful Use Stage 2 requirements for Immunizations	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc4) CDS: 03/14/16 – 09/16/16. Intake immunization data from external partners outside VA (including DoD); transmit VA data to other healthcare systems and state agencies	Full
FS3	API Exposure, 2.0	Integrate foundational suite of VistA application packages with the DoD/VA interoperability infrastructure	Partial
FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including TeleHealth	Partial
FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including rural health care	Partial
FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including home health care	Partial
FS4	Scheduling	Accommodate electronic access to allow patients to work collaboratively as integral members of the health care team	Partial
FS4	Scheduling	Remedy excessive VA patient wait times	Partial
FS4	Scheduling	Enable cross location scheduling	Partial
FS4	eHMP Full Deployment	Replace CPRS as VA's primary point of care application	Full
FS4	Veteran's Authorization and Preferences (VAP)	Provide ability for users of VAP to create and print letters to alert Veterans or Servicemembers of expiring authorizations	Partial
FS4	Veteran's Authorization and Preferences (VAP)	Provide safeguards to ensure authorizations are up to date	Partial
FS4	Specialty Clinical Applications (Women's Health)	Make data available for viewing at the patient, provider's panel, patient-aligned care team (PACT), or aggregate patient level	Full

FS	FS Area	Feature Set Requirement	Fit
FS4	Specialty Clinical Applications (Women's Health)	Track and incorporate results of health care and diagnostic testing done outside VA	Full
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for scheduling exams from a list of orders	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Enhance functionality of the scheduling application to allow auto-populating in the radiology application of the scheduled appointment time	Full
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to select acquisition protocols for ordered and scheduled imaging studies with rationale for selection	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to communicate imaging instructions to technologists	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to communicate patient communications from clerk to radiologist and technologist	Full
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to enter radiation dosage	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Include best practices functionality such as support for electronic protocols and a dashboard display of the patient's status	Full
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to CDS capabilities to improve ordering guidelines to follow appropriateness criteria, as defined by the American College of Radiologists	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Support enterprise image distribution and viewing	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow for the ability to import studies from external entities	Full
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Enable imaging interoperability with our partners, including DoD	Full
FS4	Enhancements to Ancillary Systems (Laboratory)	Support interoperability of laboratory data with internal VA systems, DoD, and other health care partners	Full
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to receive inbound electronic prescriptions (eRx) coming from external entities, process them, and dispense them at VA pharmacies	Full

KPI 3: Improve resource utilization within the VA care delivery cycle

FS	FS Area	Feature Set Requirement	Fit
FS3	eHMP	Develop Patient List Creation	Full
FS3	eHMP	Develop Multi-patient views	Full
FS3	eHMP	Develop Advance Directives	Partial
FS3	eHMP	Develop Enterprise orders selection/management services	Full
FS3	eHMP	Develop Clinical Reconciliation	Full
FS3	VistA Scheduling Enhancements (VSE)	Improve schedulers' ability to effectively sort, filter and manage scheduling resources	Partial
FS3	VistA Scheduling Enhancements (VSE)	Consolidate all appointment request lists in a single queue	Partial
FS3	VistA Scheduling Enhancements (VSE)	Provide aggregated view of clinic profile scheduling grids; allow schedulers to view resource availability and schedule the appointment for the Veteran from same screen	Partial
FS3	VistA Scheduling Enhancements (VSE)	Allow enterprise to use VistA scheduling data more effectively, provide greater visibility for scheduling operations, and better manage scheduling resources	Full
FS3	VistA Scheduling Enhancements (VSE)	Display pertinent resource management metrics in a single view; ability to measure and track supply, demand, and efficiency metrics related to outpatient scheduling operations	Full
FS3	VistA Scheduling Enhancements (VSE)	Develop comprehensive dashboard to display metrics at facility, VISN, national level	Full
FS3	Enhancements to Pharmacy	SUMPM: Modify the algorithm to associate the appropriate IV additive to the correct orderable item, based on additive strength	Full
FS3	Enhancements to Pharmacy	FY16: change to allow greater than 90-day fill for outpatient prescriptions and greater than 90-day interval for administration frequency of inpatient and clinic orders, where appropriate for a given medication	Full
FS3	FileMan Modernization	Enhance User interface (FileMan 22.2E Capability)	Full
FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including TeleHealth	Partial
FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including rural health care	Partial
FS4	Scheduling	Accommodate scheduling alternate modes of care delivery, including home health care	Partial
FS4	Scheduling	Remedy excessive VA patient wait times	Partial
FS4	Scheduling	Enable cross location scheduling	Full

