

# **VHA Office Of Health Information HealtheVet Scheduling BPA**

## **Task 3: VHA Business Blueprint Design**

August 25, 2011

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REVISION HISTORY		
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July 1, 2011	Draft 0.1	Initial content development
July 18, 2011	Draft 0.2	Draft sent to ESM
July 19, 2011	Draft 0.3	Content development
Aug 22, 2011	Draft 0.4	Internal review
Aug 23, 2011	Draft 0.5	SR Review
Aug 24, 2011	Draft 0.6	Technical format review
Aug 25, 2011	1.0	Final sent to client

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# 1 Introduction

## 1.1 Introduction

The VHA HealtheVet Scheduling project is designed to replace the legacy outpatient scheduling system and provide a more efficient and superior level of care to patients within the Department of Veterans Affairs (VA). The business community is collaborating with the Office of Information & Technology (OIT) to ensure the business needs as well as the technical requirements are captured for the replacement system which the VA determined will be a Commercially Off the Shelf (COTS) solution. The COTS will be an Enterprise level system, leveraging more agile technologies and requiring more rigorous standardization of data and processes. The legacy scheduling system has evolved over two decades, and is a complex, decentralized system with touch points to many different data stores, some unrelated to scheduling.

The Business Blueprint breaks down the high-level business capabilities identified by the business into more granular aspects of functionality to illustrate the desired “to-be” state of outpatient scheduling by describing an end-to-end process-centric perspective along with supporting technologies. The Blueprint describes organizational units and roles, workflow, processes, sub-processes and capabilities, with traceability back to stated strategic objectives and critical success factors. It also provides a robust functional description of the business and healthcare scheduling capabilities and provides a direct mapping to be used for a COTS product evaluation and for vendor discussions and selection.

The National Business Owner is using this opportunity to evaluate business capabilities critical to scheduling, with an emphasis on “what” capability must be performed, not specifically “how” the COTS will perform that activity. The business’ goal is to provide patients with a consistent, streamlined scheduling experience.

The analysis for the Blueprint was based on documents from previous VHA scheduling efforts, including the Future State Business Model, the Process Improvement Framework, spreadsheets of requirements, and the VA Business Reference Architecture. We also conducted interviews and site visits with several facilities, and worked closely with the System Redesign Group.

## 1.2 Management / Executive Summary

The Business Blueprint is a document comprised of seven core areas to describe the

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future state of HealtheVet Scheduling. The Blueprint is based on industry best practices to address complex operating model transitions and COTS implementations.

To design the Blueprint for HealtheVet Scheduling, the seven core capability areas were examined in the light of each major Blueprint section.

- Resource Centric Scheduling Set-up;
- Manage Patient Information;
- Manage Request and Make Appointment;
- Coordinate Associated and Occasion of Services;
- Manage Appointment Made and Kept;
- Manage Reporting

### 1.2.1 Core Capability Areas

- **Value Determination** describes the HealtheVet Scheduling business objectives and anticipated benefits. This section also presents the major “pain points” of the business and notes the key performance and process performance indicators.
- **Organizational Structure** presents VHA organizational units, requirements and expectations. The section also outlines potential changes to the enterprise structure, and the impact of the project on the VHA organization. The section discusses the critical authorization and security considerations.
- **Master Data** outlines some of the major systems and interfaces with the current legacy system and describes why standardization across facilities should start as soon as possible. A critical aspect of that discussion is identification of authoritative data sources, authorization and security items. Included in standardizing are data cleaning and archiving. Finally, the potential impact of data standardization on the organization is considered.
- **Data Management** includes a high level data migration concept, discussion of business rules and dependencies, and suggested approaches for validation and reconciliation. This section will be addressed in the next phase of the business blueprint design.
- **Business Process Landscape** describes the HealtheVet Scheduling project in the context of the Health Care Line of Business, covering cross-related topics and the scope of business scenarios.
- **Business Process and Solution Design** covers a detailed examination of each business process identified in HealtheVet Scheduling, including diagrams, requirements and process descriptions. The section also describes functional

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solutions and other technically related items.

- **Technical Solution Management** describes some of the technical aspects of implementing the COTS, and Integration Solution Management includes test strategies and approaches. This section will be addressed in the next phase of the business blueprint design

The document is intended for the business community to facilitate understanding of the complexity and steps necessary to implement the COTS scheduling solution. It is also intended for the acquisition team responsible for the COTS selection to understand the Health Care Line of Business operating model for outpatient scheduling and the overall impact on the VHA.

### 1.3 Assumption and Constraints

Assumptions
<ul style="list-style-type: none"><li>▪ A COTS solution for HealtheVet Scheduling will be selected</li><li>▪ The VHA will devote a coordinated effort to implement the COTS and train staff</li><li>▪ VHA schedules 60,000,000 appointments a year</li><li>▪ VA OIG estimates 3.1 million no-shows a year in its 2008 audit focused on efforts to reduce unused outpatient appointments</li><li>▪ The average cost of an appointment is \$182, according to 2008 VA OIG estimates</li><li>▪ There are approximately 50,000 VA schedulers, and 10% of those are scheduling managers</li></ul>
Constraints
<ul style="list-style-type: none"><li>▪ Lack of resources (labor and fiscal)</li></ul>

### 1.4 Risk Assessment

The following 14 risks displayed in Table 1 were calculated to have the highest impact scores and are therefore the most pertinent risks for VHA to be aware of and execute associated action plans to mitigate.<sup>1</sup>

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<sup>1</sup> Independent Enterprise Risk Assessment for HealtheVet Scheduling, 3/31/2011

**Table 1 HealtheVet Scheduling Top Risks**

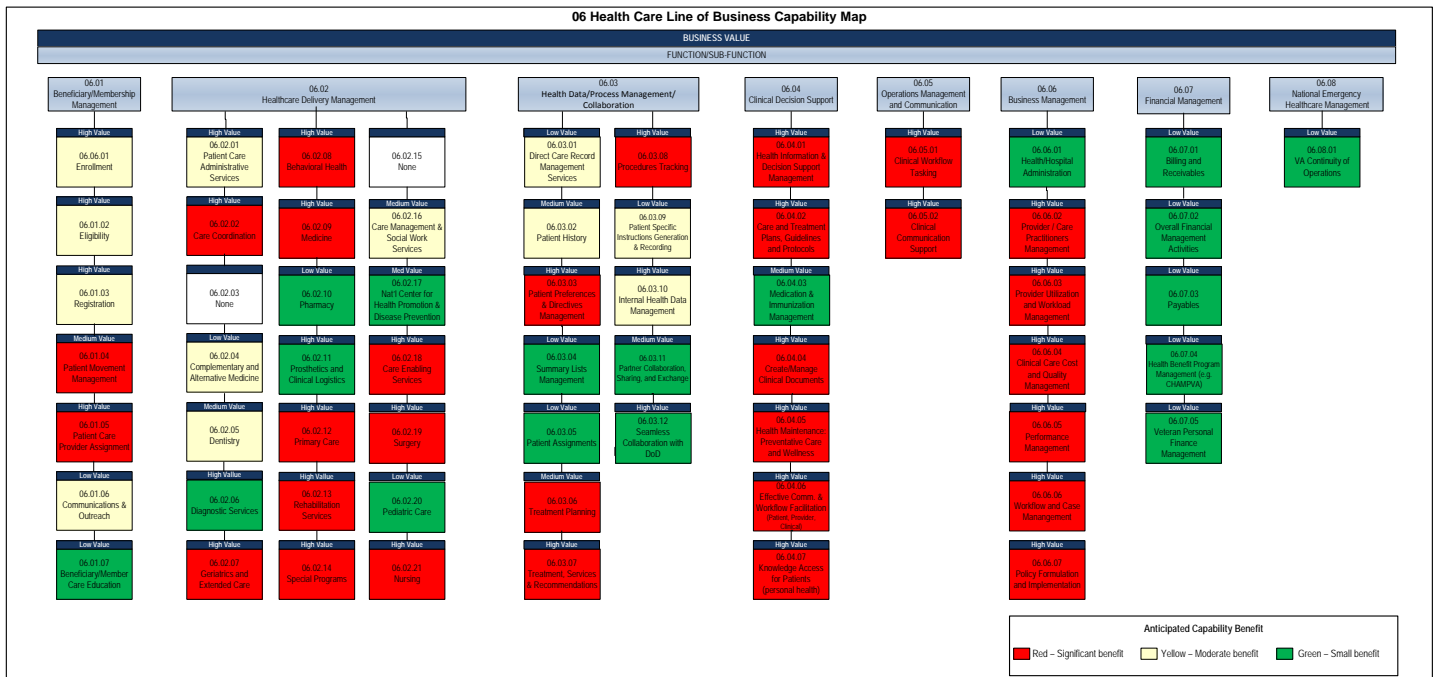
<b>Risk #</b>	<b>Specific Risks</b>
1	<b>IF</b> Organizational Change does not start in advance of the COTS product award <b>THEN</b> the business will not be ready for implementation resulting in a lengthy transition to the new business operation
2	<b>IF</b> the scope of the effort is not agreed to and validated by Senior Management, <b>THEN</b> the scope of the project will grow until the project cannot succeed.
3	<b>IF</b> current change management plans have not been vetted by VA leadership <b>THEN</b> they may not be acceptable or executable as designed
4	<b>IF</b> Senior Leadership advocacy is not apparent and consistent throughout the change <b>THEN</b> the program will not receive the field support or OI&T prioritization (funding) to be successful
5	<b>IF</b> the scope is not well understood by relevant stakeholders, <b>THEN</b> all appropriate care delivery representatives will not be included, resulting in lack of progress and buy-in
6	<b>IF</b> a training strategy is not defined prior to solicitation development <b>THEN</b> training will not be properly represented in the solicitation
7	<b>IF</b> the National Business Owner does not take an active role in promoting and directing the effort due to time or resource constraints <b>THEN</b> the effort will not succeed
8	<b>IF</b> a governance structure does not support timely decisions <b>THEN</b> the effort will stall
9	<b>IF</b> the appropriate process and infrastructure POCs are not identified <b>THEN</b> the resulting inputs may not have the support and buy in required for acceptance and deployment to the field
10	<b>IF</b> a thorough stakeholder analysis is not performed <b>THEN</b> communications will not be tailored to stakeholder communities resulting misunderstood, unaccepted and ineffective messages
11	<b>IF</b> VHA does not identify where scheduling intersects with other business processes <b>THEN</b> the requirements will not be accurate or complete
12	<b>IF</b> the scale of VHA and deployment considerations are not defined prior to solicitation <b>THEN</b> the vendors will not respond with sufficient detail in the implementation strategies
13	<b>IF</b> impact of changes on processes and infrastructure are not identified <b>THEN</b> the product may not integrate well into the business environment
14	<b>IF</b> there is no validation of change leadership buy-in <b>THEN</b> advocacy through communications efforts will fail and program advocacy will be inadequate

## 2 Value Determination

There will be significant change to the VHA as a result of the migration from a clinic-profile scheduling system to a resource-centric scheduling system as a result of the proposed COTS implementation. To illustrate the breadth of impact, Figure 1 shows the Healthcare Line of Business functions and sub-functions. The functions illustrated by the boxes below (indicated by a blue title bar) identify the core sub-functions and are color-coded to show the

impact of a new scheduling operating model. High-degree impacts to the organization by scheduling are red, medium are yellow and low are green. An illustration of the impact scheduling will have on the healthcare line of business is illustrated in Figure 1.<sup>2</sup>

Figure 1 Health Care Line of Business Capability Model



Of the seven sub-functions in **Beneficiary/Membership Management (06.01)**, Patient Movement Management (06.01.04) and Patient Care Provider Assignment Management (06.01.05) will see significant improvements. The **Patient Management Movement** sub-function involves all aspects associated with tracking the movement of patients for care within and outside the VA medical system including patient registration, admission, treatment, transfer, and discharge. Capabilities described within this sub-function include: Check-in Patient; Admit Patient; Discharge/Transfer Patient; Facilitate Patient Travel; Track Missing Patient; Track Patient Bed/Room Assignment; and Provide Patient Reporting. The **Patient Care Provider Assignment Management** sub-function involves assigning patients to practitioners and reassigning patients from one provider team to another provider team. Capabilities include: Change Preferred Facility Assignments; Change Primary Care Physician Assignment; Process Referral Requests; Coordinate Pre-Authorization, Pre-Certification Processing and Insurance; Schedule Appointments and Resources.

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Close to 50% of the total sub-functions within the **Healthcare Delivery Management (06.02)** will see significant benefits. Improving and integrating services across the VHA to increase reliability, speed and accuracy of delivery is the central driver. Scheduling is a core supporting process to match patient needs with health care services.

Capabilities such as Managing Patient Demographics; Support Non-Medication Orders and Referrals Management; Patient Specific Instructions Generation and Recording; Provide Vocabulary & Messaging Standards; Manage Orders Portability for Pharmacy, Lab, Radiology and Consults & Results and Coordinate Interoperable Appointment Scheduling within the **Health Data/Process Management/Collaboration (06.03)** function are examples of managing internal health data and sharing and exchanging health data information with partners.

Much is to be gained in the **Clinical Decision Support (06.04)** function which includes software to augment clinical decision-making by providing health care professionals with knowledge-enriched, disease-specific recommendations for treatments, tests and referrals based on individual patient profiles. The software integrates individual electronic patient records (EPR) with coded clinical data, global medical knowledge and institutional protocols. This level of information would be available to view while patients are triaged and scheduled for various specialty services.

The **Operations Management and Communications (06.05)**, sub-functions focus on the design, execution, control, and communication of operations that support services and the implementation of VHA's business strategies. The **Business Management (06.06)** function involves the VHA administrative activities associated with Medical Care. These include all of the management of performance, costs, clinical quality, strategic planning, financial planning, facilities and infrastructure engineering, policy formulation, operational efficiency and productivity improvement planning, human resource planning, utilization, and workload management. Also included are records and forms management, FOIA requests, privacy management, contract and capitation arrangements, and process and workflow management, as well as development and oversight of change and risk management practices and regulatory compliance assurance.

Perhaps more significantly, the impact of a new scheduling operating model and IT solution demonstrates the integration of core capabilities supported by scheduling activities. Some of these capabilities are a direct link to the VHAs current strategic objectives, and the need to improve competencies becomes a critical success factors in achieving those objectives as identified in Table 2 below.

**Table 2 VA Objectives**

VA Objectives	VA Strategies	VHA Specific Strategies	Scheduling
Definition	Definition	Definition	Link to Strategy
Make it easier for Veterans and their families to receive the right benefits, meeting their expectations for quality, timeliness and responsiveness	Improve and integrate services across VA to increase reliability, speed and accuracy of delivery	Adopt Center for Medicare & Medicaid Services (CMS) methodology to estimate avoidable hospital readmissions	
		Decrease Health care Associated Complications	X
		SPD Scope Action Plan (ISO-9001)	
		Preventive Care program	X
	Develop a range of effective delivery methods that are convenient to Veterans and their families	Establish and ensure stable housing for homeless Veterans in collaboration with ongoing medical care and other supportive services	
		Improve access to care for Veterans in rural areas	X
		Readjustment Counseling for Women Veterans	
		Patient-Centered Care/Medical Home Model	X
	Improve VA’s ability to adjust capacity dynamically to meet changing needs, including preparedness for emergencies	Increase investment in Mental Health	
		Implement innovations in services that enhance VA capabilities in Long Term Care by providing care in non-institutional settings	X
	Provide Veterans and their families with integrated access to the most appropriate services from VA and our partners	Strengthen VHA emergency preparedness training and response including collaborations with communities and other organization	
		Provide timely and appropriate access to health care by implementing best practices	X
VA Point of Service (Kiosk)		X	
Transport for Immobilized and remote VA patients		X	
Educate and empower Veterans and their families through proactive outreach and effective advocacy	Use clear, accurate, consistent, and targeted messages to build awareness of VA’s benefits amongst our employees, Veterans and their families, and other stakeholders		
	Leverage technology and partnerships to reach Veterans and their families and advocate on their behalf	Expand “virtual medicine” for Veterans	X
		Perform research and development to provide evidence-base findings that enhance the health and well-being of Veterans	
		Expand “real time” virtual medicine to meet the needs of Veterans and their families	X
Build our internal capacity to serve Veterans, their families, our employees, and other stakeholders efficiently and effectively	Recruit, hire, develop, deploy, and retain a diverse VA workforce to meet current and future needs and challenges	Promote excellence in the education of future health care professionals and enhance VHA partnerships with affiliates	
		Ensure a qualified and engaged workforce	
	Create and maintain an effective, integrated, Department-wide management capability to make data-driven decisions, allocate resources, and manage results	Deploy best practices in financial, business, and clinical processes	X
	Create a collaborative, knowledge-sharing culture across VA and partners to support our ability to be Veteran-centric, results-driven, and forward-looking at all times	Develop and implement cultural transformation to continuously improve Veteran and family satisfaction with VA care by promoting patient-centered care and excellent customer service	X

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Commitment to the VA and VHA strategic goals are a key factor in the HealtheVet Scheduling project. The effort is to become a more customer-focused organization, function as one organization delivering seamless service to VHA stakeholders, and improve access to care for veterans. The seamless service will be an integral part of the project as the application will interface with existing VistA systems as well as external systems such as Austin Information Technology Center (AITC) and the Health Data Repository. The project incorporates both the VA strategic plan and the VHA specific strategies by providing easy access to medical knowledge, expertise and care; and improving the access and service delivery to veterans.

## 2.1 Major Business Pain Points

Examples of major pain points expressed by the business are listed in Table 3.

**Table 3 Major Pain Points**

MAJOR PAIN POINTS	
Pain Point ID	Pain Point Description
PP1	Scheduling solution not tailored to unique VHA Business Environment
PP2	Information sharing between clinic stakeholders is often inefficient
PP3	Patient preferences and special needs often are not accommodated or require multiple entry points
PP4	Data exchange with other systems, both internal and external are often performed manually
PP5	Responsibilities not efficiently distributed among schedulers/staff
PP6	Lack of scheduling visibility
PP7	Quality assurance and auditing require significant improvements
PP8	Scheduling is inflexible, resulting in multiple, manual work-arounds
PP9	Reporting is labor intensive and often inaccurate
PP10	Myriad of user & system access
PP11	Not able to easily link ancillary appointments to scheduled appointments
PP12	Notification process is cumbersome, inconsistent and time consuming

## 2.2 Key Performance Indicators (KPIs)

An area that will require considerable input from the business is the identification of key performance and process performance indicators. The next phase of the business blueprint activities will provide a venue to discuss, identify, and address critical areas of the design.

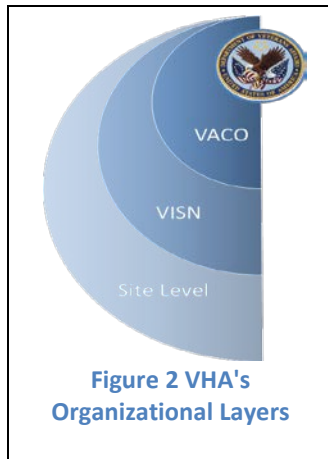
## KEY PERFORMANCE INDICATORS

KPI Name

TBD

## 3 Organizational Structure

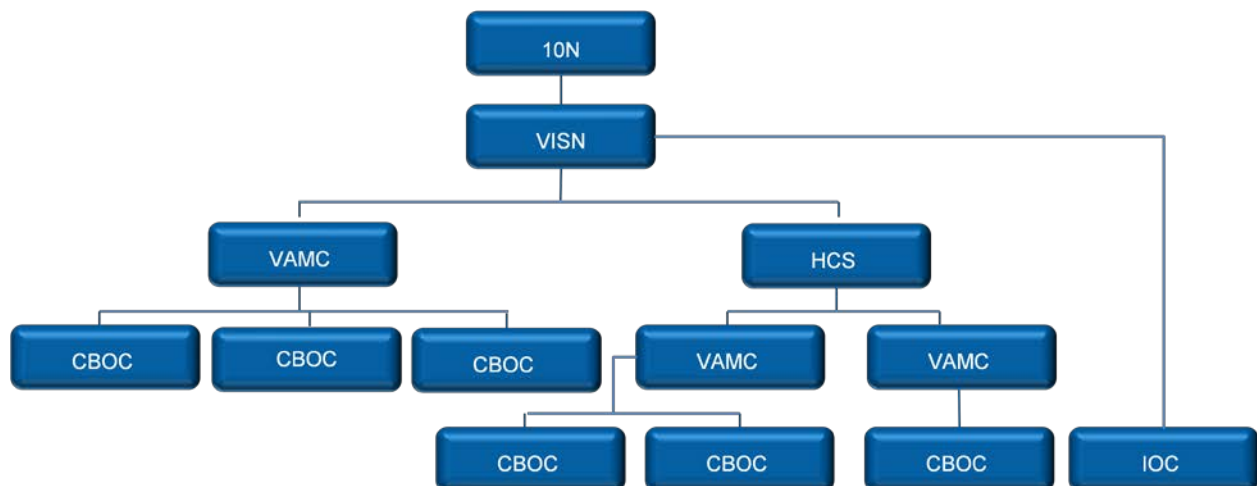
### 3.1 VHA Organizational Construct



VHA is composed of multiple operating layers. The enterprise level, often referred to as VA Central Office (VACO), is the top-most centralized level and is primarily responsible for all high level policy decisions for the organization. The VISN level is a middle tier between VACO and the actual medical facility level (site level). There are 21 VISNs responsible for coordination and oversight of all administrative and clinical activities within its specified geographic region of the country and include a consortium of VA medical centers, community-based outpatient clinics, community living centers, Vet Centers and Domiciliaries. The site level represents the individual locations where healthcare is provided to veterans. This is represented in Figure 2.

### 3.2 Organizational Model

Figure 3 Illustrative Depiction of VHA Healthcare Delivery



### 3.3 VHA Facilities

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VHA facilities include 152 VA Hospitals, 798 Community Based Outpatient Centers (CBOC)<sup>3</sup> and more than 110 formal academic affiliations<sup>4</sup> with medical schools. There are multiple types of providers of healthcare services within a Veteran's Integrated Service Network (VISN), including VAMCs, CBOCs, health care for the homeless centers, vet centers, telemedicine, mobile clinics and large integrated health care systems. The populations served by these medical centers differ substantially in terms of volume, patient mix, demographics and number of complex programs in place. In addition, VAMCs generally vary significantly by number of associated, dedicated clinical and administrative staff, total patients and total encounters per year. The following three main types of facilities describe how sites are organized:

- **Health Care System (HCS):** In many areas of the country, several medical centers and clinics may work together to offer services to area Veterans as a HCS in an effort to provide more efficient care
- **Veterans Affairs Medical Center (VAMC):** Provide a wide range of services including traditional hospital-based services such as surgery, critical care, mental health, orthopedics, pharmacy, radiology and physical therapy
- **Community Outpatient Based Clinic (CBOC):** These clinics provide the most common outpatient services, including health and wellness visits, without the hassle of visiting a larger medical center

### 3.4 VHA's Facility Complexity

In 2005, the National Leadership Board organized a Facility Complexity Workgroup tasked with developing an updated study of facility complexity groups within VHA (2005 facility Complexity Model, August 9, 2005). An integral part of this study involved examining factors that tend to contribute to complexity of health care facilities. The group defined a medical center or HCS (Health Care System) as a facility that has the VHA management of director, associate director, assistant director, chief of staff, and nurse executive. The 2005 model divides VHA facilities into five complexity levels identified in Table 4.<sup>5</sup>

**Table 4 Number of VHA Facilities by Complexity Level / Number of VHA Facilities**

Complexity Level	Number of VHA Facilities
1a	30

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<sup>3</sup> (VA National Center for Veterans Analysis and Statistics)

<sup>4</sup> VA Office of Academic Affiliations

<sup>5</sup> 2005 Facility Complexity Model

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Complexity Level	Number of VHA Facilities
1b	20
1c	18
2	32
3	38

The complexity levels are defined as follows:

- **Complexity Level 1 – High Complexity**
  - Contains 68 VHA facilities
  - High patient risk
  - High levels of teaching and/or research
  - High number of VERA Pro-Rated Persons
  - Divided into three sub-levels: 1a, 1b, and 1c.
- **Complexity Level 1a**
  - Largest levels of volume, patient risk, teaching and research
  - Largest number and breadth of physician specialists.
  - Level 1a facilities contain level 5 ICU units.<sup>1</sup>
- **Complexity Level 1b**
  - Very large levels of volume, patient risk, teaching and research
  - Level 1b facilities contain level 4 and 5 ICU units.<sup>1</sup>
- **Complexity Level 1c**
  - Large levels of volume, patient risk, teaching and research
  - Level 1c facilities contain level 4 ICU units.<sup>1</sup>
- **Complexity Level 2 – Medium Complexity**
  - Contains 32 VHA facilities
  - Medium number of VERA Pro-Rated Persons
  - Medium levels of teaching/research activity
  - Medium patient risk
  - Some teaching and/or research
  - Level 2 facilities contain level 3 and 4 ICU units.
- **Complexity Level 3 – Low Complexity**
  - Contains 38 VHA facilities
  - Low levels of patient complexity
  - Smallest level in terms of volume
  - Little or no teaching/research
  - Lowest number of physician specialists per pro-rated person
  - Level 3 facilities contain level 1 and 2 ICU units.

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### 3.5 Additional Topics for Design of the Organizational Structure

Table 5 provides additional areas that should be considered for discussion to complete the design of the VHA's organizational structure.

**Table 5 Additional Topics for Organizational Structure**

Section Title	Content Required
Requirements & Expectations	Create a bulleted list of requirements for a VHA specific organizational structure. Using an organizational structure diagram describe in detail each element within the structure.
Global Design Decisions	Provide an overview of the system design approach to be taken for the organization structure. List the key design decisions that impact this organization structure. Make note of the requirements that are being met by this design, and those to be left out of the design.
Naming Convention	Describe the naming and numbering conventions that the organization will use. Identify changes that must be made in order to accommodate COTS requirements and/or best practices. (Final design decisions not required at this time).
Assignment of COTS Organizational Units	Describe the assignment of organizational unit(s) in the COTS System that is relevant to the VHA enterprise. Include how the COTS organizational structures inter-relate. Include any reasons for deviations from organizational structure guidelines.
Changes to Enterprise Structure	Describe the effect of this structure item on the VHA enterprise structure.
Impact of Future State Organization on COTS Organization Elements	Identify the impacts on this COTS organization element resulting from the future state organization. If there is no change from what was entered in Requirements, indicate it.
Configuration Considerations	Describe issues of importance to the VHA in relation to system configuration. Capture decisions on how specific fields will be used in ways that are not standard COTS (i.e., using storage location for material valuation). The information captured here should be sufficient for a COTS Application Specialist to complete the configuration.
Authorization/Security Considerations	Describe the VHA security requirements in this area. Don't cover the creation of authorizations in too much detail. Sensitize the team to the system functions and get the process owners to think about

Section Title	Content Required
	access to the system and its data.
Control Requirements	Enter control requirements with their respective rankings.
Business Requirements	This section will describe the major requirements of the VHA in respect to this unit. This includes financial, logistics, authorization and reporting requirements.
Design Aspects	This section will describe the chosen design. It documents the relation between the COTS Organization structure unit and companies business organization model; the consequences of the choices made and the naming/coding conventions. This includes the consequences for the financial, logistics, authorization and reporting concepts.

Refer to Appendix E for additional Business Blueprint template details

## 4 Master Data Business Objects

Master data is the backbone of most organizations, and the information required to create and maintain an enterprise-wide "system of record" for core business entities to capture business transactions and measure results for these entities. Data considered for master data management varies, but generally falls along the lines of customer, product, employee and vendor. For the VHA, this translates to patient, service, provider, facility, appointment, encounter, patient health record, and identity management.

Another way to consider those master records is as objects, e.g. the patient object is all the information needed for any transaction where a patient is used, a service is all the information called when anything related to a service provided (or to be provided) is called, etc.

How well these data are managed contributes to data integrity, security, and efficient operations. Master data management helps ensure that an organization does not use multiple (potentially inconsistent) versions of the same master data in different parts of operations. An example in VHA is when a patient is asked the same patient registration information each time they are seen for a service in a different clinic in the same facility – and has to tell the staff the same update information each time (i.e. a new phone number.)

VHA needs to consider their master data business objects in the aspect of standardizing and managing at an enterprise level to allow more accurate reporting and analysis while considering privacy, security and regulatory issues. This section outlines the high-level master data business objects which will be affected by the migration to a COTS outpatient scheduling system. Since many COTS are constructed to operate on an object basis, this section is

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organized to illustrate master data aligned along object types.

VHA has initiatives and processes to organize and control some master data, such as the Master Patient Index and Patient Demographics at the Austin Information Technology Center (AITC). In other instances, such as facility data are controlled at a local level. The data at a local level will need to be considered for migration to master data business objects. Additionally the concept of ownership or stewardship of the master data regarding standards, change requests for additional fields and values etc. should be established.

Coordinating several master data systems to create an object and to identify the authoritative sources are a challenge because of the dependencies applications have on various databases and each other. As a result, systems remain separate, with a special reconciliation process (often manually performed) to try to maintain consistency between the systems. Lack of solid master data management processes may cause serious operational problems in the areas of customer satisfaction, operational efficiency, decision-support, regulatory compliance and privacy.

VHA views Master Patient Index/Patient Demographics as the most significant aspect of master data. However, this section identifies other contributors and consumers of what could be considered as master data business objects across the Enterprise. As VHA is considering their COTS scheduling solution, a Master Data Management Plan (MDMP) needs to be a significant part of that process. This document begins to outline what must be included as part of such a plan when migrating to the COTS scheduling solution. Master data business object management and migration to COTS may be performed in phases and start prior to COTS selection and implementation, particularly by identifying standards and authoritative sources.

Many of the systems and repositories noted in this section are not authoritative sources. Many systems are called out in this section to illustrate the complicated relationships between them. The relationships and systems evolved to meet user needs, but when a COTS is implemented, it may not need to interact with all existing systems and repositories. These relationships and use of data must be critically examined as part of the migration to the COTS.

Sections 4.1 – 4.6 are directly from the 2010 Corporate Databases Monograph ([http://www.virec.research.va.gov/References/Links/VHACorporateDatabasesMonograph\\_2010.pdf](http://www.virec.research.va.gov/References/Links/VHACorporateDatabasesMonograph_2010.pdf)) and presented as major items in each business data object area.

#### **4.1 Austin Information Technology Center (AITC)**

Since April 2007, the Austin Information Technology Center (AITC) has been aligned with the Hines Information Technology Center (HITC) and the Philadelphia Information Technology Center (PITC) under Corporate Data Center Operations (CDCO). On October 1, 2008, the Capital Region Data Center (CRDC) in Falling Waters, West Virginia, joined CDCO, an added benefit

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being its capability to host systems in correlation with other federal agencies' Continuity of Operations Plan (COOP) missions, as well as its close proximity to the Washington, DC area. On October 1, 2010, the Quantico Information Technology Center (QITC) in Quantico, Virginia, joined CDCO as its fifth data center. All five Centers operate as sub-organizations under the CDCO umbrella, reporting to the Office of Information and Technology's (OIT) Deputy Chief Information Officer (DCIO) for Enterprise Operations and Field Development. CDCO has begun efforts to integrate common functions throughout the five Centers during FY 2009 and continuing through FY 2011.

## **4.2 Patient Master Record**

The patient master record is managed currently at the AITC in the Master Patient Index/Patient Demographics database and a good example of managing master data in the VHA. The MPI/PD is an index of a patient. The patient master data is fairly robust, although complex due to the number of systems that access and contribute information to it. The services associated with the patient care is often not easily matched to the patient; for example in the case of a snowbird receiving care in two VISNs. The patient master record should be examined an object view so that any other object (service, provider, appointment, encounter etc.) will receive and transmit consistent information.

### **4.2.1 Master Patient Index/Patient Demographics (MPI/PD)**

The Master Patient Index (MPI) database is the primary vehicle for assigning and maintaining unique patient identifiers. A gateway in Veterans Health Information Systems and Technology Architecture (VistA) establishes connectivity between Veterans Affairs Medical Center systems and patient registration processes and links to the MPI for message processing and patient identification. The MPI was created to support maintenance of a unique patient identifier and a single master index of all Veterans Health Administration (VHA) patients and to allow messaging of patient information among institutional partners [i.e., VHA, Veterans Benefits Administration (VBA), Board of Veterans Appeals (BVA), National Cemetery Service (NCS) and Department of Defense (DOD)]. The MPI maintains a central index to correctly identify each patient and track the sites of interest. MPI data is maintained in a centralized, dynamic database that is available to meet multiple information needs across many applications and systems. The MPI central database, located at VA Austin Information Technology Center, is composed of a unique list of patients and a current list of systems to which each patient entry is correlated. This enables sharing of patient data between operationally diverse systems. Each record (or index entry) in the MPI contains a small amount of identity/demographic data used to identify individual entries. It is primarily used by VistA applications requiring the need to enumerate unique patients their facilities.

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When a patient is first presented into the MPI for an Integration Control Number (ICN) assignment, that patient's identifying information (i.e., name, Social Security Number (SSN), date of birth, gender, mother's maiden name, multiple birth indicator, place of birth city and state) is passed to the MPI.

The Master Patient Index/Patient Demographics (MPI/PD) has additional software which resides in VistA (e.g. at the local VistA level) enabling sites to:

- Request an Integration Control Number (ICN) Assignment—this software resides in VistA at a site and sends local patient entries to the MPI in Austin for ICN assignment.
- Resolve a Potential Duplicate on the MPI—Triggers a query to the MPI and present a list of potential matches to the user. Site personnel can use this action to help resolve a duplicate record on the MPI for the patient being reviewed.
- Query the MPI (Austin) for Known Data—MPI-VistA enables sites to query MPI (CDCO) for a selected patient or entered name, SSN or DOB for known data, including any potential matches.
- Synchronize key patient demographic data—Updates the MPI when changes occur to demographic fields stored on the MPI or of interest to the MPI.
- Support Duplicate Record Merge—Provides support to the duplicate record merge software for the merging of MPI/PD related data.
- Manage Exceptions—Allows the management of Exceptions related to data rejections or potential matches.

#### 4.2.2 Person Services (PS)

Person Services (PS) is part of the common business services layer as prescribed by the HealtheVet-VistA logical model. It acts as the authoritative source of person administrative data and formulates an abstraction layer between applications and databases. It is comprised of sub-services which support the input/retrieval of data and person-specific functionality such as identity management, demographics, lookup and enumeration. PS also broadcasts person data changes to subscribers and synchronizes traits across systems of interest and with VistA during transition from Legacy VistA to HealtheVet-VistA.

#### 4.2.3 Person Service Identity Management (PSIM)

Person Service Identity Management (PSIM) enumerates and maintains person identities of both patients and non-patients, synchronizes identities with VistA during transition from Legacy VistA to HealtheVet-VistA; maintains a history of ID changes; correlates the VPID to internal and external identity domains; provides duplicate prevention and resolution tools; identifies and initiates identity link and unlink activities; and provides a data quality management user interface.

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#### 4.2.4 Common Services Identity Management (IdM)

The Common Services Identity Management (IdM) Program manages person identity across multiple, veteran health-related applications. As Veterans Affairs moves toward seamless veteran care, effectively maintaining and sharing unique identifiers across an enterprise will improve health care delivery and data, as well as eliminate inappropriate patient data merges. The IdM Program is comprised of the following: Common Services Identity Management (CS IdM), Master Patient Index (MPI) and Master Patient Index/Patient Demographics (MPI/PD), and National Provider Identifier (NPI).

#### 4.2.5 MyHealtheVet

My HealtheVet (MHV) is an online environment where veterans, family members, and clinicians may come together to optimize veterans' healthcare. Web technology combines essential health record information with online health resources to enable and encourage veteran/clinician collaboration. The My HealtheVet system consists of a national system housed at the Austin Automation Center (AAC), and the My HealtheVet VistA package. The national system is comprised of a website available to all veterans on the public internet at <http://www.myhealth.va.gov>, and its supporting database, application, and internet servers.

The My HealtheVet VistA package supports the internet prescription refill functionality of the MHV website. It includes HL7 interfaces supporting queries for prescription information, and orders for refills.

Secure Messaging allows clinicians to save a message thread as a progress note and allows admin queries for information to be retrieved from VistA relating to patients, their providers, the clinics where they were seen, and the Primary Care Management Module (PCMM) teams they are assigned to.

#### 4.2.6 Health Eligibility Center (HEC)

The Health Eligibility Center (HEC) is responsible for determining eligibility of Veterans for VHA medical care. The HEC is the authoritative source for Veteran eligibility and subsequent enrollment priority. To be enrolled, a Veteran must meet basic eligibility criteria. The HEC gathers all the information needed to make eligibility decisions and records and processes the information using the HEC System. The HEC also:

- Validates social security numbers from the Social Security Administration
- Verifies incomes from the Internal Revenue Service and Social Security Administration
- Receives information from Veterans Benefits Administration on Veterans to determine eligibility and enrollment assignment
- Is the authoritative source and Data Steward for Demographic, Eligibility, and

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Enrollment data. This does not include Patient Identity elements.

- Provides Business oversight to all software products related to Registration, Eligibility and Enrollment.

**Features:**

- Shares Eligibility and Enrollment Data with all sites that have treated the Veteran.
- Is the authoritative source for Eligibility, Enrollment, and Income Verification Matching.
- Validates social security number of Veterans

#### 4.2.7 Enrollment System Redesign (ESR) (a.k.a. HECMS)

Enrollment System Redesign (ESR) V3.4 (a.k.a. HECMS) is the HealtheVet replacement system for the decommissioned product known as HEC (Health Eligibility Center, Atlanta) Legacy. It is both a re-host of HEC Legacy and in some instances (use cases/features), a re-engineering. HECMS allows staff at the HEC to work more efficiently and determine patient eligibility in a more timely manner. Messaging with the VAMC (Department of Veterans Affairs Medical Center) allows updates to the enterprise enrollment system to be shared with the field. It is one component of the "system of systems" needed to implement the HealtheVet REE (Registration, Eligibility and Enrollment) environment. Beneficiary Identification Records Locator System (BIRLS) and VA/DoD Identity Repository

#### 4.2.8 Administrative Data Repository (ADR)

The Administrative Data Repository (ADR) was established to provide support for the administrative data elements relative to multiple categories of a person entity. Although initially focused on the computing needs of VHA, the ADR is positioned to provide identity management and demographics support for all IT systems within the Department of Veterans Affairs.

Information in the system of records is used to update, verify and validate Veteran eligibility, conduct income testing and verification activities; to validate social security numbers of Veterans and spouses of those Veterans receiving VA health care benefits; to ensure accuracy of Veterans' eligibility information for medical care benefits; to operate an annual enrollment system; to update Veteran eligibility; provide enrollment materials to educate Veterans on enrollment; respond to Veteran and non-Veteran inquiries on enrollment and eligibility; and to compile management report

#### 4.2.9 Compensation and Pension Records Interchange (CAPRI)

Compensation and Pension Record Interchange (CAPRI) is an information technology initiative to improve service to disabled veterans by promoting efficient communications

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between the Veterans Health Administration (VHA) and Veterans Benefits Administration (VBA). The CAPRI software acts as a bridge between the VBA and VHA information systems. It offers VBA Rating Veteran Service Representatives and Decision Review Officers help in building the rating decision documentation through online access to medical data.

One of the primary features of CAPRI is the Compensation and Pension Worksheet Module (CPWM) which is used by VHA C&P providers and staff. CPWM provides clinical users access to exam templates and tools that are used to document C&P examinations.

The C&P Master File contains data related to distribution of benefits and is sourced from the legacy VBA Benefits Delivery Network (BDN) Compensation and Pension system. Note that the VBA is in the process of replacing the legacy BDN Compensation and Pension system with the corporate VETSNET database utilizing phased migration of data from the legacy BDN system to the corporate VETSNET system.

Some of the features include:

- Demographics
  - Load new patients into VistA system.
  - View patient demographics.
  - Report patient address changes to VHA.
- Patient Records Navigation
  - View health summaries.
  - View appointment lists.
  - View progress notes.
  - View discharge summaries.
  - View consult requests and results.
  - View cumulative vitals.
  - View active medications.
  - View lab reports.
  - View imaging.
  - View procedures.
  - View FHIE/DoD data, if available

**Table 6 Data Stored at the MPI Austin**

DATA STORED AT THE MPI AUSTIN	
NAME AND NUMBER	DESCRIPTION

NAME AND NUMBER	DESCRIPTION
INTEGRATION CONTROL NUMBER (ICN) (#.01)	Based on ASTM E-1714 format is 16 digits, delimiter character, 6 checksum digits.
SURNAME (#1)	Family name, also known as last name.
FIRST NAME (#2)	Patient's first given name.
MIDDLE NAME (#3)	Patient's middle name or middle initial.
NAME PREFIX (#4)	Commonly, Dr., Ms., Sir, or other appropriate titles. NOTE: Not currently populated on the MPI.
NAME SUFFIX (#5)	Examples are Jr., Sr., PhD, etc.
MOTHERS MAIDEN NAME (#6)	Mother's Surname at her birth.
DATE OF BIRTH (#7)	Date of patient's birth.
PLACE OF BIRTH CITY (#8)	Name of the city or town (or nearest) where the patient was born. NOTE: Not synchronized to the systems of interest.
PLACE OF BIRTH STATE (#9)	If USA, 2 character state abbreviation. If not USA, the country state. Pointer to the STATE file (#5). NOTE: Not synchronized to the systems of interest.
DEATH VERIFICATION STATUS (#11)	
GENDER (#12)	<ul style="list-style-type: none"> <li>• M for MALE</li> <li>• F for FEMALE</li> </ul>
SOCIAL SECURITY NUMBER (#13)	Patient's Social Security Number (SSN) NOTE: Pseudo SSNs aren't stored on the MPI.
SSN VERIFICATION STATUS (#14) NOTE: Added to File #985 as of Patch MPI*1*40. Populated to the Primary View of the	Status of the verification of a patient's SSN. This value is stored on the MPI, derived from an update from the ESR application after interaction with SSA (Social Security Administration). Possible values synchronized to sites are: <ul style="list-style-type: none"> <li>• Null</li> <li>• INVALID PER SSA</li> </ul>
MPI and systems of interest to the MPI as of DG*5.3*688 [EVC R2].	<ul style="list-style-type: none"> <li>• VERIFIED</li> </ul> Possible values used on the MPI for the ESR correlation are: <ul style="list-style-type: none"> <li>• NEW RECORD</li> <li>• IN-PROCESS</li> <li>• INVALID PER SSA</li> <li>• RESEND TO SSA</li> <li>• VERIFIED</li> </ul>
PSEUDO SSN REASON (#14.1) NOTE: Added to File #985 as of Patch MPI*1*40. Populated to the Primary View of the MPI and systems of interest to the MPI as of RG*1*47 and DG*5.3*653 [EVC R1].)	Used to document the reason an individual was assigned a pseudo SSN. Available reasons are: <ul style="list-style-type: none"> <li>• (R) Refused to Provide—Individual was asked for his/her SSN but refused to provide the number.</li> <li>• (S) SSN Unknown/Follow-up required—Individual is not available to ask/answer the request for SSN. The facility should initiate follow-up activity to obtain the SSN.</li> <li>• (N) No SSN Assigned—Individual has not been assigned an SSN. This generally applies to spouse or dependents of veterans who are not US citizens, and infrequently, non-citizen beneficiaries.</li> </ul>
CLAIM NUMBER (#15)	VBA assigned claim number. Used to assist confirming ID. NOTE: Not part of the Primary View.

NAME AND NUMBER	DESCRIPTION
COORDINATING MASTER OF RECORD (#16)	Pre-Primary View Coordinating Site for patient. POINTER TO INSTITUTION file (#4).
PRIMARY ICN (#18)	As of patch MPI*1.0*40, this field will be used as the value of the Primary ICN for a deactivated ICN. The field will only be populated for an entry that has an ID STATE of deactivated. It is basically telling which ICN should be used instead.
DATE/TIME OF ORIGINAL CREATION (#19)	Date/time that the patient was added to the MPI VETERAN/CLIENT file (#985). This information will be used for reports and analysis by the MPI Data Quality Management team.
FACILITY OF ORIGINAL CREATION (#20)	Facility that originally added the patient to the MPI VETERAN/CLIENT file (#985). This information will be used for reports and analysis by the MPI Data Quality Management team.
CREATED BY (#21)	The CREATED BY field identifies the person at the FACILITY OF ORIGINAL CREATION who added the patient to the MPI VETERAN/CLIENT file (#985). This information will be used for reports and analysis by the MPI Data Quality Management team.
RESOLUTION JOURNAL CASE NUMBER (#22)	If a case exists in the MPI DATA MGT RESOLUTION JOURNAL file (#985.2) for this ICN it will be stored in this field regardless of the status of the case. Resolution Journal cases hold the history of any resolution work done by the Data Quality Team on this ICN.
PRIMARY VIEW DATE LAST UPDATED (#23)	The PRIMARY VIEW DATE LAST UPDATED field is the date/time that any of the patient's identity element fields were last updated in the MPI VETERAN/CLIENT file (#985).
MARITAL STATUS (#30)	Patient's current marital status. NOTE: Not part of the Primary View.
STREET ADDRESS [LINE 1] (#31)	First line of patient's residence street address (3-35 characters). NOTE: Not part of the Primary View.
STREET ADDRESS [LINE 2] (32#)	Second line of patient's residence street address (3-30 characters) if the space provided in "street address" was not sufficient. NOTE: Not part of the Primary View.
STREET ADDRESS [LINE 3] (33#)	Third line of patient's residence street address (3-30 characters) if the space provided in "street address" and "street address 2" was not sufficient. NOTE: Not part of the Primary View.
CITY [RESIDENCE] (#34)	City in which patient resides (3-28 characters). NOTE: Not part of the Primary View.
STATE [RESIDENCE] (#35)	State in which patient resides. NOTE: Not part of the Primary View.
ZIP+4 [RESIDENCE] (#36)	Five or Nine digit Zip Code. NOTE: Not part of the Primary View.
PHONE NUMBER [RESIDENCE] (#37)	Telephone number (4-23 characters) to patient's place of residence. NOTE: Not part of the Primary View.