FS	FS Area	Feature Set Requirement	Fit
FS4	Scheduling	Enable resource-centric scheduling	Full
FS4	Scheduling	Enable supply-to-demand matching	Full
FS4	Scheduling	Provide a formalized repository of scheduling business rules maintainable without developer intervention to promote standardization of business practices across the enterprise	Full
FS4	eHMP Full Deployment	Replace CPRS as VA's primary point of care application	Full
FS4	eHMP Full Deployment	Provide for enhanced patient search: when searching for a patient not registered in the user's local VistA site	Partial
FS4	eHMP Full Deployment	Provide for free text search: finding entries in patient records based on user entered criteria	Partial
FS4	eHMP Full Deployment	Provide for context persistence: returning to the same patient when moving from one workstation to another	Partial
FS4	Specialty Clinical Applications (Women's Health)	Track and incorporate results of health care and diagnostic testing done outside VA	Partial
FS4	Specialty Clinical Applications (Dental Health)	Provide for dental specific care plans customized to each patient	Partial
FS4	Specialty Clinical Applications (Surgical Care)	Automate the process of converting biologic and non-biologic implant information	Partial
FS4	Specialty Clinical Applications (Surgical Care)	Enable facilitated entry of information (e.g., bar code scanning)	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Transition radiology operations from a paper-based to a paper-light practice	Full
FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI for the enter order function	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI for the schedule study function	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI for the register patient function	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI for the case edit study function	Partial

FS	FS Area	Feature Set Requirement	Fit
FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI for the protocol study function	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI to display status of patients who are in the department	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Provide a new radiology GUI to display key management parameters (unscheduled orders, incomplete studies, un-dictated studies)	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for scheduling exams from a list of orders	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Enhance functionality of the scheduling application to allow auto-populating in the radiology application of the scheduled appointment time	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to assign orders for imaging studies to radiologists so they can be protocolled	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to select acquisition protocols for ordered and scheduled imaging studies with rationale for selection	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to communicate imaging instructions to technologists	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to communicate patient communications from clerk to radiologist and technologist	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Support enterprise image distribution and viewing	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Improve image viewing functions	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Provide support for structured DICOM reports	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow simultaneous availability of patient images and data	Partial
FS4	Enhancements to Ancillary Systems (Laboratory)	Allow auto-verification: optimize resource utilization by setting lab-established boundaries for test results	Partial

KPI 4: Improve patient outcomes through improved medication list accuracy

FS	FS Area	Feature Set Requirement	Fit
FS3	eHMP	Develop Medication Reconciliation	Full
FS3	Enhancements to Pharmacy	SUMPM: Modify the algorithm to associate the appropriate IV additive to the correct orderable item, based on additive strength	Partial
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to receive inbound electronic prescriptions (eRx) coming from external entities, process them, and dispense them at VA pharmacies	Partial
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to electronically transfer prescriptions to other VA and non-VA pharmacies	Partial
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to electronically receive transferred prescriptions from other VA and non-VA pharmacies	Partial
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Use Rxnorm terminology	Partial
FS4	Enhancements to Pharmacy (PPS/NDF Project)	Automate the updating of PPS/NDF information at sites; PPS/NDF updates will occur weekly with the option of daily updates	Partial
FS4	Enhancements to Pharmacy (PPS/NDF Project)	Add support for hazardous waste drugs, and length of clinical effect, to pinpoint duplicate therapy alerts on expired medications	Full
FS4	Enhancements to Pharmacy (PPS/NDF Project)	Allow RxNorm information to be directly updated in PPS daily	Partial

KPI 5: Improve clinical decision making

FS	FS Area	Feature Set Requirement	Fit
FS3	eHMP	Develop patient goal management	Full
FS3	eHMP	Develop image viewer	Full
FS3	eHMP	Develop scanned document search	Full
FS3	eHMP	Develop Clinical Decision Support (CDS) (e.g. Immunizations)	Full
FS3	eHMP	Develop Alert Management	Full
FS3	eHMP	Develop Complete outpatient encounter	Full
FS3	eHMP	Develop Advance Directives	Full
FS3	eHMP	Develop Goal-based care plans	Partial