NAME AND NUMBER	DESCRIPTION
POW STATUS INDICATED? (#38)	"Y" if s/he was confined as a prisoner of war, "N" if not, or "U" if unknown. NOTE: Not part of the Primary View.
MULTIPLE BIRTH INDICATOR (#39) NOTE: Added to the list of fields auto-updated in Vista as of Patch RG*1*47.	The MULTIPLE BIRTH INDICATOR will designate whether or not the patient is part of a multiple birth (i.e. to identify twins, etc.). Possible values are: <ul style="list-style-type: none"> <li>• N—NO</li> <li>• Y—*MULTIPLE BIRTH*</li> <li>• Null (not the same as No)</li> </ul>
ALIAS SURNAME (#02,.01)	Patient's last name (a.k.a family name). If this patient is known by any name other than that entered in the Name field, enter the other name(s) here. NOTE: Once in Primary View, will be an aggregated list from all treating facilities.
ALIAS FIRST NAME (#.02,1)	Patient's first name. NOTE: Once in Primary View, will be an aggregated list from all treating facilities.
ALIAS MIDDLE NAME (#.02,2)	Patient's middle name or middle initial. NOTE: Once in Primary View, will be an aggregated list from all treating facilities.
ALIAS PREFIX (#.02,3)	Commonly, Dr., Ms., Sir, or other appropriate titles. NOTE: Not currently populated on the MPI. Once in Primary View, will be an aggregated list from all treating facilities.
ALIAS SUFFIX (#.02,4)	Examples are Jr., Sr., PhD, etc. NOTE: Once in Primary View, will be an aggregated list from all treating facilities.
ALIAS SSN (#.02,5)	If the patient was also known under a name other than that listed in the NAME field of the PATIENT file (#2), enter the social security number used if different when the patient used this alias. NOTE: Alias SSNs that are Pseudo SSNs will not be stored on the MPI. Alias SSN is paired with an Alias Name. There can't be just an alias SSN. Once in Primary View, will be an aggregated list from all treating facilities.
ALIAS DATE LAST UPDATED (#.02,6)	The ALIAS DATE LAST UPDATED field is the date/time that the ALIAS field was last updated in the MPI VETERAN/CLIENT file (#985).
RACE INFORMATION (#60)	Enter the race that best identifies this patient. NOTE: Not synchronized to the systems of interest. Once in Primary View, will be an aggregated list from all treating facilities.
ETHNICITY INFORMATION (#70)	Enter the ethnicity that best identifies this patient. NOTE: Not synchronized to the systems of interest. Once in Primary View, will be an aggregated list from all treating facilities.

NAME AND NUMBER	DESCRIPTION
ID STATE (#80)	<p>The following ID STATE definitions are from the Object Management Group (OMG) Person Identification Service (PIDS) Specification. ID STATE designates the status of the entry in the MPI VETERAN/CLIENT file (#985) in accordance with business rules and standards. Values for the patient are:</p> <ul style="list-style-type: none"> <li>• P—Permanent</li> <li>• T—Temporary</li> <li>• D—Deactivated</li> </ul> <p>PERMANENT: This ID State specifies that all required fields are entered and a national ICN is established. When an ID is created as permanent all mandatory traits must be provided. A permanent ID can be deactivated but cannot be made temporary.</p> <p>TEMPORARY: This ID State specifies that there are not enough fields to make an entry permanent (as defined further in the business rules). An ID can be created as temporary without indicating any mandatory traits. A common usage is to create an ID that data can be bound to a patient before that patient is identified with an appropriate confidence. A temporary ID can be made permanent or deactivated.</p> <p>DEACTIVATED: This ID State specifies that the ICN is no longer used. Once an ID is expected not to be needed any more it can be deactivated (merged or deprecated), which keeps it around for historical purposes. A deactivated ID is in its final state and <i>cannot</i> be transitioned to any other state by PIDS operations, except unmerging.</p> <p>NOTE: Not synchronized to the systems of interest.</p>
DATE OF ID STATE (#81)	The DATE OF ID STATE field identifies when the ID STATE field was last updated.
SURNAME PRIMARY VIEW SCORE (#85)	The SURNAME PRIMARY VIEW SCORE field contains the Primary View Authority Score for the SURNAME (#1) identity element.
FIRST NAME PRIMARY VIEW SCORE (#86)	The FIRST NAME PRIMARY VIEW SCORE field contains the Primary View Authority Score for the FIRST NAME (#2) identity element.
MIDDLE NAME PRIMARY VIEW SCORE (#87)	The MIDDLE NAME PRIMARY VIEW SCORE field contains the Primary View Authority Score for the MIDDLE NAME (#3) identity element.
PREFIX PRIMARY VIEW SCORE (#88)	The PREFIX PRIMARY VIEW SCORE field contains the Primary View Authority Score for the NAME PREFIX (#4) identity element.
SUFFIX PRIMARY VIEW SCORE (#89)	The SUFFIX PRIMARY VIEW SCORE field contains the Primary View Authority Score for the NAME SUFFIX (#5) identity element.
DOB PRIMARY VIEW SCORE (#90)	The DOB PRIMARY VIEW SCORE field contains the Primary View Authority Score for the DATE OF BIRTH (#7) identity element.
GENDER PRIMARY VIEW SCORE (#91)	The GENDER PRIMARY VIEW SCORE field contains the Primary View Authority Score for the GENDER (#12) identity element.
SSN PRIMARY VIEW SCORE (#92)	The SSN PRIMARY VIEW SCORE field contains the Primary View Authority Score for the SOCIAL SECURITY NUMBER (#13) identity element.
MMN PRIMARY VIEW SCORE (#95)	The MMN PRIMARY VIEW SCORE field contains the Primary View Authority Score for the MOTHER'S MAIDEN NAME (#6) identity element.
MULT BIRTH PRIMARY VIEW SCORE (#96)	The MULT BIRTH PRIMARY VIEW SCORE field contains

NAME AND NUMBER	DESCRIPTION
	the Primary View Authority Score for the MULTIPLE BIRTH INDICATOR (#39) identity element.
POB CITY PRIMARY VIEW SCORE (#97)	The POB CITY PRIMARY VIEW SCORE field contains the Primary View Authority Score for the PLACE OF BIRTH CITY (#8) identity element.
POB STATE PRIMARY VIEW SCORE (#98)	The POB STATE PRIMARY VIEW SCORE field contains the Primary View Authority Score for the PLACE OF BIRTH STATE (#9) identity element

**Table 7 Patient Master Record**

PATIENT MASTER RECORD
Expectations
Business Requirements
Regulatory Requirements
DSS Code Requirements

As the master data management plan matures, Table 7 will be completed.

### 4.3 Patient Health Record Master Record

The Patient Health Master Record is the combination of patient information coupled with the services and other related data for the picture of the patient's health. It is more than patient demographics. This type of record is vital for situations outside the actual encounter, for example in coordination with fee-basis appointments in the private sector.

#### 4.3.1 Admission, Discharge, Transfer (ADT) / Registration

The Admission, Discharge, Transfer (ADT) module provides a comprehensive range of software dedicated to the support of administrative functions related to patient admission, discharge, transfer, and registration. The functions of this package apply throughout a patient's inpatient and/or outpatient stay, from registration, eligibility determination and Means Testing through discharge with on-line transmission of Patient Treatment File (PTF) data to the Austin Information Technology Center (AIRC).

#### 4.3.2 Patient Treatment File (PTF)

This database is part of the National Medical Information System (NMIS). The Patient Treatment File (PTF) contains a record for each inpatient care episode provided under VA auspices in VA and non-VA facilities nationwide. Each episode contains data on admission, diagnosis, procedures, surgical episodes, and disposition (discharge) information and Diagnostic

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Related Group (DRG). Each transfer is recorded to allocate days of care properly to the service(s) responsible for that care. Recurring and special purpose reports are used for studies on patient movement trends, diagnostic frequency, workload, budget preparation, Diagnostic Related Group (DRG) assignment and accreditation requirements.

Reports are available for online access via Roger's Software Development's (RSD) Online Report Viewing. Several large data files are installed on-line at the Austin Information Technology Center for remote access. Selected data can be downloaded to perform end user processing, including report generation. Information is received from a variety of modules in Veterans Health Information Systems and Technology Architecture. This batch system is written in Common Business Oriented Language and ALC. Processing is done on a daily, weekly, and monthly basis.

The PTF contains record for each episode of inpatient care provided under VA auspices and provides workload data which may be used for healthcare planning. Additionally, it provides information for health science research and analysis of patient movement trends.

#### 4.3.3 VistaWeb

Veterans Health Information Systems and Technology Architecture (Vista) VistaWeb is an intranet web application used to review remote patient information found in Vista, BHIE (DoD), the Health Data Repository (HDR) databases, and the Nationwide Health Information Network (NHIN). VistaWeb mirrors the reports behavior of CPRS and Remote Data View, while being an enhancement to CPRS/RDV and permits a robust and timely retrieval of remote-site patient data.

#### 4.3.4 DHCP Fee Basis Package

The DHCP Fee Basis package provides a range of software supporting the Department of Veterans Affairs fee for service (Fee Basis) program. A veteran is authorized Fee Basis care if s/he is legally eligible for such care and VA facilities are not feasibly available to meet the patient's medical needs. The authorization may be for short term care, ID card status for ongoing outpatient care, home nursing services which authorize home nursing visits, community nursing home, or contract hospital. Veterans authorized Fee Basis care may receive reimbursement for their travel expenses from their home to the fee provider and/or prescription services in emergent situations.

The Fee Basis package interfaces with the ADT (Admission-Discharge-Transfer) DHCP module of the PIMS (MAS) package to provide users access to registration data entered through ADT options. It integrates with VA FileMan to give non-programmer personnel the ability to extract reports with ease. It interacts with the IFCAP package in the passing of data for posting to 1358s. It integrates with the Integrated Billing (IB) package for patient insurance data. It

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allows users to enter and track unauthorized claims for all Fee Basis programs. Use of the Fee Basis software provides for more efficient and accurate operation of the Fee Basis programs with reduction of paperwork, savings in man-hours, and minimization of error.

Fee Basis also integrates with the Clinical Reminders package to Clinical Reminders (DBIA #5619) to provide Clinical Reminders with two functions to list the patient's ARCH (Access Received Closer to Home) eligibility of a certain date range and a list of all patients and their ARCH Eligibility.

**Table 8 Patient Health Record Master**

<b>PATIENT HEALTH RECORD</b>
Expectations
Business Requirements
Regulatory Requirements
DSS Code Requirements

As the master data management plan matures, Table 8 will be completed.

Information about providers is currently stored at the local VistA level. Migrating to an enterprise solution will require these data are standardized and included as part of the MDMP. Providers treat patients across more than one facility, and are integral to providing the picture of health care to the veteran both individually and at an more global reporting level.

#### **4.3.5 National Provider Identifier (NPI)**

The U.S. Department of Health and Human Services (HHS) adopted the National Provider Identifier (NPI) as the standard health identifier for health care providers. VHA implemented VistA software system changes to facilitate compliance with HIPAA NPI regulations in May 2007. The VistA system utilizes the NPI in the Integrated Billing (IB), e-Claims Management Engine (ECME), and Fee Basis software applications as the primary identifier for providers and facilities for billing via the Electronic Data Interchange (EDI) process. NPI assigns a national number to every provider who gives service to the Department of Veterans Affairs.

#### **4.3.6 Primary Care Management Module (PCMM)**

In the outpatient setting, patients are assigned a primary care team and provider who

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are responsible for delivering essential health care, coordinating all health care services, and serving as the point of access for specialty care.

The Primary Care Management Module (PCMM) was developed to assist VA facilities in implementing Primary Care. PCMM supports both Primary Care and non-Primary Care teams. The software allows the user to set up and define a team, assign positions to the team, assign staff to the positions, assign patients to the team, and assign patients to a Primary Care Provider (PCP) or Associate Provider (AP). In a Primary Care setting, patients are assigned a PCP, Associate Provider (AP) and/or a Transition Patient Advocate (TPA) who is responsible for delivering essential health care, coordinating all health care services, and serving as the point of access for specialty care. The PCP is supported by a team of professionals which may include nurses, pharmacists, social workers, etc. Associate Providers are non-physician clinicians (such as Physicians Assistants, Nurse Practitioners or Residents) who may provide care under the supervision of a presiding PCP. The PCMM software is considered to be an important component to measure patient demand and the PCPs capacity to meet that demand and to reduce wait times. PCMM was developed to assist facilities in implementing primary care for veterans. It uses the site's data to identify patients and to assign them to a PCP. PCMM provides tools to facilitate the startup process, automating such tasks as identifying patients to be assigned to primary care; assigning patients to teams, and assigning patients to practitioners via team positions.

The PCMM practitioner and primary care team information is stored at the Austin Information Technology Center in the National Patient Care Database. The data is used by the Office of Performance and Quality Measures for national reporting and performance measures and the Veterans Support Service Center to derive patient care and other statistics related to Primary Care, in support of healthcare operations within the Veterans Health Administration

The primary care patient, provider, and team information captured in PCMM is sent to the Austin Information Technology Center (AITC) and the National Patient Care Database.

#### 4.3.7 VetPro

VetPro is an electronic data bank that ensures health care professionals have appropriate degrees and licenses, as well as track records of high quality and safe patient care.

It is VHA policy that, regardless of the appointment type or position to which they are appointed, all VA researchers conducting any type of VA research (including but not limited to human subjects research, research involving animals, health systems research, and basic research) who, by virtue of their education and training, are or may be eligible to obtain licensure, registration, or certification are required to be credentialed, using the VetPro system, under the professional occupational category consistent with their education and training even if they do not hold such licensure, registration, or certification prior to obtaining any privileges.

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When a doctor or dentist is credentialed using VetPro, a permanent, electronic file is created that is accessible across the VA system and by other federal health care programs. As VetPro is used, updating credentials will be streamlined because files will not be redone from scratch. Providers will add professional information, which will be verified by credentialers creating the record.

#### 4.3.8 Pre-Discharge Program

A joint VA and Department of Defense (DoD) program that affords service members the opportunity to file claims for disability compensation up to 180 days prior to separation or retirement from active duty or full time National Guard or Reserve duty (Titles 10 and 32).

The Pre-Discharge Program is a joint Department of Veterans Affairs (VA) and Department of Defense (DoD) program that affords service members the opportunity to file claims for disability compensation up to 180 days prior to separation or retirement from active duty or full time National Guard or Reserve duty (Titles 10 and 32).

The four components of the Pre-Discharge Program are:

- Benefits Delivery at Discharge (BDD)
- Quick Start
- Disability Evaluation System (Pilot program)
- Seriously Injured/Very Seriously Injured (SI/VSI)

There are also other efforts ongoing regarding information sharing between VA and DoD.

#### 4.3.9 National Health Care Practitioner Database (NHCPD)

This database is part of the National Medical Information System (NMIS). The National Health Care Practitioner Database (NHCPD) supports Veterans Health Administration Privacy Act requirements by segregating personal information about health care practitioners such as name and social security number from patient information recorded in the National Patient Care Database for Ambulatory Care Reporting and Primary Care Management Module.

The NHCPD retains a history of names, SSNs, employing Veterans Affairs Medical Centers and provider types, also known as the person class code, for practitioners.

**Table 9 Provider Master Record**

PROVIDER MASTER RECORD
Expectations
Business Requirements

PROVIDER MASTER RECORD
Regulatory Requirements
DSS Code Requirements

As the master data management plan matures, Table 9 will be completed.

#### 4.4 Facility Master Data Record

Facility data resides in the Individual VistA databases. Data can be viewed and transferred across facilities using Patient Data Exchange (PDX) and other applications. With an increasingly mobile veteran population; and to support more consistent reporting, data will need to be standardized and available at the Enterprise level. Some data about facilities are transmitted to the AITC, but facilities are not currently managed as a master data file which makes Enterprise reporting more difficult.

Table 10 Facility Master Record

FACILITY MASTER RECORD
Expectations
Business Requirements
Regulatory Requirements
DSS Code Requirements

As the master data management plan matures, Table 10 will be completed.

#### 4.5 Service Master Data Record

The services provided to the patient are currently created and stored at the local VistA level. Some of the data is also transmitted to other systems, registries and repositories. Data can be viewed and transferred across facilities using the using the Network Health Exchange, Patient Data Exchange (PDX) and other applications. With an increasingly mobile veteran population; and to need support more consistent reporting, data will need to be standardized and available at the Enterprise level. The Patient Treatment File (PTF) already described is part of the Service Master Record in addition to data from the MPI/PD.

##### 4.5.1 Network Health Exchange (NHE)

Network Health Exchange (NHE) is a Veterans Health Information Systems and Technology Architecture (VistA) component that provides clinicians with quick and easy access to patients' information from any site where they have been treated.

NHE provides the mechanism for VAMC clinicians to retrieve clinical patient data from

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other medical centers. The requester is notified of returned patient data through an alert that appears with the VistA menu system. Patient data is displayed in a format similar to the integrated clinical reports found in Health Summary and can be viewed onscreen or printed.

The NHE software accesses several VistA files which contain information concerning clinic visits, diagnoses, prescriptions, laboratory tests, radiology exams, and hospital admissions. It enables clinicians to request a total or brief medical or pharmacy record for a specified patient from a specified site or sites. This permits clinical staff to take advantage of the vast amount of clinical data supported through VistA.

The Network Health Exchange is another tool, similar to Patient Data Exchange (PDX). As compared to PDX, however, Network Health Exchange offers fewer retrieval options and requires less input by the user, resulting in simpler, faster access to patient data.

#### 4.5.2 Computerized Patient Record System (CPRS)

Treatment for patients is captured via the CPRS application, a graphical user interface to VistA (where the data is stored locally). CPRS allows clinicians to enter, review, and update order-related information connected with any patient. Using CPRS, clinicians can order lab tests, medications, diets, radiology tests and procedures, record a patient's allergies or adverse reactions to medications, request and track consults, and enter progress notes, diagnoses, and treatments for each encounter, and enter discharge summaries. CPRS is an application installed and at the local level. CPRS is a primary interface used by providers for all patients.

#### 4.5.3 VistA Imaging

The VistA Imaging system integrates clinical images, scanned documents, and other non-textual data into the patient's electronic medical record. VistA Imaging can capture and manage many different kinds of images including:

- Clinical images such as those from endoscopy, pathology, dermatology, and cardiology
- Radiology and nuclear medicine images
- Scanned clinical and administrative documents
- EKG waveforms

Captured images are combined with text data to facilitate a clinician's task of correlating information and making timely and accurate patient care decisions.

VistA Imaging also serves as a tool to aid consultation among physicians and communication between a physician and patient—whether in the same department, in different services, or at different sites.

- The VistA Imaging System's primary functions are:

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- Clinical Image Display
  - Image Capture
  - Filmless Radiology
  - Image Management

#### 4.5.4 Clinical Case Registries

The Clinical Case Registries (CCR) application contains demographic and clinical data on VHA patients with certain clinical conditions. CCR is designed to allow multiple registries to be supported to track a variety of clinical conditions or disease states.

CCR accesses VistA files that contain information regarding additional diagnoses, prescriptions, surgical procedures, laboratory tests, radiology exams, patient demographics, hospital admissions, and clinical visits. This access allows identified clinical staff to take advantage of the wealth of data supported through VistA when managing specific patient populations.

#### 4.5.5 Non-VA Hospital System (NVH)

The Veterans Health Administration (VHA) pays for care provided to VA beneficiaries in non-VA hospitals through its contract hospitalization program as mandated by Congress in the late 1980s. The Non-VA Hospital System (NVH) software captures the patient's Demographics, Provider, Hospital Name and Location, Medicare Provider Number, Diagnoses and Procedures for which the patient received care during his/her inpatient stay. The data is received from either the patient or the medical center providing the care (normally on a UB-92 form). The billing office employee enters the information into Veterans Health Information Systems and Technology Architecture and sends information to the Austin Information Technology Center (AITC). The non-VA hospitals are reimbursed at Medicare rates based on the Prospective System (PPS). PPS uses the appropriate Diagnostic Related Groups (DRGs). Each DRG has a different rate-adjusted reimbursement based on the regional and urban/rural designation of the provider non-VA Hospitals. NVH is housed at the AITC and uses software developed by the AITC in conjunction with 3M and the Center for Medicare and Medicaid Services (CMS). It is a batch system written in Common Business Oriented Language, ALC, and Statistical Analysis Software. Processing occurs daily.

#### 4.5.6 Patient Advocate Tracking System (PATs)

The Patient Advocate Tracking System (PATs) is a centralized, web based application that records and tracks instances of patient compliments and complaints concerning their care at VA health care facilities. These instances of patient contacts may come from a variety of sources including family members, the patient, congressional members and/or Veterans service offices on behalf of the Veterans receiving care at VA facilities. This database provides a menu

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of reports that can be used to track and trend data across Veterans Integrated Service Networks (VISNs). Reports of contact allow the Patient Advocate to trend compliments and complaints, and ensure that issues raised are resolved. The reports include data such as patient demographics, date of contact, method of contact, who made the contact, issues involved, what service was involved, resolution date and resolution status. Data is collected from Veterans Affairs Medical Centers and sent to the VISN Support Center (VSSC) where the data is maintained and reports created.

**Table 11 Service Master Record**

SERVICE MASTER RECORD
Expectations
Business Requirements
Regulatory Requirements
DSS Code Requirements

As the master data management plan matures, Table 11 will be completed.

## **4.6 Appointment Master Data Record**

Appointment information is created and stored at the local VistA level. Some data is copied also and transmitted to the Austin Information Technology Center (AITC). Appointment and scheduling data will need to be standardized and examined at the VistA sites to ensure all data are captured, particularly from fields that are used for “off-purpose” reasons. As the VHA expands its ability to provide services across different facilities, the need to have a more global view of appointment and scheduling data emerges. While schedulers may not actually book appointments at facilities other than where they work, they may need the ability to view availability of appointments at different facilities to assist the patient.

### **4.6.1 Patient Information Management System (PIMS) Scheduling Module**

The Scheduling module of the PIMS Package is designed to assist in clinic set-up, scheduling of patients for clinic appointments, and collection of an assortment of related workload data for reporting purposes. Through Scheduling, necessary National Patient Care Database (NPCDB) workload is transparently collected and may be transmitted to the Austin Information Technology Center (AITC).

Information gathered through Scheduling is available on-line to a wide range of users throughout the medical center. Scheduling is fully integrated with the VA FileMan, thus allowing the extraction of ad hoc reports by non-programming personnel.

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Important features of the Scheduling module include clinic set-up and enrollment and discharge of patients from clinics. Some of the outputs which may be generated include workload analysis reports and letters of notification regarding cancellation of clinics/appointments

#### 4.6.2 VSSC Patient Appointment

Patient appointment information is obtained from the Veterans Health Information Systems and Technology Architecture Scheduling module. The Patient Appointment Information application gathers appointment data to be loaded into a national database for statistical reporting. Patient appointments are scanned from September 1, 2002 to the present, and appointment data meeting specified criteria are transmitted to the Austin Information Technology Center Patient Appointment Information Transmission (PAIT) national database. Subsequent transmissions (bi-monthly) update PAIT bi-monthly via Health Level Seven message transmissions through Vitria Interface Engine (VIE) connections.

A Statistical Analysis Software (SAS) program in Austin utilizes PAIT data to create a bi-monthly SAS dataset on the Austin mainframe. This additional data is used to supplement the existing Clinic Appointment Wait Time and Clinic Utilization extracts created by the Veterans Health Administration Support Service Center (VSSC).

#### 4.6.3 VSSC Electronic Wait List (EWL)

The goal of the Electronic Wait List (EWL) is to provide care to the patient as quickly as possible. To facilitate this goal, patients may be placed on a Wait List for a different team or even at a different facility. The EWL keeps track of appointments, clinics, and providers associated with patients on the various EWL. Patient eligibility information and service connected status is also recorded and updated. EWL is able to determine a status change in the veteran's service connected percentage and service connected priority. As well as changes to appointment, clinics, and personnel that affect Wait List patients. EWL is able to provide email notifications regarding status changes to assigned mail groups.

In the outpatient setting, patients are assigned a primary care team and provider who are responsible for delivering essential health care, coordinating all health care services, and serving as the point of access for specialty care. This is accomplished through the Primary Care Management Module (PCMM) of the Veterans Health Information Systems and Technology Architecture (VistA). When a patient cannot be assigned to a primary care team or position, the PCMM software asks if the patient should be placed on the EWL. PCMM Wait List reports assist in the management of patients awaiting a primary care team or provider assignment. The EWL can also produce reports on demand regarding EWL related activities. Displays Veterans Waiting on the Electronic Wait List by VISN or Station. Includes Veterans last name, last four

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digits of SSN, zip code, percent service connected and enrolled status.

**Table 12 Appointment Master Record**

APPOINTMENT MASTER RECORD
Expectations
Business Requirements
Regulatory Requirements
DSS Code Requirements

As the master data management plan matures, Table 12 will be completed.

## **4.7 Encounter Master Record**

Encounters are also considered a master record. The encounter consists of the service provided to the patient and the surrounding logistics about it (facility, personnel, administrative items, etc.) Encounter serves as a trigger for consults, follow-up appointments, fee-basis care or occasions of service. An encounter is matched to DSS Stop Codes.

### **4.7.1 Decision Support System (DSS)**

The Decision Support System (DSS) is the designated Managerial Cost Accounting (MCA) System of the Department of Veterans Affairs. This system is the Department's only means of complying with Public Laws (e.g., PL 101-576 - the Chief Financial Officers Act of 1990) that mandate the use of a MCA system that can assign costs to the product level. DSS cost data is used at all levels of the VA for important functions, such as cost recovery (billing), budgeting and resource allocation. Additionally, the system contains a rich repository of clinical information which is used to promote a more proactive approach to the care of high risk (i.e., diabetes and acute coronary patients) and high cost patients. The data in DSS is also used to calculate and measure the productivity of physicians and other care providers. DSS reports are used at all levels of the VA to analyze costs of providing services from various perspectives. Decision makers use DSS information to perform comparative analysis, forecast resource demands, develop budget requests, and to understand the types of services that are being provided.

### **4.7.2 The VistA Decision Support System Extracts**

The VistA Decision Support System (DSS) Extracts software provides a means of exporting data from selected VistA software modules and transmitting it to a Decision Support System (DSS) resident at the Austin Information Technology Center (AITC). This transfer is accomplished through a set of extract routines, intermediate files, audit reports, transmission,

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and purge routines.

Data from VistA packages is stored by the extract routines in the intermediate files, where it is temporarily available for local use and auditing. The data is then transmitted to the AITC where it is formatted and uploaded into commercial software. After the data has been successfully uploaded into the commercial software, it is purged from the intermediate files. DSS uses VA Mailman to transmit data to commercial software resident at the AITC.

Extracts consist of the following functions: implementation of extract processes; scheduling extracts, verifying extracts against other VistA reports, transmission of extracts to the commercial software, verification of transmission, and purging extracts. DSS extracts data from the following VistA software packages:

- Audiology and Speech Pathology (QUASAR)
- Event Capture
- Inpatient Medications
- Laboratory
- Mental Health
- Nursing
- Pharmacy Prescriptions
- PIMS (ADT and Scheduling Modules)
- Prosthetics
- Radiology
- Surgery

#### 4.7.3 National Patient Care Database (NPCD)

The National Patient Care Database (NPCD), located at the Austin Information Technology Center, is part of the National Medical Information Systems (NMIS). The NPCD collects integrated patient care data from all Veterans Health Information Systems and Technology Architecture (VistA) IT systems. Data recorded in the VistA Patient Care Encounter (PCE) package, which captures clinical data resulting from ambulatory care patient encounters is transmitted to the NPCD using the Ambulatory Care Reporting Module of the VistA Patient Information Management System (PIMS) package. The Ambulatory Care Reporting Module provides necessary information on patient treatment, what services were rendered to patients, who provided the services, and whether services reported were synchronized with the VA medical center database. Directive 2006-026 (05/05/2006) required the inclusion to patient care data capture requirements the capture of inpatient encounters for patients seen in outpatient clinics and inpatient billable professional services.

Additionally, NPCD includes VistA Spinal Cord Dysfunction (SCD) package and Primary Care Management Module (PCMM) data. The SCD central registry in NPCD is used to provide

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VA-wide review of patient demographics, clinical aspects of injury and disease, and resource utilization involved in providing care to patients. The PCMM data in NPCD includes primary care patient to provider assignments and provider utilization data.

The NPCD is used by Veterans Health Administration (VHA) program offices for a wide variety of tasks to include research and budget allocation to medical centers.

NPCD provides integrated patient care data across VHA facilities and care setting and comprehensive data for research studies. It also provides information for workload analysis and data for patient care analysis.

**Table 13 Appointment Master Record**

APPOINTMENT MASTER RECORD
Expectations
Business Requirements
Regulatory Requirements
DSS Code Requirements

As the master data management plan matures, Table 12 will be completed.

## 4.8 Scheduling Master Record

The Scheduling Master Record is what replaces the clinic profile. As VHA moves from clinic-centric scheduling to resource-centric scheduling, the scheduling master record will be a critical component. The scheduling master will be created as a template at the enterprise level, and then be distributed to lower organizational levels to use and tailor as business rules permit. The scheduling master will enable the facility to view and report about resource availability and aid in capacity planning. DSS Stop Codes are assigned at this point in the process. It also will allow for information to be stored about the reason for changes to the schedule are made, that is patient canceled, a provider canceled, or a resource (room, equipment etc.) became unavailable. This type of information will enable better reporting metrics.

**Table 14 Scheduling Master Record**

SCHEDULING MASTER RECORD
Expectations
Business Requirements
Regulatory Requirements
DSS Code Requirements

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As the master data management plan matures, Table 14 will be completed.

## 4.9 Data Conversion Requirements

When VHA narrows the focus to one or two COTS products, data conversion activities will need to start and move forward rapidly. Up to the selection process, the organization will be able to identify the systems that will be affected, and to have started data cleansing and standardization efforts, but the actual conversion will need to occur after the data teams evaluate the target data stores in the COTS scheduling product.

There must be a process to incorporate any records that are currently not electronic, but should be, especially in the new COTS solution. There may be lists or other artifacts that need importing – this will be a manual process and determined facility-by-facility.

When conversion starts, the following items must be addressed:

- Volume or number of records in each system
- Does this data exist in multiple systems?
- If there are conflicts, which system should be loaded first and what are the supporting business rules for that decision?
- What are the best approaches for conversion? ETL (extract, translate, load) tool, programmed scripting, or manually load through the front end of the COTS?

## 4.10 Data Cleansing Requirements

VHA currently has ongoing data cleansing projects. Examples are the clinic cleanup, where unused or invalid clinics were removed and some names standardized, and work to cleanse DSS Stop Codes. Local VistA level cleanup should be a continuous activity, but to prepare for to migrate to an enterprise solution, there needs to be additional effort to standardize data across VistA instances.

Data cleansing will need to consider how some facilities have used fields in VistA for different purposes, for example the entering cell phone numbers in various fields, or using other seldom-used fields for notes.

VHA already adheres to many standards, it will need to examine if any need to be update, or if new standard should be created.

The area of emphasis should be on master data. Since the MPI/PD has processes place, it is suggested that facility and provider data be examined as the first priority.

## 4.11 Data Validation

Data validation is the activity that ensures the data “is in the right place” in the new COTS solution. Data validation may be an iterative process, meaning that qualified staff members should start reviewing data as early in the data migration/integration process as

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possible. Qualified staff is often the personnel responsible for the day-to-day activities in one area, the staff that can see something is incorrect quickly. The people validating the data correctness will also need to know where they are authorized to fix any anomalies or whether to report the issue and to whom.

#### **4.12 Master Data Ownership**

Master data ownership means to have a steward for the authoritative source of the data. The steward's role is to ensure the definition of the master data records are correct and that the standards are maintained and complied to. If there is a change request to the content of a master record, the data steward takes the lead to evaluate the request. Data are still used locally, but the standards come from an enterprise level team.

Maintaining access control and rules surrounding how master data is maintained and managed will ensure accurate patient care as well as consistent and timely reports for VHA.

#### **4.13 Organization/Security Considerations**

Responsibility for all IT security policy is centralized to the Department's Office of Cyber and Information Security, which reports directly to VA's Chief Information Officer. Implementation of IT security policy and procedures in VBA is through a three-layer organizational assignment of responsibilities. The Information Security Officer (ISO) at each regional office is responsible for the execution and oversight of IT security policy and procedures. The Network Support Centers (NSCs) provide oversight of regional office (RO) compliance with IT security policy and procedures and expert advice to the RO ISO community and IT staffs on technical issues. The VBA IT organization in Headquarters provides the technological support that implements IT security and procedures on the computer applications and systems managed for VBA.

#### **4.14 Control Requirements**

To be discussed with COTS vendor.

#### **4.15 Data Archiving Requirements**

The Department of Veteran Affairs Records Control Schedule 10-1 contains processes and procedures for data archiving and records management. A portion of the introduction is included here for context.

a. Title 44, Section 3301, of the United States (U.S.) Code defines records as "all books, papers, maps, photographs, machine-readable materials or other documentary materials, regardless of the physical form or characteristics, made or received by an agency of the U.S. Government under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence

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of the organization, functions, policies decisions, procedures, operations, or other activities of the government or because of the information value of data in them. Library and museum material made or acquired and preserved solely for reference or exhibition purposes, extra copies of documents preserved only for convenience or reference, and stocks of publications and of processed documents are not included. These items are referred to as non-record materials.

b. The Veterans Health Administration (VHA) Records Control Schedule (RCS) 10-1 is the main authority for the retention and disposition requirements of VHA records. It provides a brief description of the records, states the retention period and disposition requirements. It also provides the National Archives and Records Administration (NARA) disposition authorities or the General Records Schedule (GRS) authorities, whichever is appropriate for the records. In addition to program and services sections, the RCS 10-1 contains a General and Administrative (G&A) Section for records common to several offices and services. The G&A Section may be used by all VHA organizational components to dispose of their records.

c. The GRS provides disposal authorities for temporary administrative records common to all Federal agencies. It covers records relating to: personnel, budget and finance, procurement, information technology, and other common functions and activities of Federal agencies. Any deviation from the GRS must be authorized by NARA in accordance with 36 Code of Federal Regulations (CFR) 1228.42(B). Requests for deviations from either the RCS 10-1 or GRS retention and disposition requirements are to be submitted to the Forms, Publications and Records Management Office.

#### **4.16 Organization Impact Considerations**

A significant change for VHA will be the loss of local control over individual instances of data. However, this will happen as part of a migration process to the COTS which should allow people to understand the benefits of change.

There will be considerable change in the day-to-day workflow of particularly the scheduling staff: the data entry screens will be different, the manner reports are run will be different. This change will need to be planned and steps taken to include all levels of staff from the earliest moment possible. Perhaps most critically, will be to work collaboratively with the various union labor organizations in VHA.

#### **4.17 Systems List**

The systems list will be described in later iterations of the Business Blueprint. It must include Class III software to ensure all functionality of facilities is captured. The system list will be completed as Interface Control Documents come into maturity. An example of some of the criteria required in the system list is illustrated in Table 15.

Table 15 Systems List

SYSTEMS LIST BY MASTER DATA BUSINESS OBJECT							
System of Record (Authoritative Source)	Core data flow of master record		Module(s)	Databases	Replace Module with COTS? (yes/no)	Other System Interface(s) - Class 3 Software	Sunset Other Systems - Class 3 Software (yes/no)
	In-Put	Out-Put					

## 5 Data Management

### 5.1 High-Level Migration Concept

The COTS selection will dictate which data will need to be migrated into the COTS system and which data remains in place.

At this point there is no migration plan, other than to prepare for data migration via the data cleansing activities noted previously.

### 5.2 Business Object Scope

The following table lists the Business Objects that will be manually migrated. The data in the table will be completed as the Blueprint process progresses.

Table 16 Migration Object

MIGRATION OBJECT				
ID	COTS Business Object	Source Application	Source Table / File	Data Volume
1	Patient			
2	Provider			
3	Facility			
4	Service			
5	Scheduling Calendar			
6	Appointment			
7	Other			
8				
9				
10				

### 5.3 Business Object Detail (TBD for each business object)

The following section is designed to provide detailed information for each of the business objects in scope for manual migration. Each business object will be described in the same format. And will include:

- Data element mapping and logic

- Data entry input format and data preparation procedure
- Cleansing requirements
- Dependencies
- Validation and reconciliation requirements and process

Refer to Appendix C for an illustration of the information to be captured during the next phase of the design for this section of the business blueprint.

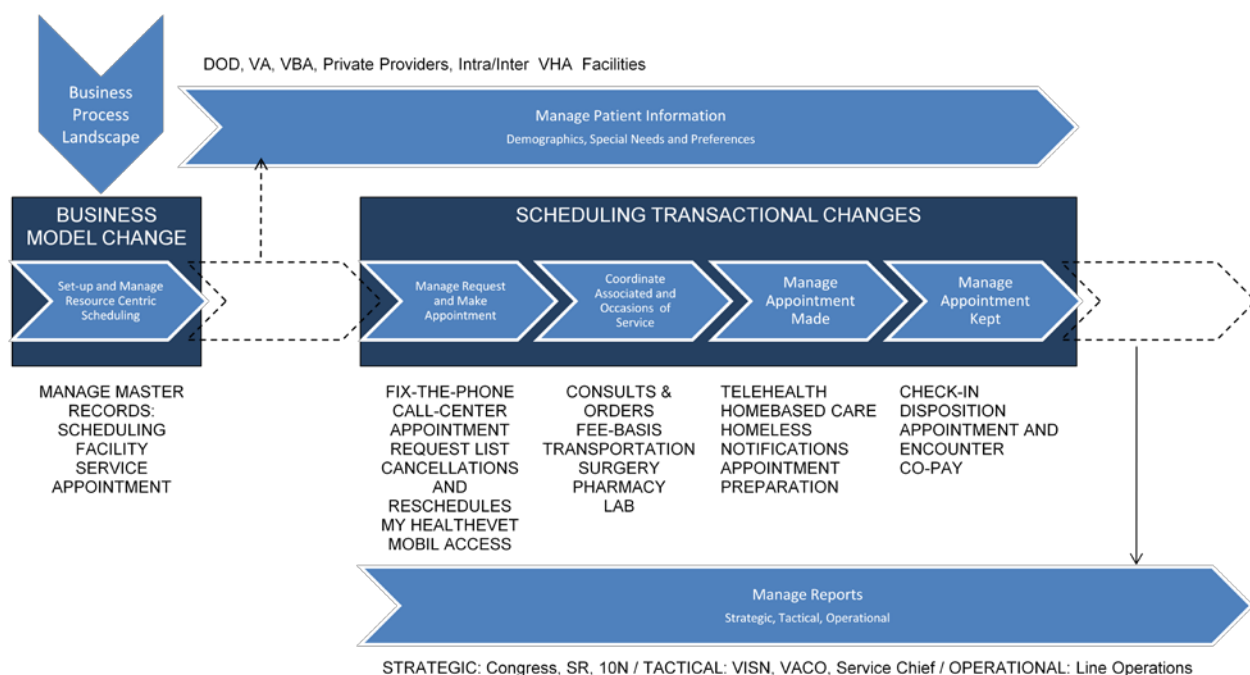
## 6 Business Process Landscape

### 6.1 Business Process Landscape Description

Set up and management of resource centric scheduling requires coordination and synchronization of master records, as well as dedicated technical resources to maintain the application. The business needs to drive master data standardization and influence stewardship. Master records which the business can control within the scheduling solution include service, facility, appointment and scheduling master records. Scheduling set-up and daily activities will require the business to view and modify the provider, patient, encounter and health records.

The business process landscape and the association between scheduling capabilities with other VHA initiatives is illustrated in Figure 4.

Figure 4 Business Process Landscape



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Managing patient information is most critical aspect in the first two scheduling capabilities. The patient master record is called up from the authoritative source in real time. Dependencies with other input sources need to provide real time updates to the master record for scheduling activities to take place. Three types of new patients are managed by schedulers. They include: new to the VA, new to a service, and new to a facility. In each case, the scheduler needs the ability to update information in various master records to include: registration with the facility, association with a provider, demographic changes and updates, and special needs and preferences. In certain situations, a patient's health record needs to be accessed. Certain requests may also require the need to view notes from an encounter. Persons authorized to view this information has been a concern. Verification of patient demographic and identity information is dictated by patient confidentiality policies (i.e. Health Insurance Portability and Accountability Act (HIPAA)).

Information described in the manage request and make appointment capability represents the first phase of an iterative process of gathering, analyzing, and reviewing information to match patient requests with available resources for healthcare services.

The process of matching a patient's request with a provider for an appointment is a relatively easy process; however, when a request requires the coordination of orders, multiple linked appointments, and other services available to a Veteran, properly capturing and coordinating these activities can be challenging.

On a daily basis, the service generates a list of patients with confirmed appointments for the day. In addition to providing the patient's name, time slot and provider, this list should present additional information such as alerts and special needs, information on coordinated services, and an itinerary of multiple same day appointments. A complete list of items will support how providers prepare for the day's appointment and patient types.

The area with the greatest potential for improvement is reporting. Reporting the performance of an operation is directly linked to an organization's strategic objectives. Lack of a clear mapping between the two is often found to be the reason organizations miss their intended performance measures. Now that the processes supporting scheduling have been clearly identified, a closer review of the metrics used and available data can take place. There are three levels of reporting. Strategic provides the ability to make decision to overall policy and direction of the enterprise. Tactical provides the ability to monitor, control, and to make tactical decisions when manage exception. Operational is about doing the work.

Common business process scenarios that should be met by a COTS solution are described in detail within each of the business process solution design sections.

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## **7 Business Process and Solution Design for Manage Patient**

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## Information

### 7.1 Process Overview Manage Patient Information

Manage Patient Information is an integral part of all processes throughout the scheduling cycle. Accurate patient information enables verification of eligibility, patient demographics, and includes management of patient special needs and preferences. Privacy and user access policies are established and controlled at the Enterprise level and authoritative sources of patient information established.

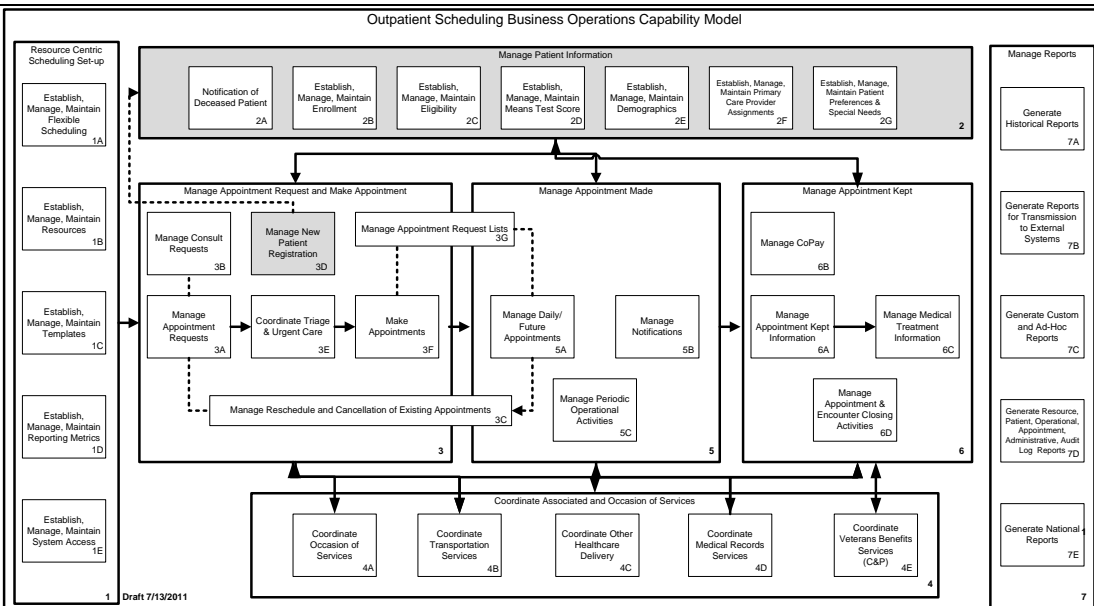
The purpose and goal of Manage Patient Information is to ensure patient information is accurate and available to scheduling while protecting patient privacy. There are many other access points to patient information outside the scheduling system, therefore careful consideration must be given to what systems and personnel can modify and access information. Verification of patient information is also dictated by privacy policies such as HIPAA.