FS	FS Area	Feature Set Requirement	Fit
FS3	eHMP	Develop Advanced Clinical Decision Support (CDS)	Full
FS3	Enhancements to Pharmacy	MOCHA FY16: implement enhancements that refine the current alert system for Remote Order Allergy Checks and Clinical Reminder Order Checks	Full
FS3	Enhancements to Pharmacy	MOCHA FY17: implement enhancements to add an alert for maximum daily dose for simple orders (MOCHA 2.1)	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc3) Interoperability: 09/14/15 – 03/11/16. Create capability in VistA immunization files for clinicians and providers to read, write and edit all new fields for Immunizations and Skin Test data	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc4) CDS: 03/14/16 – 09/16/16. Provide CDS via recommended immunization treatments, alerts/reminders and ad hoc reporting to meet Meaningful Use Stage 3 requirements for Immunizations	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc4) CDS: 03/14/16 – 09/16/16. Create capability in CPRS and eHMP for clinicians and providers to read, write and edit all new fields for Immunizations and Skin Test data	Full
FS3	FileMan Modernization	Enhance User interface (FileMan 22.2E Capability)	Partial
FS4	Scheduling	Link scheduling system with CPRS and other VistA packages to provide a seamless interface to clinicians and clerical staff alike	Partial
FS4	eHMP Full Deployment	Replace CPRS as VA's primary point of care application	Full
FS4	eHMP Full Deployment	Provide for enhanced patient search: when searching for a patient not registered in the user's local VistA site	Partial
FS4	eHMP Full Deployment	Provide for free text search: finding entries in patient records based on user entered criteria	Partial
FS4	Specialty Clinical Applications	Support women's health specialty workflow	Full
FS4	Specialty Clinical Applications	Support emergency-department care specialty workflow	Full
FS4	Specialty Clinical Applications	Support surgical care specialty workflow	Full
FS4	Specialty Clinical Applications	Support dental care specialty workflow	Full

FS	FS Area	Feature Set Requirement	Fit
FS4	Specialty Clinical Applications	Support eye care specialty workflow	Full
FS4	Specialty Clinical Applications	Support dermatology specialty workflow	Full
FS4	Specialty Clinical Applications	Support disability evaluation specialty workflow	Full
FS4	Specialty Clinical Applications	Support consults and referral management specialty workflow	Full
FS4	Specialty Clinical Applications	Support anesthesia documentation specialty workflow	Full
FS4	Specialty Clinical Applications	Support mental health specialty workflow	Full
FS4	Specialty Clinical Applications	Support nutrition care specialty workflow	Full
FS4	Specialty Clinical Applications	Support genomics specialty workflow	Full
FS4	Specialty Clinical Applications	Support intensive care nursing and medicine specialty workflow	Full
FS4	Specialty Clinical Applications	Support occupational health specialty workflow	Full
FS4	Specialty Clinical Applications (Women's Health)	Integrate and enhance functionality of the System for Mammography Results Tracking and the Breast Care Registry (BCR) to include the ability to identify, monitor and track test results for gynecologic, the new System for Mammography and Reproductive Health Tracking	Partial
FS4	Specialty Clinical Applications (Women's Health)	Expand gender characterization of Veterans to include aspects of gender identity and phenotype	Partial
FS4	Specialty Clinical Applications (Women's Health)	Ensure that a full set of reproductive health data elements exists in VistA for use across all projects	Full
FS4	Specialty Clinical Applications (Women's Health)	Make data available for viewing at the patient, provider's panel, patient-aligned care team (PACT), or aggregate patient level	Full
FS4	Specialty Clinical Applications (Women's Health)	Provide reporting functionality that allows for the building of data cubes and multi-functional analysis for more robust clinical reports	Full
FS4	Specialty Clinical Applications (Women's Health)	Track and incorporate results of health care and diagnostic testing done outside VA	Full

FS	FS Area	Feature Set Requirement	Fit
FS4	Specialty Clinical Applications (Dental Health)	Allow clinicians the ability to record, store, and forward dental specific diagnostic information in a computable format	Partial
FS4	Specialty Clinical Applications (Dental Health)	Manage dental specific patient populations at the provider, facility and national levels to enhance the quality and safety of the care provided	Partial
FS4	Specialty Clinical Applications (Surgical Care)	Allow VA to provide a national, standardized and automated approach to managing surgical care	Partial
FS4	Specialty Clinical Applications (Surgical Care)	Allow for the entry of complete implant information	Full
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to assign orders for imaging studies to radiologists so they can be protocolled	Full
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to select acquisition protocols for ordered and scheduled imaging studies with rationale for selection	Full
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to enter radiation dosage	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Include best practices functionality such as support for electronic protocols and a dashboard display of the patient's status	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for the ability to CDS capabilities to improve ordering guidelines to follow appropriateness criteria, as defined by the American College of Radiologists	Full
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Support enterprise image distribution and viewing	Full
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow for the ability to import studies from external entities	Full
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Improve image viewing functions	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Provide support for structured DICOM reports	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow for integration and tracking of radiation dose metrics	Full