#### 7.1.1 Business Process Capability Overview

Manage Patient Information is responsible for verifying and processing information related to the patient when scheduling an appointment and for identification throughout the encounter process. The capability includes information related to patient demographics (including deceased patients) and provides access to determine eligibility status. It enables assigning a primary care provider, and is responsible for including special needs and patient preferences.

The Level 0 model illustrated in Figure 5 identifies how capabilities are logically grouped and provides a framework for more details.

**Figure 5 Manage Patient Information - Level 0 Capability Model**



## 7.1.2 Capability Model Description

There are seven sub-capabilities supporting Manage Patient Information. Table 17 is a high-level description of the sub-capabilities supporting Manage Appointment Request and Make Appointment.

**Table 17 Manage Patient Information - Level 1 Sub-capability Model Description**

MANAGE PATIENT INFORMATION		
2A	Establish, Manage and Maintain Enrollment and Eligibility	<p>When a patient applies to the VA for benefits, input is received in three manners: from the DoD Pre-Discharge Program, Veteran On-line Application (VONAPP), or from a Regional Office. The request goes into the VA Enrollment Process (external to scheduling). After the enrollment process, a record for the Veteran is created in the Health Eligibility Center (HEC) and sent to the Master Patient Index/Patient Demographics (MPI/PD).</p> <p>After the enrollment process is completed, the patient establishes an eligibility level (also outside scheduling).</p> <p>As part of the eligibility criteria, certain non-service-connected and 0% non-compensable service-connected Veterans are required to fill out a financial worksheet, the "Means Test". Veterans are requested to provide health insurance information. VA is required to submit claims to insurance carriers for treatment of all non-service-connected conditions.</p> <p>The VBA sends information to the Health Eligibility Center (HEC) which provides status to the scheduling system which must be able to verify the eligibility status to determine various payment and co-pay scenarios.</p> <p>The HEC is the authoritative source and Data Steward for Demographic, Eligibility, and Enrollment data. This does not include Patient Identity elements.</p> <p>The scheduling system also receives information from the VBA that a patient is deceased. The system should have the capability to process the notification to alert schedulers and/or automatically cancel future appointments, ancillary services and any other related orders for the patient.</p>
2B	Establish, Manage, Maintain Demographics	<p>Patient demographics are currently stored and managed in the Master Patient Index/Patient Demographics system in Austin, Texas. Patient demographics must be maintained in</p>

MANAGE PATIENT INFORMATION		
		<p>a consistent manner and use an authoritative source to maintain security and consistency across the enterprise. This will ensure patients are listed in the system “one time, one way”.</p> <p>In addition, the system should present related appointment information e.g., patient cancellation, no-show and previous and future appoint history which will help scheduler understand patient needs and how to best accommodate them.</p>
2C	Establish, Manage, Maintain Primary Care Provider Assignments	<p>A Veteran is assigned a primary care provider when they establish the initial appointment. The primary care provider is the “gatekeeper” for patient information. Even if a patient is seen at another facility by another provider, the encounter information must be communicated back and link to the established primary care provider to ensure continuity of care. The primary care provider information is stored in the Primary Care Management Module (PCMM) currently external to scheduling.</p>
2D	Establish, Manage, Maintain Patient Preferences and Special Needs	<p>The Veteran population requires ability to accommodate patient preferences and special needs to facilitate quality service. There are many aspects of special needs and preferences, including scheduling preferences (can only come in the afternoon) to special needs such as watching patient for violent behavior. By having ready access to this information for all patients at the time of scheduling and patient check-in, patients will receive more consistent care.</p>

### 7.1.3 Business Process Scenarios

Common business process scenarios that should be met by the COTS solution are described in Table 18. The information represents the first phase of an iterative process of gathering, analyzing, and reviewing information regarding managing patient information.

**Table 18 Business Process Scenarios – Manage Patient Information**

BUSINESS PROCESS SCENARIOS - PATIENT INFORMATION	
<b>Notification of Deceased Patient:</b> When a patient is deceased, if scheduling is not notified, the appointment slots go unfilled.	
Deceased Patient Notification Process	
<b>Enrollment and Eligibility</b> When a patient applies to the VBA to receive VA benefits, they do so by three main paths: online via VONAPPS, through a joint DoD transition process, or going in person to a regional center. Enrollment information must be visible to scheduling staff. Part of the enrollment is establishing eligibility criteria.	
New to VA	Outside of the scheduling application, the VA eligibility center enacts processes to establish (enroll) a Veteran into the system. Part of enrollment includes eligibility criteria and includes the Means Test (income and geographic determiners). The output from that eligibility process goes to the Health Eligibility Center Systems, and to the Master Patient Index/Patient Demographics database which assigns a unique ID system number used by scheduling and other systems.
Enrolled and Eligible - Patient New to Facility or Service:	A patient is already enrolled in the VA, and at a facility which needs to verify eligibility. The scheduling system must have access to the HEC (and Administrative Data Repository (ADR)) as the authoritative source for eligibility in order use in related scheduling activities.
Deceased Patient	When the VBA is notified that a patient is deceased, the patient status must be updated in the authoritative systems and notification sent to the scheduling system to alert scheduling staff. The update to patient status must be visible to schedulers, as it is critical to the scheduling system to reduce the amount of unfilled appointment slots. Whether the scheduling system is automatically updated or schedulers perform that task manually is a business rule.
<b>Establish, Maintain, Manage Patient Demographics:</b> Schedulers need the ability to quickly verify and correct patient demographics at any time they are contacted by a patient.	
	Schedulers cannot discuss medical information with a patient until they verify personal identity. Schedulers also must be able to modify demographic information which is updated “real time” since patient demographics are used to verify identity throughout the patient encounter at the facility. Patients also will have the capability to update their demographic information using online access.
<b>Establish, Manage, and Maintain Primary Care Provider:</b>	
	A patient is assigned a primary care provider after they are enrolled. The primary care provider serves as the gatekeeper of patient services. Information about all encounters with any other providers at any other facility must be linked back to the primary care provider.
<b>Establish, Manage, and Maintain Patient Preferences and Special Needs:</b>	
	Patient preferences and special needs are a critical component of the VA Outpatient system. Patients may need to coordinate their transportation, or be only available certain days of the week or times of the day. Special needs include items such as needing specialized equipment, assistance etc.

## BUSINESS PROCESS SCENARIOS - PATIENT INFORMATION

	Having this information easily available to schedulers allows better scheduling options and a higher likelihood of patients keeping and not rescheduling or cancelling appointments. Schedulers must be able to modify this information to keep it current.
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### 7.1.4 Business Process Characteristics and Parameters

The characteristics and process parameters are represented in Table 19. Characteristics include triggers, process inputs and outputs, volumes and frequencies. The process parameters include process owner, organizational units, roles, process flows, media, technology, and business objects. Each provides an example of the components needed to map to a COTS solution. Components will be refined and others might be identified during future requirements solicitation sessions.

**Table 19 Process Characteristics – Manage Patient Information**

PROCESS CHARACTERISTICS – PATIENT INFORMATION	
Process Trigger	<ul style="list-style-type: none"> <li>Newly enrolled Veteran (to VA, Facility, Service)</li> <li>Patient request: initial/follow-up appointment</li> <li>Provider request: initial/follow-up appointment</li> <li>DoD liaison from a VA facility</li> <li>Telecare/TeleHealth</li> </ul>
Process Input	<ul style="list-style-type: none"> <li>MyHealtheVet, phone, fax, in person, walk-in, NEAR, Recall, EWL</li> </ul>
Process Output	<ul style="list-style-type: none"> <li>Appointment with Primary Care</li> <li>Appointment with Specialty Care</li> <li>Appointment with Mental Health</li> <li>Non-VA Care Programs [<a href="http://www.nonvacare.va.gov/">http://www.nonvacare.va.gov/</a>] <ul style="list-style-type: none"> <li>Pre-authorized Outpatient care</li> <li>Pre-authorized inpatient care (out-of-scope)</li> <li>Emergency Care of Service-Connected Conditions</li> <li>Emergency Care of Non-Service Connected Conditions</li> </ul> </li> <li>TeleHealth appointment</li> <li>Intra and Inter-facility consults</li> <li>Appointment cancellation</li> <li>Appointment reschedule</li> </ul>
Process Volumes	25 million appointments from October 2010 to April 2011
Process Frequencies	TBD
Process Owner	Who is responsible for the capability/process ?
Organizational Unit	Which organizational unit owns the capability/process execution <ul style="list-style-type: none"> <li>National <ul style="list-style-type: none"> <li>VISN <ul style="list-style-type: none"> <li>Facility <ul style="list-style-type: none"> <li>Service <ul style="list-style-type: none"> <li>Section</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul>
Roles	Roles that should contribute to the capability/process execution <ul style="list-style-type: none"> <li>Associated Services Administrator</li> <li>Front Desk</li> <li>Management</li> </ul>

PROCESS CHARACTERISTICS – PATIENT INFORMATION	
	<ul style="list-style-type: none"> <li>• Patient</li> <li>• Provider</li> <li>• Registration</li> <li>• Schedule Administrator</li> <li>• Scheduler</li> <li>• Scheduling Component System Administrator</li> <li>• Section Chief</li> <li>• Technician</li> <li>• Timer</li> <li>• Triager</li> <li>• VHA Management</li> </ul>
Process Flows	<p>Which processes proceed and follow?</p> <p><i>Proceeding processes:</i> VHA Master Data Management Master Data and Set-up for Resource Centric Scheduling</p> <p><i>Integrated processes:</i> Manage Patient Information Coordinate Associated and Occasions of Service Manage Appointment Made and Kept</p> <p><i>Follow-on processes:</i> Manage Reports</p>
Media	<p>By which media do capabilities/processes interact (means of communication workflow)</p> <ul style="list-style-type: none"> <li>• Phone</li> <li>• Fax</li> <li>• Email</li> <li>• MyHealtheVet</li> <li>• TeleHealth</li> <li>• Scheduling workflow alerts and work-list</li> </ul>
Technology	<p>What kind of technology enables the capability/process execution?</p> <ul style="list-style-type: none"> <li>• Resource Centric Scheduling Application</li> <li>• VistA</li> <li>• Other</li> </ul>
Business Object(s)	<p>Which business objects are used, modified, produced?</p> <ul style="list-style-type: none"> <li>• Patient master record</li> <li>• Provider master record</li> <li>• Services master record</li> <li>• Facility master record</li> <li>• Appointment master record</li> <li>• Encounter master record</li> <li>• Scheduling master record</li> <li>• Scheduling List and Reports</li> <li>• DSS Identifier</li> </ul> <p>Others will be identified during requirements solicitation sessions</p>

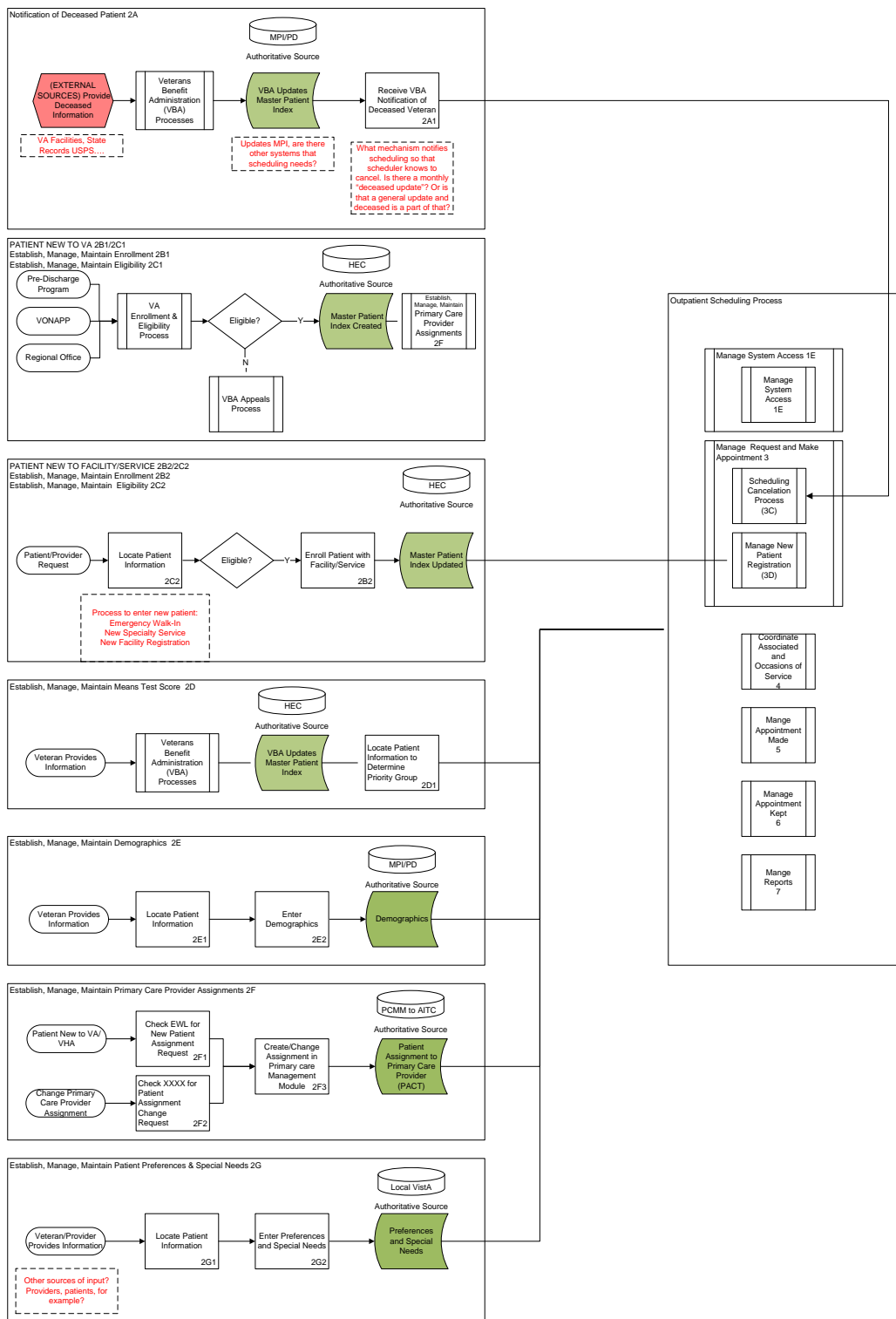
### 7.1.5 Business Process Diagram

Figure 6 Manage Patient Information illustrates the various databases and applications accessed to perform various scenarios using the patient master file throughout the scheduling

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process.

Figure 6 Manage Patient Information Process



Process flow is located in Appendix A.

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## 7.1.6 Business Process Description

### 7.1.6.1 *Locations Where this Business Process is Performed*

There are many situations where patient information is accessed and modified. Scheduling appointments and the scheduler are dueler is one of the most frequent and persistent interfaces between the Veteran and his or her information. Patient information needs to be available from authoritative sources throughout the entire scheduling process. Authorized persons must be able to update it, as well as the patient via online access.

### 7.1.6.2 *Process Step Detailed Requirements & Solution*

This section refers to the Visio process model and contains a descriptive walk-through of the process for each step or event and any unique variations. Related design considerations, gaps, configuration, and/or development items will be discussed with a COTS vendor upon selection of an application solution. File is located in Appendix B.

### 7.1.6.3 *.Business Requirements for Process Manage Patient Information*

The Business Requirements Document (BRD) provides the first step to collect basic requirements from the business. These requirements are refined and tailored though a series of further requirements solicitation workshops that will be held in the next business blueprint design phase of the project. Business needs are identified in Table 20.

**Table 20 Business Needs – Manage Patient Information**

BUSINESS NEEDS – PATIENT INFORMATION (HIGH LEVEL)	
BN 3: Manage Patient Information - The system shall have the ability to access and manage, update and maintain accurate patient information. Patient special needs and preferences shall be accessible and able to be updated in “real-time”.	
3.1	The system shall have the capability to alert users when patients shall be or have been discharged from services (e.g., for repeat no-shows).
3.2	The system shall have the capability to provide alerts if patient information is missing, out of date, or requires verification (e.g., eligibility, means test, demographics).
3.3	The system shall have the capability to maintain and present historical appointment information (e.g., patient cancellation and no-show history).
3.4	The system shall have the capability to provide eligibility data necessary for accurate scheduling.
3.5	The system shall have the ability to alert schedulers of patient preferences.
3.6	The system shall have the capability to provide a patient preference field that alerts clerks to special transportation concerns or other issues that limit availability (e.g., specific days and times).
3.7	The system shall have the capability to receive notification of deceased patients and cancel future appointments/ancillary services/orders once notification has been received from an authoritative source (e.g., Veterans Benefit Administration (VBA)).

BUSINESS NEEDS – PATIENT INFORMATION (HIGH LEVEL)	
3.8	The system shall have the capability to establish and update patient information in “real-time” (enrollment status, eligibility, demographics, preferences and special needs, means test status, provider assignments, etc.).
3.9	The system shall have the capability to assign patients to multiple providers and facilities.
3.10 (t)	The system shall provide the ability to identify and verify the identification of the Veteran.
3.11 (t)	The system shall provide the ability to allow selection and display of a Veteran’s Medical Home by healthcare provider (for example a patient receives care in one facility during the summer, but in another in the winter.)
3.12	The system shall allow configuration of data entry screens within security and standards constraints.
3.13	The system shall have the ability to capture travel determination data.

### 7.1.7 Additional Manage Patient Information Topics

Additional topics of the Manage Patient Information section to be discussed include:

**Table 21 Additional Manage Patient Information Topics**

Topic	Required Information
Business Rules	Provide a high-level list of requirements and expectations.-link to the Value Dependency document and to be leveraged for Business Process Requirement Gathering sessions
Key Policies/Operational Decisions or Logic within the Process	Describe key policies, operational decisions, and logic related to this process.> All the Key policies / operational decisions relating to [XXXX process] have been detailed in the following documents, and maintained in [XXXX SharePoint Site]. <ul style="list-style-type: none"> <li>• KDD_xx_001    xxx</li> <li>• KDD_xx_002    xxx</li> </ul>
Reference to Key Process Changes and Process KPIs	Refer to key process change document on process level
Integration Points	List known integration topics/issues with other COTS modules / components, etc.
Potential Future Process Improvements	Summarize future improvements, based on requirements that have been discussed that will NOT be implemented in the project. (out of scope for this implementation)

Refer to Appendix D for additional Business Blueprint template details.

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## 8 Business Process and Solution Design for Manage Request and Make Appointment

### 8.1 Process Overview Manage Request and Make Appointment

The Manage Request and Make Appointment process functions at multiple levels of aggregation, through several periods of time, and across numerous locations supporting the VHA's healthcare line of business. The Manage request and Make Appointment process serves to balance the demand for service and the supply of clinical resources. The outpatient scheduling capability is not specifically resource management or customer relationship management but functions to support the efficiencies of both.

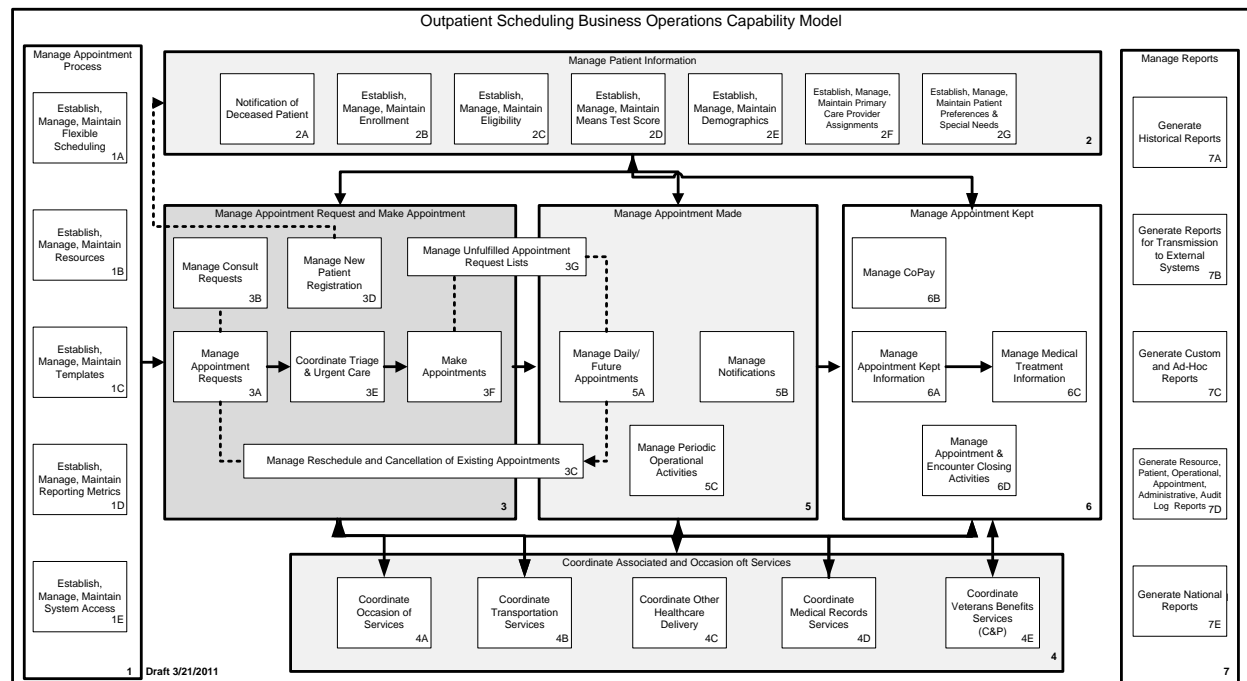
The purpose and goal of the Manage Request and Make Appointment process is the first step in supporting the outpatient scheduling capability by determining who the requestor is, nature of the request, type of service needed, by which provider, in what facility. The full scope of Manage Request and Make Appointment encompasses manage appointment requests; manage consult requests; manage reschedule and cancellation of existing appointments; manage new patient registration; coordinate triage and urgent care; make appointment; and manage appointment request lists.

#### 8.1.1 Business Process Capability Overview

The Manage Request and Make Appointment capability processes a request for an appointment, verifies eligibility and patient information, and considers preferences and special needs. It uses the appointment request lists and triage protocol to determine the appropriate appointment scheduling path and routing requirements.

The Level 0 model illustrated in Figure 7 identifies how capabilities are logically grouped and provides a framework for more details.

**Figure 7 Manage Appointment Request and Make Appointment - Level 0 Capability Model**



### 8.1.2 Capability Model Description

There are seven sub-capabilities supporting the Manage Appointment Request and Make Appointment process. They include: Manage Requests; Manage Consult Requests; Manage Reschedule and Cancellation of Existing Appointments; Manage New Patient Registration; Coordinate Triage and Urgent Care; Make Appointments and Manage Unfulfilled Appointment Requests.

Requests are received from a mix of independent sources through a variety of media outputs. The primary source of a request is from the patient or the provider, and most often received in person or via the telephone. Other VHA processes can also trigger a request for an appointment such as the consult management process (via a module in VistA) and the compensation and pension (C&P) process handled by the Veterans Benefits Administration division. The WHEN (weekends, holidays, evenings and nights) program is a service that captures patient's appointment requests when schedulers are not manning the phones or check-in areas during facility off-hours. Lastly, Vets will be able to access the MyHealtheVet web site to make and view appointments.

The New Enrollee Appointment Request (NEAR) list is an on-line tool used to communicate that a newly enrolled Vet has requested an appointment during the enrollment process. DOD/VA case managers serve as liaisons to support a seamless transition for active

service members in critical care to a non-active status by ensuring enrollment and eligibility to a VHA facility. Vets can be enrolled and their eligibility established when arriving in the emergency/urgent care units; and as well, at facilities across the nation. Patients having established relationships with a primary care provider and needing specialized care will need to be registered with the practice and the facility if different than their primary care provider's location.

A patient canceling an appointment opens the availability of resources while providers cancelling clinics limits resources. Equipment failure or facility resources may be other causes requiring a cancellation. In either scenario, a patient's health record is usually reviewed to ensure that patients are provided the level of care that meets their health care needs. Every effort is made to ensure a balance between patient's needs and facility resources within expected and acceptable timelines.

As requests are routed, reviewed and approved, an appointment is made and resources confirmed. Making an appointment is often a straightforward activity; however, there are situations where the coordination of multiple same day appointments, prerequisite testing or medications, and transportation can set hurdles and cause difficulties for schedulers. Meeting desire dates is a critical factor in the scheduling process, and the ability to audit and monitor compliance is a significant requirement of VHA policy. A means to report the causes for appointments made outside the desired date in comparison to those made within the desire date range is vital.

There are two independent lists that facilitate the management of unfulfilled appointment requests and patient reminders. And although not permitted, other unregulated manual or memory lists continue to plague the operations for the lack of functionality in the current system. Providing a single list of all patient requests with a common set of reasons identifying why patient requests and medical needs have not yet been matched would serve the VHA more robustly in their desire to manage unfulfilled appointment requests and reminders. The level 1 sub-capability model description for Manage Appointment Request and Make Appointment is described in Table 22.

**Table 22 Manage Appointment Request and Make Appointment – Level 1 Sub-capabilities**

MANAGE APPOINTMENT REQUEST AND MAKE APPOINTMENT SUB-CAPABILITIES		
3A	Manage Appointment Requests	This sub-capability will receive requests from several sources (patients, providers, other VistA data sources, and via on-line mechanisms) and allow the scheduler to assess the request and take the appropriate action to validate, prioritize, and act upon according to current service line business rules
3B	Manage Consult Requests	This sub-capability processes requests from providers for consultations for patients to consult with a specialty clinic or for a

## MANAGE APPOINTMENT REQUEST AND MAKE APPOINTMENT SUB-CAPABILITIES

		provider to attend a patient on a consultation basis. Since providers sometimes consult without an appointment, the services still must be tracked and tied to the patient and the encounter. In addition to the basic consult request, orders are provided for coordination of associated and other occasions of service in conjunction with the specialty consult appointment request.
3C	Manage Reschedule and Cancellation of Existing Appointments	This sub-capability supports two basic scenarios. One, of a resource becoming available due to a cancellation, and two, of a resource limitation due to a provider or equipment being unavailable. The patients name and desire date will be added to a list of appointment requests in cases where an appointment cannot be immediately rescheduled.
3D	Manage New Patient Registration	<p>This sub-capability supports activities that manage how quickly patients are integrated into the scheduling system and seen by the provider. There are three types of new patients: new enrollee to the VA, new to the facility, and new to the service.</p> <ul style="list-style-type: none"> <li>• A new enrollee is a previously non-enrolled Veteran who applies for VA healthcare benefits and enrollment by submitting VA Form 10-10EZ, Application for Health Benefits and is determined to be eligible and is enrolled.</li> <li>• A newly registered patient to the facility is a Veteran who is enrolled with VHA, but who has not been registered at a specific facility.</li> <li>• The VHA defines a new patient based on 'wait-time' measurements as any patient not seen by a qualifying provider type within a defined stop-code (Decision Support System (DSS) Identifier) at a facility within the past 24 months.</li> </ul>
3E	Coordinate Triage and Urgent care	This sub-capability supports a scheduler during triage activities to determine if or how an appointment should be routed. Sorting or screening of patients seeking hospital care to determine which service (e.g., medical, surgical, or non-physician) is the initial activity, followed by determining the priority.
3F	Make Appointments	<p>This sub-capability matches patient medical needs to facility medical resources. It includes finding, selecting, and reserving an appropriate appointment and providing appointment notification to the patient. By having the resources viewable at one time to schedulers, efficiency and error rates should diminish.</p> <p>An outpatient appointment requires the selection of at least one appointment type, which combined with the 'purpose of visit' code creates one of the 40 unique appointment types. For a complete list of appointment types, see the Patient Appointment Information Transmission (PAIT) release notes at <a href="http://www.va.gov/vdl/documents/Clinical/Patient_Appointment_Onfi_Transmission/sd_53_p333_rn.doc">http://www.va.gov/vdl/documents/Clinical/Patient_Appointment_Onfi_Transmission/sd_53_p333_rn.doc</a> (VHA Directive 2010-027)</p>
3G	Manage Appointment Requests Lists	The manage appointment request list sub-capability Provides for the capture and generation of an all inclusive list of

MANAGE APPOINTMENT REQUEST AND MAKE APPOINTMENT SUB-CAPABILITIES		
		patients that have yet to be scheduled into an appointment slot. The goal of the capability is to consolidate all situations where patient and medical needs have not been matched and the reason(s) for an unfulfilled appointment request. Management of the lists could increase the likelihood that patient and medical needs match VHA defined and available resources and increase patient satisfaction.

### 8.1.3 Business Process Scenarios

Common business process scenarios that should be met by a COTS solution are described in Table 23. The information represents the first phase of an iterative process of gathering, analyzing, and reviewing information within the supporting business scenarios of the manage appointment request and make appointment capability.

**Table 23 Business Process Scenarios – Manage Request and Make Appointment**

BUSINESS PROCESS SCENARIOS - MANAGE REQUEST AND MAKE APPOINTMENT	
<b>Emergent or Urgent Care</b> Care for an acute medical or psychiatric illness or for minor injuries for which there is a pressing need for treatment to manage pain or to prevent deterioration of a condition where delay might impair recovery. [VHA Directive 2010-027]	
Urgent	An example of urgent care includes the follow-up appointment for a patient discharged from a Department of Veterans Affairs (VA) medical facility if the discharging physician directs the patient to return on a specified day for the appointment.
Emergency	Emergency care is the resuscitative or stabilizing treatment needed for any acute medical or psychiatric illness or condition that poses a threat of serious jeopardy to life, serious impairment of bodily functions, or serious dysfunction of any bodily organ or part.
Triage	Initial triage evaluations are required within 24 hours for all Veterans either self-requesting or being referred for mental health and substance abuse treatment. Additionally, when follow-up is needed, it must include a full diagnostic and treatment evaluation with 14 days.
<b>Appointment with Primary Care:</b> Providing Primary Care makes available to veteran patients the full continuum of care that VHA offers. Primary Care addresses the daily, routine medical needs of patients (i.e., initial diagnoses, annual exams and continual treatment of illness and preventive care). Through Primary Care, patients are encouraged to promote their health and well-being, prevent disease; receive treatment for existing acute illnesses; recover function to its highest level and utilize the long-term care when it is needed.	
Initial	Scenario in which a scheduled appointment is made at the request of a new or established patient. A new patient can be described as: new enrollee with the VHA, newly registered to the facility, or one not seen by a qualifying provider type within a defined stop code or stop code group at that facility within the past 24 months.
Primary Care Follow-up	This scenario is initiated by the provider when a follow-up appointment is required for the patient. The request can be carried out by either the provider on behalf of the patient or by the patient following through with the provider's recommendation for a follow-up appointment. A follow-up appointment could be

BUSINESS PROCESS SCENARIOS - MANAGE REQUEST AND MAKE APPOINTMENT	
	the result of an emergent or urgent care encounter, or to close the loop on a consultation request.
Vesting	Business rule required to refresh patient record every three years
<b>Appointment with Specialty Care (Consult):</b> Specialty care is of two types: Consultative Care and Highly Specialized Care. Consults are used regularly to request specialist care, evaluation and treatment for a patient. A consult is a document which facilitates and communicates consultative and non-consultative service requests and subsequent activities.	
Clinical Consultative Care	Consultative care assists the primary care provider with the diagnosis or initiation or alteration of treatment strategies. A clinical consultation is provided by a physician or other health care provider in response to a request seeking opinion, advice, or expertise regarding evaluation or management of a specific patient problem (e.g. consult to Dermatology for rash). A clinical consultation request is initiated by a physician or appropriate source with the clear expectation that a reply will be provided in a timely manner. (VHA Directive 2088-056) The major triggers of consultative care involve: <ul style="list-style-type: none"> <li>• Primary to Specialty</li> <li>• Specialty to Specialty</li> <li>• Mental Health</li> </ul>
Specialized Care	Highly specialized care is provided to patients with illnesses that are too uncommon or complex for the primary care provider to maintain competence in their management. (VHA Directive 2088-056)
Specialty Care Follow-up	This scenario is initiated by the provider when a follow-up appointment is required for the patient. The request can be carried out by either the provider on behalf of the patient or by the patient following through with the provider's recommendation for a follow-up appointment. A follow-up appointment could be the result of an emergent or urgent care encounter.
Non-Clinical Consultation	A non-consultative service request is used for all other non clinical activities. Currently these requests are sent using the CPRS consult functionality for a purpose other than a clinical consultation, e.g. a request to Dermatology for a non-formulary approval or request to schedule a no-show.
Service Agreement	A service agreement is an agreement or understanding between any two or more services, one of which sends work to the other(s), defining the work flow rules. The agreements may exist within one facility or between two or more facilities. Typically this a written document that is developed based on discussion and consensus between the involved services and facilities. The document is signed by service chiefs from the involved services. (VHA Directive 2008 – 056). If the agreement is between services at separate facilities, as with inter-facility consult services, it needs to be signed by the Chief of Staff at each involved facility. (VHA Directive 2010-027) Some examples where service agreements may exist include agreements between: <ul style="list-style-type: none"> <li>• Primary to Specialty</li> <li>• Specialty to Specialty</li> <li>• Primary/Specialty to Mental Health (visa versa)</li> <li>• Primary to Specialty to Surgery with follow-up with Specialty and closing the episode of care with a Primary follow-up.</li> </ul> Service agreements may include orders to coordinate with associated and occasion of services (ancillary test). These enhancements to a service agreement will be discussed in more detail in the capability section #4: Coordinate Associated and Occasions of Service.
<b>Appointment Outside Assigned Location:</b> This scenario accommodates intra/inter-VA facility services and services provided by non VA care facilities	
Intra/Inter-facility	Based on patient preference and special needs, a VHA intra-facility request may

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	<p>occur when a patient's preference is different than their provider assignment. Clinical consultations may require both intra/inter facility appointments in an effort to meet VA's established timeframe requirements and policies. Inter-facility request may occur when a patient is traveling, snowbirding (permanent residence in one location and temporarily lives in another for part of the year), services required are not available in the facility for which the patient is registered, or also based on patient preferences and special needs.</p>
Non-VA Care 'Fee Basis'	<p>Non-VA Care is medical care provided to eligible Veterans outside of the VA when VA facilities are not available. Known as 'Fee Basis', all VA medical centers can use this program when needed. The use of Fee Basis as a means to provide Non-VA care to Veterans is governed by federal laws containing eligibility criteria and other policies specifying when and why it can be used. A pre-authorization for treatment in the community is required to use Fee Basis care -- unless the medical event is an emergency. Emergency events may be reimbursed on behalf of the Veteran in certain cases. See the Emergency Non-VA Care brochure for information.</p> <p><b>Unavailability of VA Medical Facilities or Services:</b> Fee Basis is used when VA medical facilities are not 'feasibly available'. The local VA medical facility has criteria they use to determine whether Fee Basis may be used. If a Veteran is eligible for certain medical care the VA hospital or clinic should provide it as the first option. If they can't -- due to a lack of available specialists, long wait times, or extraordinary distances from the Veterans home the VA may consider Fee Basis care in the Veteran's community. Fee Basis care is not an entitlement program or a permanent treatment option  <a href="http://www.nonvacare.va.gov/">[http://www.nonvacare.va.gov/]</a> Refer to VHA Directive 2010-027 (h) for additional business rules and details.</p> <p>Patients provided authorization for continued Non-VA care need to be tracked and brought back within the VA as capacity becomes available. This needs to be from the oldest authorization moving forward as clinically indicated (VHA Directive 2010-027)</p>
<p><b>Manage Appointment Request Lists:</b></p> <p>Currently, there are various scenarios where unfulfilled appointment requests are captured and tracked. The NEAR, EWL and Recall/Reminder scenarios are the three most recognized conditions. To enhance the VHAs ability to capture and track all situations, a single analogous list of all appointment requests regardless of where initiated should be captured and tracked to support decision making, capacity planning and for performance measurement reporting.</p>	
New Enrollee Appointment Request (NEAR) Call List	<p>New Enrollee Appointment Request (NEAR) Call List is a tool used by enrollment staff to communicate to primary care management coordinators or schedulers at the Veteran's designated preferred location that a newly enrolled Veteran has requested an appointment during the enrollment process.</p>
Electronic Wait List (EWL)	<p>The EWL is the official VHA wait list used to track and manage patients waiting to be scheduled, which consists of newly registered, Newly enrolled, new consult requests for patient waiting for their first scheduled appointment, or waiting for a panel assignment. In general, the EWL is used to keep track of patients with whom the clinic does not yet have an established relationship and cannot be scheduled in target timeframes.</p>
Recall/Reminder	<p>The recall/reminder software application is used for patients with whom the service has an established relationship. Typically used when the requested follow-up appointment date is greater than 3 to 4 months into the future.</p>
<p><b>Cancel and Reschedule Appointments:</b></p> <p>Cancellations where the availability of resources is limited by the provider or the facility should be avoided whenever possible. In cases where a cancellation is initiated by either the provider or the patient fails to appear</p>	

BUSINESS PROCESS SCENARIOS - MANAGE REQUEST AND MAKE APPOINTMENT	
for the schedule appointment, the medical records need to be reviewed to ensure that urgent medical problems are addresses in a timely fashion. Provisions need to be made for necessary medication renewals and patients need to be rescheduled as soon as possible, if clinically appropriate. (VHA Directive 1020-027)	
Cancellation/Reschedule by Patient	<p>The patient scenario involving a cancellation or a reschedule may be made in advance of the appointment date or the same day of the appointment. Consideration of other coordinated services, occasions of service, linked appointments, or same day appointments should be rectified for any cancellation or reschedule request regardless of when the cancellation/reschedule was received.</p> <p>Same day cancellations may be backfilled with walk-in patients, over booked situations, or reverted to administrative time.</p> <p>In all cases, the reason and resolution for the cancellation and or reschedule should be captured and tracked.</p>
Cancellation/Reschedule by Provider	<p>The provider scenario involves the limitation of a resource and becomes a more complicated scenario than when a patient cancels or reschedules. As with the patient scenario, consideration of other coordinated services, occasions of service, linked appointments, or same day appointments should be rectified for any cancellation request regardless of when the cancellation was received.</p> <p>Same day provider cancellations may be backfilled with other PACT resources, and broken equipment may be resolved by a reciprocating facility with open slots.</p> <p>In all cases, the reason and resolution for the cancellation and or reschedule should be captured and tracked.</p>
Cancellation/patient status/test values not available/incomplete	<p>The most common cause of a cancellation is when the appointment has required prerequisites for coordinated services and occasions of service of which is found to be incomplete or not available at the time of the appointment. The integration of all associated and coordinated services and the relationship to a specific appointment should be established and the status of each should be tracked to prevent unnecessary cancelations. In cases where the patient's status causes a cancellation is rare and unusual yet none the less should have provisions to handle such situations.</p>
No-show Reschedule	<p>When a patient fails to appear for the scheduled appointment, the responsible provider, surrogate, or designated team representative needs to review the patient's medical record, including any consult or procedure request received or associated with the appointment and then determined and initiates appropriate follow-up action. (VHA Directive 1020-027 (k))</p>

#### 8.1.4 Business Process Characteristics and Parameters

The characteristics and process parameters are represented in Table 24. Characteristics include triggers, process inputs and outputs, volumes and frequencies. The process parameters include process owner, organizational units, roles, process flows, media, technology, and business objects. Each provides an example of the components needed to map to a COTS solution. Components will be refined and others might be identified during future requirements solicitation sessions.

Table 24 Process Characteristics – Manage Request and Make Appointment

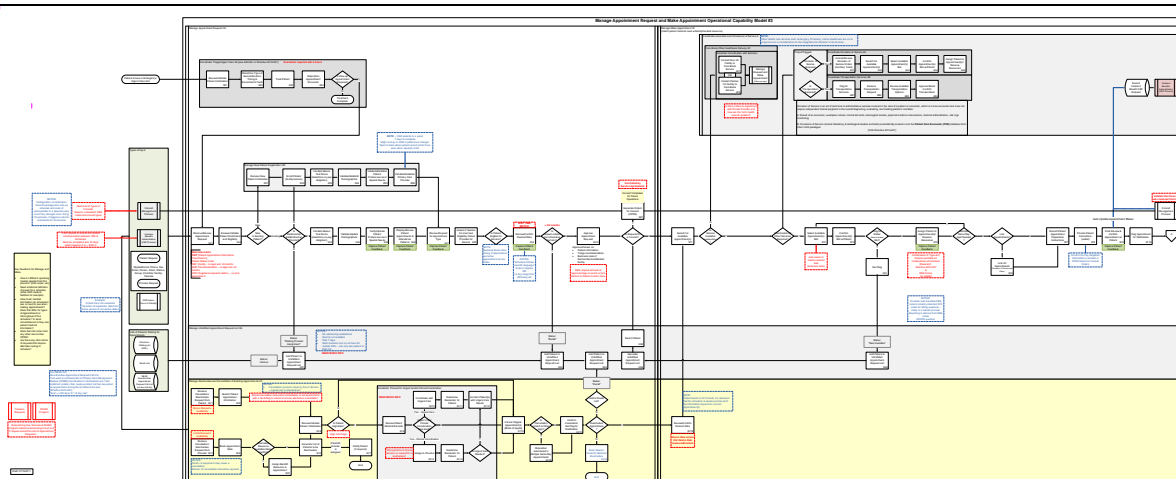
PROCESS CHARACTERISTICS - MANAGE REQUEST AND MAKE APPOINTMENT
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PROCESS CHARACTERISTICS - MANAGE REQUEST AND MAKE APPOINTMENT	
Process Trigger	<ul style="list-style-type: none"> <li>Newly enrolled Veteran (to VA, Facility, Service)</li> <li>New Enrolled Appointment Request call list (NEAR)</li> <li>Urgent care</li> <li>Patient request: initial/follow-up appointment</li> <li>Provider request: initial/follow-up appointment</li> <li>Consult Management process (CPRS)</li> <li>C&amp;P process</li> <li>DoD liaison from a VA facility</li> <li>Telecare/TeleHealth</li> </ul>
Process Input	<ul style="list-style-type: none"> <li>NEAR, MyHealtheVet, phone, fax, in person, walk-in, group, WHEN, Recall List, EWL</li> </ul>
Process Output	<ul style="list-style-type: none"> <li>Emergent and Urgent Care</li> <li>Triage activities</li> <li>Appointment with Primary Care</li> <li>Appointment with Specialty Care</li> <li>Appointment with Mental Health</li> <li>Non-VA Care Programs [<a href="http://www.nonvacare.va.gov/">http://www.nonvacare.va.gov/</a>] <ul style="list-style-type: none"> <li>Pre-authorized Outpatient care</li> <li>Pre-authorized inpatient care (out-of-scope)</li> <li>Emergency Care of Service-Connected Conditions</li> <li>Emergency Care of Non-Service Connected Conditions</li> </ul> </li> <li>TeleHealth appointment</li> <li>Intra and Inter-facility consults</li> <li>Appointment cancellation</li> <li>Appointment reschedule</li> </ul>
Process Volumes	25 million appointments from October 2010 to April 2011
Process Frequencies	TBD
Process Owner	Who is responsible for the capability/process ?
Organizational Unit	<p>Which organizational unit owns the capability/process execution</p> <ul style="list-style-type: none"> <li>National <ul style="list-style-type: none"> <li>VISN <ul style="list-style-type: none"> <li>Facility <ul style="list-style-type: none"> <li>Service <ul style="list-style-type: none"> <li>Section</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul>
Roles	<p>Roles that should contribute to the capability/process execution:</p> <ul style="list-style-type: none"> <li>Associated Services Administrator</li> <li>Front Desk</li> <li>Management</li> <li>Patient</li> <li>Provider</li> <li>Registration</li> <li>Schedule Administrator</li> <li>Scheduler</li> <li>Scheduling Component System Administrator</li> <li>Section Chief</li> <li>Technician</li> <li>Timer</li> <li>Triager</li> <li>VHA Management</li> </ul>

PROCESS CHARACTERISTICS - MANAGE REQUEST AND MAKE APPOINTMENT	
Process Flows	<p>Which processes proceed and follow?</p> <p><i>Proceeding processes:</i></p> <p>VHA Master Data Management</p> <p>Master Data and Set-up for Resource Centric Scheduling</p> <p><i>Integrated processes:</i></p> <p>Manage Patient Information</p> <p>Coordinate Associated and Occasions of Service</p> <p>Manage Appointment Made and Kept</p> <p><i>Follow-on processes:</i></p> <p>Manage Reports</p>
Media	<p>By which media do capabilities/processes interact (means of communication workflow)</p> <ul style="list-style-type: none"> <li>• Phone</li> <li>• Fax</li> <li>• Email</li> <li>• MyHealtheVet</li> <li>• TeleHealth</li> <li>• Scheduling workflow alerts and work-list</li> </ul>
Technology	<p>What kind of technology enables the capability/process execution?</p> <ul style="list-style-type: none"> <li>• Resource Centric Scheduling Application</li> <li>• VistA</li> <li>• Other</li> </ul>
Business Object(s)	<p>Which business objects are used, modified, produced?</p> <ul style="list-style-type: none"> <li>• Patient master record</li> <li>• Provider master record</li> <li>• Services master record</li> <li>• Facility master record</li> <li>• Appointment master record</li> <li>• Encounter master record</li> <li>• Scheduling master record</li> <li>• Scheduling List and Reports</li> <li>• DSS Identifier</li> </ul> <p>Others will be identified during requirements solicitation sessions</p>

### 8.1.5 Business Process Diagram

Figure 8 Manage Request and Make Appointment Process



Process flow is located in Appendix A

## 8.1.6 Business Process Description

### 8.1.6.1 *Locations Where this Business Process is Performed*

There are many variations of the operational model to manage the receiving of Veteran requests for an appointment, and as well, request cancelling or rescheduling appointments. The operating models can be thought of as three core areas for the input of a request. The three core areas include: One, direct contact by a patient or a provider; two, a system request; and three, the interaction and coordination of various organizations inside and outside the VA agency. As an example, the operating model could include one or all of the following components within the three core areas:

Direct Contact by patient or provider includes:

- Phone, fax, email, in person
- VHA Call Center
- MyHealtheVet

System generated requests includes:

- VistA Applications (e.g. CPRS and PCMM)
  - CPRS is the GUI into VistA where requests for Consults and Service Orders are entered and received.
  - NEAR: A New Enrollee Appointment Request is entered into the Primary Care Management Module from an on-line activity by the Vet during the enrollment process. The information entered serves as a means to communicate to coordinators or schedulers of a Vet's preferred location along with a request for an appointment during the enrollment process.
  - Electronic Wait List (EWL) is a list that is generated as a result of a new patient already enrolled with the VA; however, not yet assign to a primary provider, or new to the service and or facility and waiting for an open slot on the schedule.