FS	FS Area	Feature Set Requirement	Fit
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow simultaneous availability of patient images and data	Partial
FS4	Enhancements to Ancillary Systems (Laboratory)	Provide an Anatomic Pathology (AP) ordering mechanism: for clinicians to provide required information to facilitate specimen processing	Full

KPI 6: Increase quality and quantity of medical history data available to support clinical decision making

FS	FS Area	Feature Set Requirement	Fit
FS3	eHMP	Achieve certification of ONC 2014 Edition EHR Criterion	Full
FS3	eHMP	Develop patient self-description	Full
FS3	eHMP	Develop Women's Health / Family, Military & Social History	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Fulfill the required vocabulary standard for the 2014 EHR certification	Partial
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc2) Meaningful Use: 03/15/15 – 09/11/15. Create a standardized Health Summary that includes all new Immunization data	Partial
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc2) Meaningful Use: 03/15/15 – 09/11/15. Standardize Units of Measure for all VistA packages	Partial
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc3) Interoperability: 09/14/15 – 03/11/16. Create capability in VistA immunization files for clinicians and providers to read, write and edit all new fields for Immunizations and Skin Test data	Partial
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc4) CDS: 03/14/16 – 09/16/16. Create capability in CPRS and eHMP for clinicians and providers to read, write and edit all new fields for Immunizations and Skin Test data	Partial
FS3	API Exposure, 2.0	Allows integration of data from legacy clinical packages with the EHR	Full
FS4	Scheduling	Accommodate electronic access to allow patients to work collaboratively as integral members of the health care team	Partial
FS4	Scheduling	Provide for open connectivity promoting regular upgrades and enhancements	Partial
FS4	eHMP Full Deployment	Replace CPRS as VA's primary point of care application	Full

FS	FS Area	Feature Set Requirement	Fit
FS4	Specialty Clinical Applications (Women's Health)	Integrate and enhance functionality of the System for Mammography Results Tracking and the Breast Care Registry (BCR) to include the ability to identify, monitor and track test results for gynecologic, the new System for Mammography and Reproductive Health Tracking	Partial
FS4	Specialty Clinical Applications (Women's Health)	Expand gender characterization of Veterans to include aspects of gender identity and phenotype	Partial
FS4	Specialty Clinical Applications (Women's Health)	Ensure that a full set of reproductive health data elements exists in VistA for use across all projects	Full
FS4	Specialty Clinical Applications (Women's Health)	Make data available for viewing at the patient, provider's panel, patient-aligned care team (PACT), or aggregate patient level	Partial
FS4	Specialty Clinical Applications (Women's Health)	Track and incorporate results of health care and diagnostic testing done outside VA	Full
FS4	Specialty Clinical Applications (Dental Health)	Allow clinicians the ability to record, store, and forward dental specific diagnostic information in a computable format	Full
FS4	Specialty Clinical Applications (Surgical Care)	Allow for the entry of complete implant information	Partial
FS4	Specialty Clinical Applications (Surgical Care)	Allow entry of additional fields	Full
FS4	Specialty Clinical Applications (Surgical Care)	Enable facilitated entry of information (e.g., bar code scanning)	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow for the ability to import studies from external entities	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow for integration and tracking of radiation dose metrics	Partial
FS4	Enhancements to Ancillary Systems (Laboratory)	Meet regulatory requirements, including multiple accrediting bodies for VA laboratory (Joint Commission, AABB, and the College of American Pathologists)	Partial
FS4	Enhancements to Ancillary Systems (Laboratory)	Provide an Anatomic Pathology (AP) ordering mechanism: for clinicians to provide required information to facilitate specimen processing	Partial