- Recall List is another list generated in VistA with the names of patients that have requested appointments outside the normal time horizon.

Other inputs and triggers to the process include direct interaction with various DOD and VA organizations. Examples include:

- Veterans Benefits Administration with regard to the Compensation and Pension (C&P) program and notification of deceased veterans.
- DOD liaison ensuring a seamless transfer of critical care veterans when a transition from active service to non-active service is required.
- Urgent or Emergent care Units receive and process most emergency care cases to include some humanitarian type situations where the patient is not an enrolled vet. In cases where the patient is not a vet, the team will stabilize and request transport to a non VA facility.

#### 8.1.6.2 Process Step Detailed Requirements & Solution

This section refers to the Visio process model and contains a descriptive walk-through of the process for each step or event and any unique variations. Related design considerations, gaps, configuration, and/or development items will be discussed with a COTS vendor upon selection of an application solution. File is located in Appendix B.

#### 8.1.7 Business Requirements for Process Manage Appointment Request and Make Appointment

The Business Requirements Document (BRD) provides the first step to collect basic requirements from the business. These requirements are refined and tailored through a series of further requirements solicitation processes. Details of the business needs are described in Table 25.

**Table 25 Business Needs - Manage Appointment Request and Make Appointment**

BUSINESS NEEDS - MANAGE REQUEST AND MAKE APPOINTMENT (HIGH LEVEL)	
BN 4: Manage Appointment Request and Make Appointment – The scheduling system shall accommodate appointment requests from multiple inputs sources, including patients and providers via different sources such as MyHeathVet, walk-ins, email and other modes.	
4.1 (s)	Variable Appointment Types and Lengths – The system shall have the capability to allow variable appointment types and variable appointment lengths [e.g., Compensation & Pension (C&P), Mental Health Clinic (MHC), Primary Care Clinic (PCC), New, Follow-up, Pre-op, Post-op)].
4.1.1	<ul style="list-style-type: none"> <li>• The scheduling system shall display any other scheduled or requested appointments for the patient when an appointment is requested.</li> </ul>
4.1.2	<ul style="list-style-type: none"> <li>• The system shall have the capability to allow users to schedule an appointment for a specific, user-defined, length of time.</li> </ul>
4.1.3	<ul style="list-style-type: none"> <li>• The system shall have the capability to establish routinely-scheduled appointments.</li> </ul>
4.1.4	<ul style="list-style-type: none"> <li>• The system shall provide the ability to verify patient information, determine eligibility, and display an error message if there is an inconsistency between service requested and</li> </ul>

BUSINESS NEEDS - MANAGE REQUEST AND MAKE APPOINTMENT (HIGH LEVEL)	
	eligibility.
4.1.5	<ul style="list-style-type: none"> <li>The scheduling system will display patient special needs and preferences when an appointment is requested and made.</li> </ul>
4.1.6	<ul style="list-style-type: none"> <li>The system shall allow configuration to require approved authorizations prior to processing an appointment request.</li> </ul>
4.1.7	<ul style="list-style-type: none"> <li>The system shall have the capability to create and manage various appointment types.</li> </ul>
4.1.8	<ul style="list-style-type: none"> <li>The system shall have the capability to manage scheduling idiosyncrasies and conflicts such as no-shows and overbooking.</li> </ul>
4.1.9	<ul style="list-style-type: none"> <li>The system shall support the ability to change or edit appointments as necessary.</li> </ul>
4.1.10	<ul style="list-style-type: none"> <li>The system shall have the capability to configure and enforce business rules at the service level and appointment type level (e.g., females in Obstetrics/Gynecology clinic).</li> </ul>
4.1.11	<ul style="list-style-type: none"> <li>The system shall provide the ability for providers to request appointments.</li> </ul>
4.2	Appointment Selection – The system shall have the capability to manage the appointment selection process.
4.3	Providers Per Schedule – The system shall have the capability to coordinate appointment scheduling based on provider availability.
4.3.1 (t)	<ul style="list-style-type: none"> <li>Ability to schedule a patient and provider as a pair on both the VistA system where the health care provider is located and the VistA system where the Veteran is located. This pair should be handled across VistA systems and time zones as appropriate as a synchronized event.</li> </ul>
4.3.2 (t)	<ul style="list-style-type: none"> <li>The system shall provide the capability to capture and to select locations of patient and healthcare provider, including non-VA facilities (i.e. Veteran home, DoD etc).</li> </ul>
4.4	Access Restrictions for Scheduling Appointments – The system shall have the capability to filter available appointments based on patient preferences and other search criteria.
4.5	Ancillary Services – The system shall have the capability to accommodate different service types such as C&P, ancillary services and specialty services.
4.5.1	<ul style="list-style-type: none"> <li>The system shall have the capability to link ancillary tests to appointments (if they are changed, ancillary tests can be updated without canceling order and re-ordering).</li> </ul>
4.5.2	<ul style="list-style-type: none"> <li>The system shall have the capability to link ancillary tests to appointments.</li> </ul>
4.5.3	<ul style="list-style-type: none"> <li>The system shall provide the capability to establish links to activities that require coordination with appointments (e.g., ancillary services).</li> </ul>
4.5.4	<ul style="list-style-type: none"> <li>The system shall have the capability to coordinate appointments with related ancillary visits.</li> </ul>
4.5.5	<ul style="list-style-type: none"> <li>The system shall have the capability to support coordinating multiple appointments (e.g., provide information helpful in scheduling all appointments on one day, multidisciplinary team appointments).</li> </ul>
4.6	Linking – The system shall have the ability to automatically link relevant appointments/resources.
4.6.1	<ul style="list-style-type: none"> <li>The system shall have the capability to provide alerts back to affected resources when ancillary tests/specialty consults have been scheduled/kept/missed.</li> </ul>
4.6.2	<ul style="list-style-type: none"> <li>The system shall have the capability to search for the next available appointment across multiple resources.</li> </ul>
4.6.3	<ul style="list-style-type: none"> <li>The system shall have the capability to provide information to assist schedulers to</li> </ul>

BUSINESS NEEDS - MANAGE REQUEST AND MAKE APPOINTMENT (HIGH LEVEL)	
	consolidate appointments in one day when possible (e.g., flag the fact that a patient is scheduled to show up +X days of desired new appointment date).
4.6.4	<ul style="list-style-type: none"> <li>The system shall have the capability to book or cancel recurring appointments all at once.</li> </ul>
4.6.5	<ul style="list-style-type: none"> <li>The system shall have the capability to provide the ability to define individual schedules in terms of a single resource or as a schedule resourced by a team of providers.</li> </ul>
4.6.6	<ul style="list-style-type: none"> <li>The system shall have the capability to create groups of resources for scheduling a single event (e.g., room, equipment, and ancillary staff).</li> </ul>
4.6.7	<ul style="list-style-type: none"> <li>The system shall have the capability to cancel/restore resources over multiple days (not just one day at a time).</li> </ul>
4.7	Assign and Configure Time Slots – The system shall provide the capacity to assign and configure time slots for appointments.
4.7.1	<ul style="list-style-type: none"> <li>The system shall have the capability to block time slots.</li> </ul>
4.7.2	<ul style="list-style-type: none"> <li>The system shall have the capability to include a mechanism to deny appointments based on a variety of reasons (e.g., eligibility not verified, means test or insurance information out of date).</li> </ul>
4.7.3 (t)	<ul style="list-style-type: none"> <li>The system shall provide the ability to schedule the following resources: <ul style="list-style-type: none"> <li>CVT Rooms</li> <li>CVT Equipment</li> <li>Telepresenter</li> </ul> </li> </ul>
4.7.4 (t)	<ul style="list-style-type: none"> <li>The system shall provide the ability to create, cancel and update a CVT appointment pair (patient and provider) as a single event (to prevent creation of orphans).</li> </ul>
4.7.4.1 (t)	<ul style="list-style-type: none"> <li>The system shall provide the ability to schedule the following resources: <ul style="list-style-type: none"> <li>CVT Rooms</li> <li>CVT Equipment</li> <li>Telepresenter</li> </ul> </li> </ul>
4.7.5 (t)	<ul style="list-style-type: none"> <li>The system shall provide the ability to modify a CVT appointment pair (patient and provider) to occur individually as needed to prevent creation of orphans or to correct errors.</li> </ul>
4.7.6 (t)	<ul style="list-style-type: none"> <li>The system shall provide the ability to create, cancel and update a CVT appointment pair (patient and provider) as a single event (to prevent creation of orphans).</li> </ul>
4.7.7	<ul style="list-style-type: none"> <li>The system shall have the capability to set-up various appointment types for various lengths of time (appointment blocks).</li> </ul>
4.7.8	<ul style="list-style-type: none"> <li>The system shall have the capability to support automated coordination and consolidation (e.g., onto one day) of multiple appointments per patient.</li> </ul>
4.7.9	<ul style="list-style-type: none"> <li>The system shall be capable of changing appointment types for an appointment or a request at any time (within business constraints).</li> </ul>
4.7.10	<ul style="list-style-type: none"> <li>The system shall have the capability to configure the amount of time allowed between appointments for a patient with multiple appointments.</li> </ul>
4.7.11	<ul style="list-style-type: none"> <li>The system shall not permit booking appointments into invalid time slots based upon configured business rules.</li> </ul>
4.8	Waiting Lists - The system shall provide the capability to process various lists.
4.8.1	<ul style="list-style-type: none"> <li>The system shall have the capability to provide a waiting list that appears when making or canceling appointments.</li> </ul>
4.8.2	<ul style="list-style-type: none"> <li>The system shall apply configurable business rules to the management of a long-term appointment request list.</li> </ul>
4.8.3	<ul style="list-style-type: none"> <li>The system shall have the capability to maintain a list of patients that can fill a cancelled</li> </ul>

BUSINESS NEEDS - MANAGE REQUEST AND MAKE APPOINTMENT (HIGH LEVEL)	
	appointment on short notice.
4.8.4	<ul style="list-style-type: none"> <li>The system shall have the capability to provide users the ability to view available appointments beyond one year.</li> </ul>
4.8.5	<ul style="list-style-type: none"> <li>The system shall have the capability to maintain an electronic waiting list.</li> </ul>
4.9	System Prompt Patient Notifications – The system will provide the ability to establish and provide appointment notifications.
4.9.1	<ul style="list-style-type: none"> <li>The system shall have the capability to allow users to issue patient appointment notifications in the natural course of making an appointment.</li> </ul>
4.9.2	<ul style="list-style-type: none"> <li>The system shall have the capability to produce appointment notifications in a variety of formats (e.g., letter, phone, e-mail, pending appointment list, or card). Each option shall be capable of being enabled or disabled based upon patient preferences.</li> </ul>
4.9.3	<ul style="list-style-type: none"> <li>The system shall have the capability to filter appointment notifications in preparation for print production.</li> </ul>
4.9.4	<ul style="list-style-type: none"> <li>The system shall have the capability to tailor appointment notifications to meet specific clinic needs.</li> </ul>
4.9.5	<ul style="list-style-type: none"> <li>The system shall have the capability to provide configurable notification requests such as: alerting staff when to contact patients about upcoming appointments.</li> </ul>

### 8.1.8 Additional Manage Request and Make Appointment Topics

Additional topics of the Manage Patient Information section to be discussed include:

**Table 26 Additional Manage Request and Make Appointment Topics**

Topic	Required Information
Business Rules	Provide a high-level list of requirements and expectations.-link to the Value Dependency document and to be leveraged for Business Process Requirement Gathering sessions
Key Policies/Operational Decisions or Logic within the Process	<p>Describe key policies, operational decisions, and logic related to this process.&gt;</p> <p>All the Key policies / operational decisions relating to [XXXX process] have been detailed in the following documents, and maintained in [XXXX SharePoint Site].</p> <ul style="list-style-type: none"> <li>KDD_xx_001    xxx</li> <li>KDD_xx_002    xxx</li> </ul>
Reference to Key Process Changes and Process KPIs	Refer to key process change document on process level
Integration Points	List known integration topics/issues with other COTS modules / components, etc.
Potential Future Process Improvements	Summarize future improvements, based on requirements that have been discussed that will NOT be implemented in the project. (out of scope for this implementation)

## 9 Business Process and Solution Design for Coordinate Associated and Occasions of Services

### 9.1 Coordinate Associated and Occasions of Services

The Coordinate Associated and Occasions of Services capability is highly integrated with the activities and processes of Manage Patient Information, Manage Appointment Request, Make Appointment, and Manage Appointment Made and Kept. A patient's special needs and preferences could initially trigger the need for transportation or the organization of same day appointments. Coordinating other healthcare needs could involve the decision to set up a telehealth session or home based care with a patient who meets the criteria for these types of healthcare delivery. The scheduling of a mobile unit to be available at another facility to service the needs of veterans in remote locations is another example of coordinating resources. Facilities serving Snowbirds or traveling veterans must have immediate access to patient registration and eligibility information, and healthcare records. A fee-based appointment with private practitioners requires the coordination of a patient's medical records.

As stated in VHA Directive 2010-027 section (14) '**Occasion of Service**. Formerly known as ancillary service, an "occasion of service" is a specified identifiable instance of an act of technical and administrative service involved in the care of a patient or consumer, which is not an encounter and does not require independent clinical judgment in the overall diagnosing, evaluating, and treating the patient's condition(s).

(a) Occasions of service are the result of an encounter. Clinical laboratory tests, radiological studies, physical medicine interventions, medication administration, and vital sign monitoring are all examples of occasions of service.

(b) Some occasions of service, such as clinical laboratory and radiology studies and tests, are automatically loaded to the Patient Care Encounter (PCE) database from other VistA packages.'

The coordination of occasion of service involves the initial and follow-up appointments for both primary and specialty appointments, check-in/check-out procedures, patient instruction and test result notifications, updates to healthcare records, and co-pay requirements when applicable. An occasion of service is received in the form of an order.

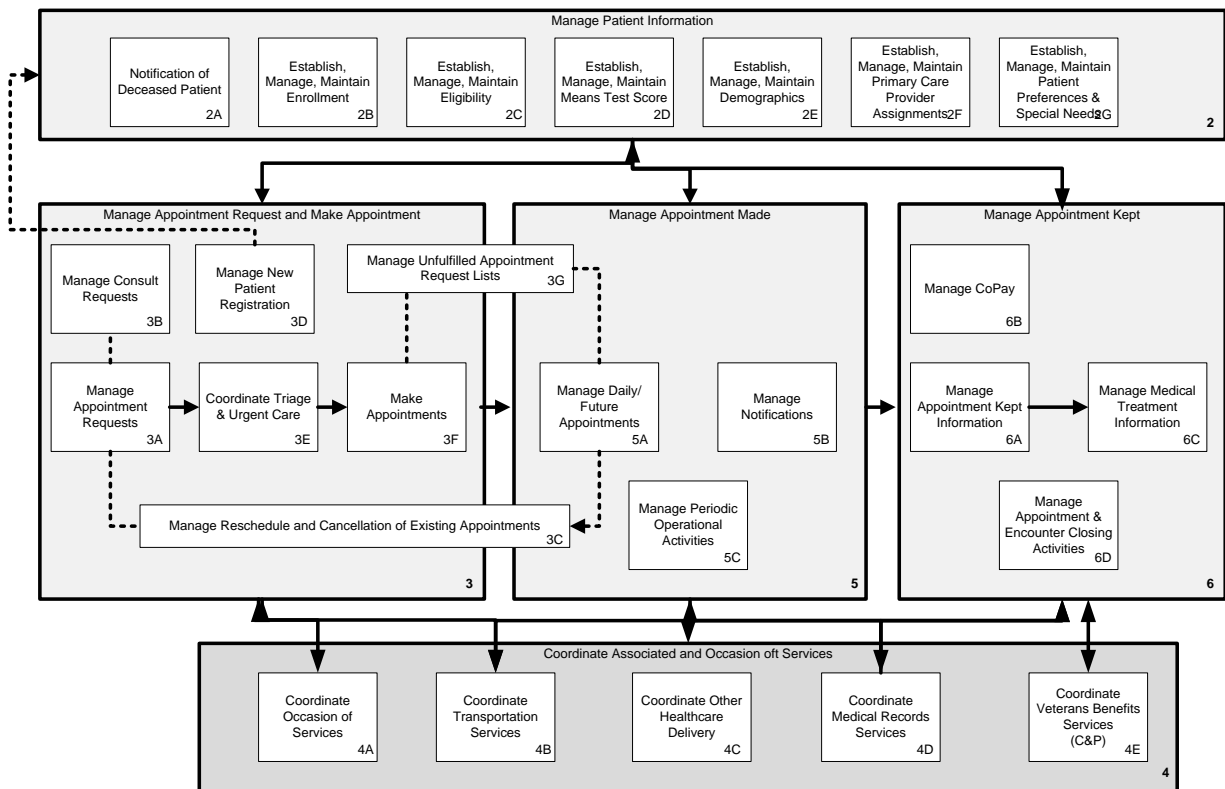
#### 9.1.1 Business Process Capability Overview

The Coordinate Associated and Occasion of Services Level 0 model in Figure 9 Coordinate Associated and Occasion of Service - Level 0 Capability Model illustrates the

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supporting Level 1 capabilities, their contribution to managing an appointment and interrelationship with other core capabilities by providing critical information regarding tests and services to patients. This capability consists of a group of activities that must be orchestrated to provide schedulers with relevant information to schedule patients as efficiently as possible. Ancillary tests (laboratory, radiology, EKG) are frequently required in association with scheduled appointments. Orders need to be created and coordinated with associated scheduled appointments. Patients need to be informed of the requirement to arrive and have tests conducted prior to showing up for scheduled appointments with providers.

**Figure 9 Coordinate Associated and Occasion of Service - Level 0 Capability Model**



## Capability Model Description

There are five total sub-capabilities that define the Coordinate Associated and Occasion of Services process. Table 27 is a high-level description of the sub-capabilities which includes: Coordinate Occasion of Service, Coordinate Transportation Services, Coordinate Other Healthcare Delivery, Coordinate Medical Records Services, and Coordinate Veterans Benefits Services (C&P).

**Table 27 Coordinate Associated and Occasion of Service - Level 1 Sub-capability Model Description**

COORDINATE ASSOCIATED AND OCCATION OF SERVICE SUB-CAPABILITIES		
4A	Coordinate Occasion of Service	To effectively manage patient and resource time, ancillary test services must be ordered and associated with an existing appointment. The scheduler needs to make certain the ancillary appointments are linked to the primary appointment. Poor coordination with these associated services often results in late appointment starts and/or appointments that cannot be kept (e.g., because ancillary test results are not ready in time for the appointment). Visibility and communication of these services will help streamline scheduling and patient satisfaction.

COORDINATE ASSOCIATED AND OCCATION OF SERVICE SUB-CAPABILITIES		
4B	Coordinate Transportation Services	Some patients have limitations that prevent them from keeping appointments that fail to meet certain criteria. For example, some patients rely on modes of transportation to and from the medical facility that operate only on specific days and at specific times. Giving schedulers the ability to enable the patient to schedule appointments during their optimum times increases patient satisfaction and reduces missed appointments due to transportation issues.
4C	Coordinate Other Healthcare Delivery	The sub-capability ensures that the delivery of all services to the Veteran are coordinated from the time of enrollment until services are no longer required.
4D	Coordinate Medical Records Services	Providers require access to patient medical records during the course of scheduled appointments. Records Administrators need to be kept in the outpatient appointment scheduling information loop so they can ensure patient records are available to the providers when and where needed for outpatient appointments (whether planned or unplanned). This sub-capability will minimize patients and providers having to wait for medical records to arrive because they were not pulled and made available to the provider on time.
4E	Coordinate Veteran Benefits Services (e.g. C&P)	The Veterans Benefit Administration (VBA) processes veteran C&P claims that frequently require coordination with the VHA scheduling activity. The VBA needs to ensure that appointments for C&P exams are scheduled, kept, and documented.

### 9.1.2 Business Process Scenarios

Common business process scenarios that should be met by a COTS solution are described in Table 28. The information represents the first phase of an iterative process of gathering, analyzing, and reviewing information within the supporting business scenarios of the manage appointment made and kept capability.