FS	FS Area	Feature Set Requirement	Fit
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Adopt NCPDP standards	Partial
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Use RXnorm terminology	Partial
FS4	Enhancements to Pharmacy (PPS/NDF Project)	Automate the updating of PPS/NDF information at sites; PPS/NDF updates will occur weekly with the option of daily updates	Full
FS4	Enhancements to Pharmacy (PPS/NDF Project)	Add support for hazardous waste drugs, and length of clinical effect, to pinpoint duplicate therapy alerts on expired medications	Partial
FS4	Enhancements to Pharmacy (PPS/NDF Project)	Allow RxNorm information to be directly updated in PPS daily	Full

KPI 7: Improve resource utilization metrics in patients who receive care outside the VA

FS	FS Area	Feature Set Requirement	Fit
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc4) CDS: 03/14/16 – 09/16/16. Intake immunization data from external partners outside VA (including DoD); transmit VA data to other healthcare systems and state agencies	Partial
FS4	eHMP Full Deployment	Replace CPRS as VA's primary point of care application	Full
FS4	Specialty Clinical Applications (Women's Health)	Track and incorporate results of health care and diagnostic testing done outside VA	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow for the ability to import studies from external entities	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Enable imaging interoperability with our partners, including DoD	Partial
FS4	Enhancements to Ancillary Systems (Laboratory)	Support interoperability of laboratory data with internal VA systems, DoD, and other health care partners	Partial
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to receive inbound electronic prescriptions (eRx) coming from external entities, process them, and dispense them at VA pharmacies	Partial

FS	FS Area	Feature Set Requirement	Fit
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to electronically transfer prescriptions to other VA and non-VA pharmacies	Partial
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to electronically receive transferred prescriptions from other VA and non-VA pharmacies	Partial

KPI 8: Increased health of populations through appropriate utilization of population health data

FS	FS Area	Feature Set Requirement	Fit
FS4	Specialty Clinical Applications (Women's Health)	Integrate and enhance functionality of the System for Mammography Results Tracking and the Breast Care Registry (BCR) to include the ability to identify, monitor and track test results for gynecologic, the new System for Mammography and Reproductive Health Tracking	Full
FS4	Specialty Clinical Applications (Dental Health)	Manage dental specific patient populations at the provider, facility and national levels to enhance the quality and safety of the care provided	Full
FS4	Specialty Clinical Applications (Surgical Care)	Allow VA to provide a national, standardized and automated approach to managing surgical care	Full

KPI 9: Shorten time to delivery of new HIT functionality

FS	FS Area	Feature Set Requirement	Fit
FS3	eHMP	Develop structured data management	Full
FS3	Interoperable EHR	Deliver interoperability enabling capabilities that meet FY14 NDAA directives	Full
FS3	Interoperable EHR	Update eHMP and VistA Exchange to include all remaining data domains (for which there are structured data sources) with national standard terminologies	Partial
FS3	Enhancements to Pharmacy	FY16: update software to be compliant with current IT policies including migrating from file transfer protocol (FTP) to secure FTP (sFTP) (PECS v6.0)	Full
FS3	VistA Service Assembler (VSA), Phase 2	Improve compatibility with 'open source' participation objectives by incorporating Node.js functionality into the architectural design	Full

FS	FS Area	Feature Set Requirement	Fit
FS3	VistA Service Assembler (VSA), Phase 2	The Vista.js solution uses the following new technologies: Node.js, EWD.js, EWD Federator, Node Package Manager, Node Version Manager, Sinopia, Cache.node	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Accommodate standardized data required for immunization capture and interoperability	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Fulfill the required vocabulary standard for the 2014 EHR certification	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc1) Standardization: 09/16/14 – 03/13/15. Establish new unidirectional interfaces between CDC's IIS and DAS and between DAS and STS to allow VistA to obtain the CVX/MVX codes from STS (leveraging existing integration between STS and VistA)	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc2) Meaningful Use: 03/15/15 – 09/11/15. Back end file structures to access, record, update immunization information and transmission to immunization registries criteria	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc2) Meaningful Use: 03/15/15 – 09/11/15. Create a standardized Health Summary that includes all new Immunization data	Full
FS3	VistA Immunizations Enhancements (VIMM), 2.0	Schedule (Inc2) Meaningful Use: 03/15/15 – 09/11/15. Standardize Units of Measure for all VistA packages	Full
FS3	API Exposure, 2.0	Expose up to 250 APIs and associated RPCs in VistA clinical applications	Full
FS3	API Exposure, 2.0	Integrate foundational suite of VistA application packages with the DoD/VA interoperability infrastructure	Full
FS3	API Exposure, 2.0	Allows integration of data from legacy clinical packages with the EHR	Full
FS3	API Exposure, 2.0	Services will be compliant with OneVA Enterprise Architecture, accessible through eMI, and secured using IAM Services	Full
FS3	FileMan Modernization	Data standardization to permit FileMan-based querying and aggregation of structured data between all VistA databases, allowing for a FileMan-based enterprise-wide view of patient data	Full
FS3	FileMan Modernization	Provide Internationalization Enhancements	Partial
FS3	FileMan Modernization	Improved Data Analysis Tools	Full
FS3	FileMan Modernization	Data Dictionary Enhancement	Full

FS	FS Area	Feature Set Requirement	Fit
FS4	Scheduling	Move VA's scheduling solution into an SOA, in compliance with the OneVA Architecture	Partial
FS4	Scheduling	Provide a formalized repository of scheduling business rules maintainable without developer intervention to promote standardization of business practices across the enterprise	Partial
FS4	Scheduling	Provide for open connectivity promoting regular upgrades and enhancements	Full
FS4	eHMP Full Deployment	Replace CPRS as VA's primary point of care application	Full
FS4	Specialty Clinical Applications (Women's Health)	Provide reporting functionality that allows for the building of data cubes and multi-functional analysis for more robust clinical reports	Partial
FS4	Enhancements to Ancillary Systems (Radiology)	Meet regulatory requirements, including Digital Imaging and Communications in Medicine (DICOM) for radiology	Partial
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Adopt NCPDP standards	Partial
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Use RXnorm terminology	Partial
FS4	FileMan Modernization Phase 2	Allow for universal time zone support (FileMan 23 Capability)	Partial
FS4	FileMan Modernization Phase 2	Allow for Pharmacy APIs (FileMan 23 Capability)	Full
FS4	FileMan Modernization Phase 2	Allow for additional application APIs (FileMan 23 Capability)	Full
FS4	FileMan Modernization Phase 2	Allow for Lexicon enhancements (FileMan 23 Capability)	Full
FS4	FileMan Modernization Phase 2	Update meta-data and file structure (FileMan 23 Capability)	Full
FS4	FileMan Modernization Phase 2	Implement security updates (FileMan 23 Capability)	Full
FS4	FileMan Modernization Phase 2	Revise Laboratory API (FileMan 23 Capability)	Full

KPI 10: Improve user satisfaction with the electronic health record

FS	FS Area	Feature Set Requirement	Fit
FS3	eHMP	Develop Complete outpatient encounter	Full
FS3	eHMP	Develop After Visit Summary/Patient Education	Full

FS	FS Area	Feature Set Requirement	Fit
FS3	eHMP	Develop Secure Messaging	Full
FS3	eHMP	Develop Outbound ePrescribing	Partial
FS4	Scheduling	Accommodate electronic access to allow patients to work collaboratively as integral members of the health care team	Full
FS4	Scheduling	Enable web functionality to allow patients to request / view information via Internet	Full
FS4	Scheduling	Provide web based graphical user interfaces (GUIs)	Partial
FS4	eHMP Full Deployment	Replace CPRS as VA's primary point of care application	Full
FS4	Specialty Clinical Applications (Dental Health)	Allow clinicians the ability to record, store, and forward dental specific diagnostic information in a computable format	Partial
FS4	Specialty Clinical Applications (Dental Health)	Provide for dental specific care plans customized to each patient	Full
FS4	Specialty Clinical Applications (Surgical Care)	Provide a patient-centric approach to the waiting room display	Full
FS4	Enhancements to Ancillary Systems (Radiology)	Allow for scheduling exams from a list of orders	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Allow for the ability to import studies from external entities	Partial
FS4	Enhancements to Ancillary Systems (VistA Imaging)	Enable imaging interoperability with our partners, including DoD	Full
FS4	Enhancements to Ancillary Systems (Laboratory)	Support interoperability of laboratory data with internal VA systems, DoD, and other health care partners	Full
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to receive inbound electronic prescriptions (eRx) coming from external entities, process them, and dispense them at VA pharmacies	Full
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to electronically transfer prescriptions to other VA and non-VA pharmacies	Full
FS4	Enhancements to Pharmacy (Inbound ePrescribing)	Allow for ability to electronically receive transferred prescriptions from other VA and non-VA pharmacies	Full