**Table 28 Business Process Scenarios: - Coordinate Associated and Occasions of Service**

BUSINESS PROCESS SCENARIOS – COORDINATE ASSOCIATED AND OCCASIONS OF SERVICE	
<b>Appointment for Compensation and Pension (C&amp;P) Requests:</b> The scenario begins when a veteran completes a VA form 21-526 application for compensation and pension and sends it to the Veterans Benefit Administration (VBA) regional office for processing. The patient's address is used to determine which VA medical facility will perform the C&P evaluation. Both primary and specialty appointment requests are initiated by a VBA regional office representative.	
C&P Request	Scheduler receives C&P request and proceeds to schedule an appointment with a primary or specialty care provider. Upon review of the request, additional test(s)

## BUSINESS PROCESS SCENARIOS – COORDINATE ASSOCIATED AND OCCASIONS OF SERVICE

	may be required and scheduled. This scenario kicks-off the C&P process, and the execution of the C&P process is handled in the Manage Appointment Made and Kept capability section.
<p><b>Consultation Process:</b></p> <p>The policies defined for managing the clinical consultation process are described in the VHA Directive 2008-056. It states that the consultation process is a relationship between a sending and receiving healthcare service where defined workflow rules exist. Effective use of service agreements establishes clear processes and reduces the need for inspection and rework, and improves the relationship between practices. The policy and actions required request that clinical consultations be clinically completed with results consistent with VHA timeliness standards and is efficiently resolved while taking into account an individual's healthcare needs. A consult is a specific document which facilitates and communicates consultative and non-consultative service requests and subsequent activities.</p>	
Clinical Consultation	<p>A clinical consultation is a request by a physician or other healthcare provider seeking an opinion, advice, or expertise regarding the evaluation or management of a specific patient problem. Most often, a consult is generated electronically and is intended to facilitate and communicate requests for service with an expectation that a reply is provided within a timely manner. Currently, the CPRS functionality in VistA is the mechanism used to initiate, manage, and communicate clinical consultations.</p> <ul style="list-style-type: none"> <li>• Consultations can be resolved without a face-to-face encounter yet should be captured and documented for tracking purposes</li> <li>• All other clinical consultations must be acted on by scheduling an appointment within VA's established timeframe. In cases where a consult cannot be scheduled within the established timeframe, a reason for the deviation must be captured.</li> <li>• The ideal process is direct scheduling of consult appointments without clinical review by the receiving service, and performed by the referring provider's team before the patient leaves.</li> <li>• When a patient fails to keep a scheduled consultation, the receiving service must reassess the need for service and either reschedule the appointment or cancel the consult request, as appropriate.</li> <li>• A consultation is considered a 'count' encounter which refers to workloads that meet the definition of an encounter. An encounter is a professional contact between a patient and a provider vested with the responsibility for diagnosing, evaluating, and treating the patient's condition. Some Occasion of Services can be considered as 'count' encounters.</li> </ul>
Non-count encounters	<p>An appointment for occasion of services, such as laboratory work-ups and imaging services, are considered non-count encounters. A non-count encounter is one where diagnosing, evaluating, and treating a patient's condition does not take place. There are two scenarios why an encounter is designated as 'non-count', One, if the encounter is administrative in nature and the patient care is not provided; and two, in cases where the workload associated with the occasion of service has already been captured during a count encounter.</p> <ul style="list-style-type: none"> <li>• Requests for laboratory and imaging services are made via provider orders.</li> <li>• Orders transmit directly to the lab or radiology software applications.</li> <li>• Work performed in response to such orders triggers transmission of encounter data via the VHA Patient Care Encounter (PCE) software application.</li> </ul>
Consult Tracking	To ensure a balanced level of oversight and autonomy by the Systems Redesign, VISN Directors and Facility Directors, the consult process should be standardized to the extent possible while maintaining the flexibility to accommodate service

BUSINESS PROCESS SCENARIOS – COORDINATE ASSOCIATED AND OCCASIONS OF SERVICE	
	<p>agreement requirements.</p> <ul style="list-style-type: none"> <li>Procedures are established to track and process clinical consultation requests that are without action within 7 days of the request.</li> <li>Appropriate checks and balances are in place before the consult request (VA and Non-VA) are closed out to ensure the clinical documentation is complete and accurately associated to the patient's medical record.</li> <li>Both clinical consultation and non-consultative service requests will be tracked. Each is designated as a type of consult and used to ensure workflow and that the veteran's medical needs have been fully satisfied, and within acceptable timelines.</li> </ul>

### 9.1.3 Business Process Characteristics and Parameters

The characteristics and process parameters are represented in Table 29. Characteristics include triggers, process inputs and outputs, volumes and frequencies. The process parameters include process owner, organizational units, roles, process flows, media, technology, and business objects. Each provides an example of the components needed to map to a COTS solution. Components will be refined and others might be identified during future requirements solicitation sessions.

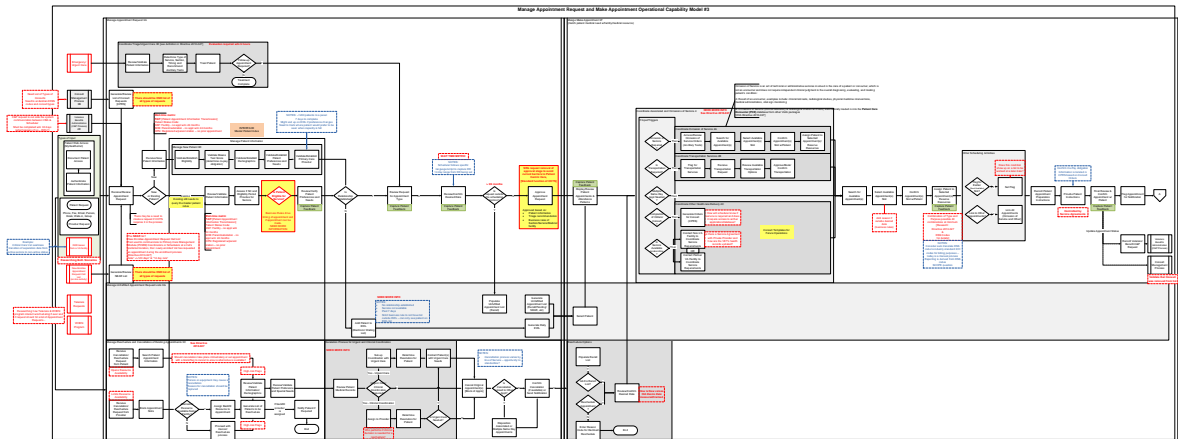
**Table 29 Process Characteristics – Coordinate Associated and Occasions of Service**

PROCESS CHARACTERISTICS – COORDINATE ASSOCIATED AND OCCASIONS OF SERVICE	
Process Trigger	<ul style="list-style-type: none"> <li>Confirmed appointments</li> <li>Patients that require notifications</li> <li>Operational and administrative functions</li> <li>Check-in process</li> </ul>
Process Input	<ul style="list-style-type: none"> <li>MyHealtheVet, TeleHealth, Unfulfilled Appointment Request List, operational reporting, walk-in, cancellations</li> </ul>
Process Output	<ul style="list-style-type: none"> <li>Notifications to patients</li> <li>Telehealth set-up</li> <li>Intra and Inter-facility coordination</li> <li>Appointment cancellations, no-shows and LWBS tracking</li> <li>Coordination and disposition of appointment and encounter</li> <li>Operational reporting</li> </ul>
Process Volumes	TBD
Process Frequencies	TBD
Process Owner	Who is responsible for the capability/process?
Organizational Unit	<p>Which organizational unit owns the capability/process execution</p> <ul style="list-style-type: none"> <li>National <ul style="list-style-type: none"> <li>VISN <ul style="list-style-type: none"> <li>Facility <ul style="list-style-type: none"> <li>Service <ul style="list-style-type: none"> <li>Section</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul>
Roles	<p>Roles that should contribute to the capability/process execution</p> <ul style="list-style-type: none"> <li>Associated Services Administrator</li> </ul>

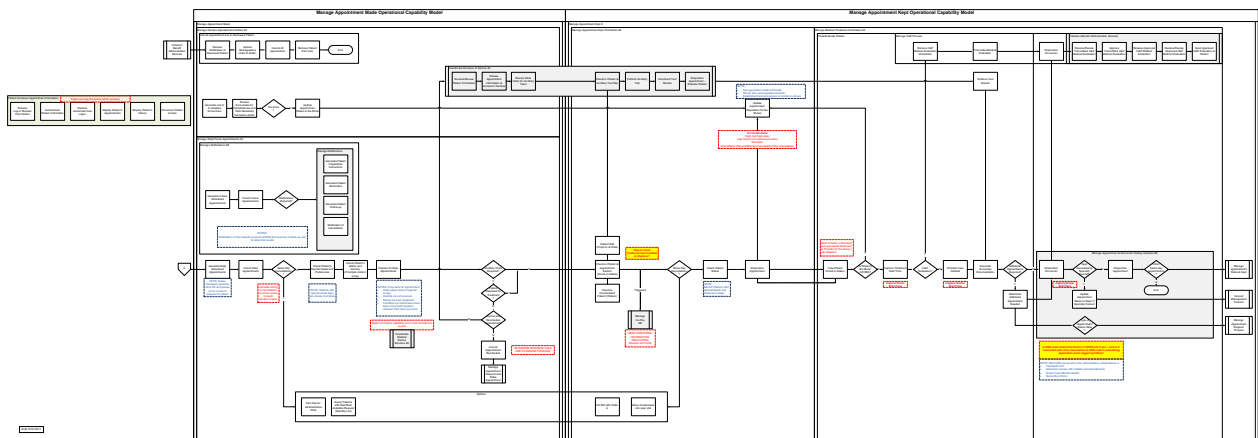
PROCESS CHARACTERISTICS – COORDINATE ASSOCIATED AND OCCASIONS OF SERVICE	
	<ul style="list-style-type: none"> <li>• Front Desk</li> <li>• Management</li> <li>• Patient</li> <li>• Provider</li> <li>• Registration</li> <li>• Schedule Administrator</li> <li>• Scheduler</li> <li>• Scheduling Component System Administrator</li> <li>• Section Chief</li> <li>• Technician</li> <li>• Timer</li> <li>• Triager</li> <li>• VHA Management</li> </ul>
Process Flows	<p>Which processes proceed and follow?</p> <p><b>Proceeding processes:</b> VHA Master Data Management Master Data and Set-up for Resource Centric Scheduling</p> <p><b>Integrated processes:</b> Manage Patient Information Manage Request and Make Appointment Manage Appointment Made and Kept</p> <p><b>Follow-on processes:</b> Manage Reports</p>
Media	<p>By which media do capabilities/processes interact (means of communication workflow)</p> <ul style="list-style-type: none"> <li>• Phone</li> <li>• Fax</li> <li>• Email</li> <li>• MyHealtheVet</li> <li>• TeleHealth</li> <li>• Scheduling workflow alerts and work-list</li> </ul>
Technology	<p>What kind of technology enables the capability/process execution?</p> <p>COTS Resource Centric Application</p>
Business Object(s)	<p>Which business objects are used, modified, produced?</p> <ul style="list-style-type: none"> <li>• Patient master record</li> <li>• Provider master record</li> <li>• Services master record</li> <li>• Facility master record</li> <li>• Appointment master record</li> <li>• Calendar master record</li> <li>• Patient healthcare master record</li> <li>• Operational reports</li> <li>• DSS identifiers</li> <li>• Service agreements</li> <li>• Consult and encounter master record</li> <li>• Occasions of service orders</li> </ul> <p>Others will be identified during requirements solicitation sessions</p>

#### 9.1.4 Business Process Diagram

**Figure 10 Coordinate Associated and Occasions of Service Process (1)**



**Figure 11 Coordinate Associated and Occasions of Service Process (2)**



Process flow is located in Appendix A

## 9.1.5 Business Process Description

### 9.1.5.1 *Locations Where this Business Process is Performed*

Coordinate Associated and Occasions of Service requires additional discussions to determine how the business intends to operate in the new resource centric model. This capability is inadequately defined and yet has the greatest potential to positively impact a patient's access to care.

### 9.1.5.2 *Process Step Detailed Requirements & Solution*

This section refers to the Visio process model and contains a descriptive walk-through of the process for each step or event and any unique variations. Related design considerations,

gaps, configuration, and/or development items will be discussed with a COTS vendor upon selection of an application solution. File is located in Appendix B.

### 9.1.6 Business Requirements for Process Coordinate Associated and Occasions of Services

The Business Requirements Document (BRD) provides the first step to collect basic requirements from the business. These requirements are refined and tailored through a series of further requirements solicitation processes. The Coordinate Associated and Occasions of Service capability is an example where the solicitation of requirements should take place to further define the capability. Currently a sub-component of Business Need 4: Manage Appointment Request and Make Appointment, only Ancillary Services is captured as a business requirement. Business needs are identified in Table 30.

**Table 30 Business Needs - Coordinate Associated and Occasions of Services**

BUSINESS NEEDS – COORDINATE ASSOCIATED AND OCCASIONS OF SERVICE (HIGH LEVEL)	
BN 4: Manage Appointment Request and Make Appointment – The scheduling system shall accommodate appointment requests from multiple inputs sources, including patients and providers via different sources such as MyHeatheVet, walk-ins, email and other modes.	
4.5	Ancillary Services – The system shall have the capability to accommodate different service types such as C&P, ancillary services and specialty services.
4.5.1	<ul style="list-style-type: none"><li>The system shall have the capability to link ancillary tests to appointments (if they are changed, ancillary tests can be updated without canceling order and re-ordering).</li></ul>
4.5.2	<ul style="list-style-type: none"><li>The system shall have the capability to link ancillary tests to appointments.</li></ul>
4.5.3	<ul style="list-style-type: none"><li>The system shall provide the capability to establish links to activities that require coordination with appointments (e.g., ancillary services).</li></ul>
4.5.4	<ul style="list-style-type: none"><li>The system shall have the capability to coordinate appointments with related ancillary visits.</li></ul>
4.5.5	<ul style="list-style-type: none"><li>The system shall have the capability to support coordinating multiple appointments (e.g., provide information helpful in scheduling all appointments on one day, multidisciplinary team appointments).</li></ul>

### 9.1.7 Additional Coordinate Associated and Occasions of Services Topics

Additional topics of the Manage Patient Information section to be discussed include:

**Table 31 Additional Coordinate Associated and Occasions of Services Topics**

Topic	Required Information
Business Rules	Provide a high-level list of requirements and expectations.-link to the Value Dependency document and to be leveraged for Business Process Requirement Gathering sessions
Key Policies/Operational	Describe key policies, operational decisions, and logic related to this process.> All the Key policies / operational decisions relating to [XXXX process] have been

Decisions or Logic within the Process	<p>detailed in the following documents, and maintained in [XXXX SharePoint Site].</p> <ul style="list-style-type: none"> <li>• KDD_xx_001    xxx</li> <li>• KDD_xx_002    xxx</li> </ul>
Reference to Key Process Changes and Process KPIs	Refer to key process change document on process level
Integration Points	List known integration topics/issues with other COTS modules / components, etc.
Potential Future Process Improvements	Summarize future improvements, based on requirements that have been discussed that will NOT be implemented in the project. (out of scope for this implementation)

Refer to Appendix D for additional Business Blueprint template details.

## 10 Business Process and Solution Design for Manage Appointment Made and Kept.

### 10.1 Process Overview Manage Appointment Made and Kept

The primary purpose of the Manage Appointment Made process is to provide information regarding existing daily and future appointments and to maintain operations. On a daily basis, the service generates a list of patients with confirmed appointments for the day. In addition to providing the patient's name, time slot and provider, this list should present additional information such as special needs, patient alerts (violent patient) coordination with other services, and itinerary of same day appointments in support of the full breadth of care and services required during a specific day for a particular Veteran. This type of information is critical to the daily PACT (Patient Aligned Care Team) tag-ups. When other services are needed to meet patient goals and needs, the PACT oversees and coordinates that care.

The second most important aspect of the Manage Appointment Made process is the generation of future appointments toward organizing and preparing for the management of notifications. Notifications are outbound messages in the form of post cards, personal calls, letters, or emails to Veterans for a variety of reasons. Most notable involve sending a letter to a patient with preparatory instructions prior to an appointment, sending out a postcard notification to a Veteran to schedule a follow-up appointment, or contacting a veteran for failure to show up for their appointment. The goal of this sub-capability is to standardize the type, form and format of patient interaction and streamline the activities and resources required to complete each.

Manage Appointment Kept starts at the point the patient arrives for service and

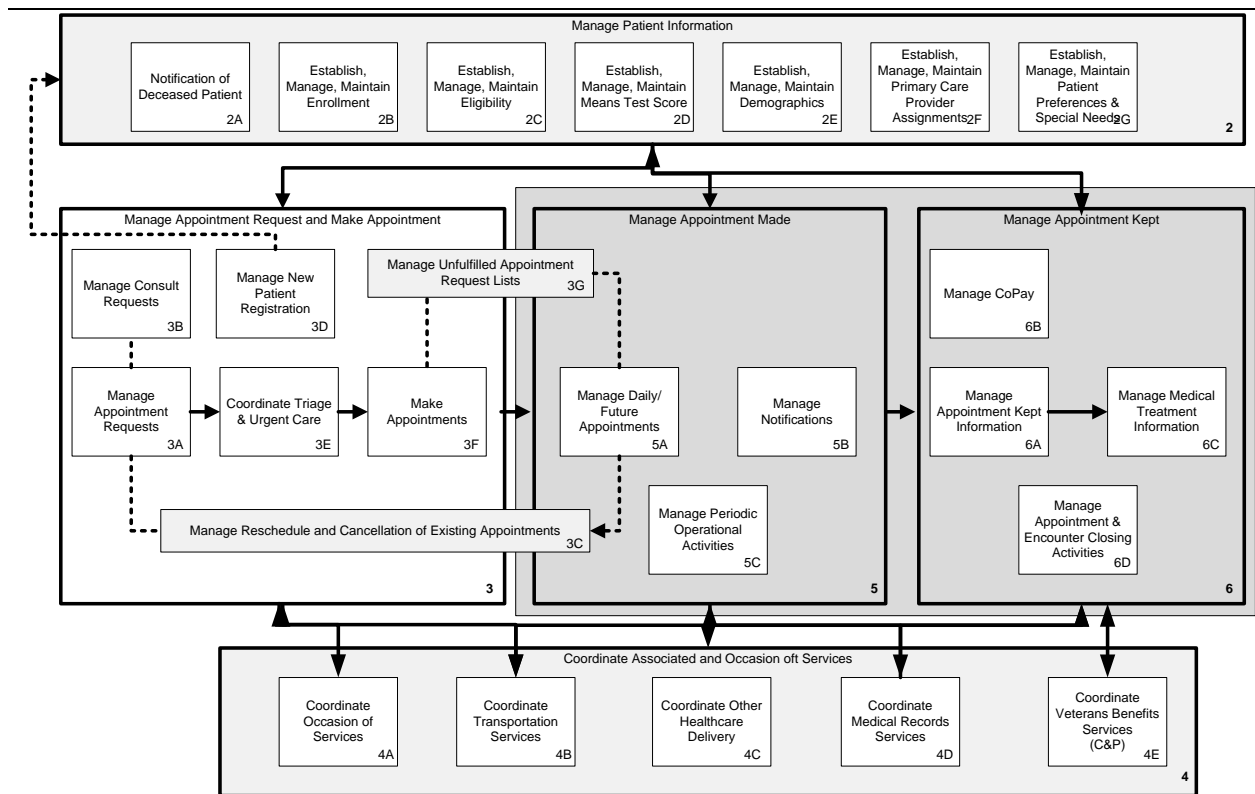
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processes information about the encounter. This capability provides for monitoring the patient arrival and departure times. The information about the services provided is not entered by the scheduler. The actual encounter information should be extracted from information captured in the natural course of encounter documentation, (CPRS, Event Capture, Surgery Package, Radiology, Laboratory, and Patient Care Encounter). If a provider determines a follow-up appointment is necessary, the process moves back to the Request process. Special attention should be place on cases where the Veteran is being transported between facilities in an effort to track the logistics of certain patients while ensuring they are where they need to be when they need to be there. Tracking the patient in the facility (e.g., moving to various treatment areas) is part of the Manage Appointment Kept process.

### 10.1.1 Business Process Capability Overview

The Manage Appointment Made and Kept Level 0 model in Figure 12 illustrates the supporting Level 1 capabilities and their contribution to managing patient-related and appointment tracking processes. The process is triggered by appointments made and confirmed. While managing the daily workload, same day cancellations occur and must be handled by re-initiating the request process to reschedule or place the patient on an unfulfilled appointment request list. The capabilities move forward to the activities that complete the process by matching appointment and encounter information. Both Manage Appointment Made and Kept capabilities are closely integrated with Manage Patient Information, and Coordinate Associated and Occasions of Service processes.

**Figure 12 Manage Appointment Made and Kept - Level 0 Capability Model**



### 10.1.2 Capability Model Description

There are seven total sub-capabilities that define the Manage Appointment Made and Kept processes. Table 32 is a high-level description of the sub-capabilities which includes: Manage Daily/Future Appointments; Manage Notifications; Manage Periodic Operational Activities; Manage Appointment Kept Information; Manage CoPay; Manage Medical Treatment Information; and Manage Appointment and Encounter Closing Activities.

**Table 32 Manage Appointment Made and Kept - Level 1 Sub-capability Model Description**

MANAGE APPOINTMENT MADE AND KEPT SUB-CAPABILITIES		
5A	Manage Daily/Future Appointments	This sub-capability supports the ability to display and manage information about daily appointments in preparation for PACT tag-ups and coordination with other services and patients' special needs. It also involves monitoring patient progress though the encounter, and preparing for future appointments as necessary.
5B	Manage Notifications	This sub-capability supports activities to display and generate appointment reminders and notifications. This includes the capability to create notifications as part of making an appointment and selecting a variety of formats (e.g., letter, phone, e-mail, pending appointment list, or card). Each option should be capable of being enabled or disabled based upon patient preferences. Schedulers and users should be alerted if appointment notifications require patients to arrive at invalid ancillary test times. Notifications also are generated via batch

MANAGE APPOINTMENT MADE AND KEPT SUB-CAPABILITIES		
		processes for sections and individual patients.
5C	Manage Periodic Operational Activities	The activities of the sub-capability involve generating lists of incomplete encounters, reviewing encounters for completeness and taking or recommending corrective action. It also includes creating extracts for external systems and supports the creation various reports and documents.
6A	Manage Appointment Kept Information	To increase efficiency of care and patient satisfaction, scheduling needs to be able to provide a means to collect and analyze data surrounding appointments kept. For example, if patient's associated services are not aligned with appointments, it often results in late appointment starts (e.g., because the patient's medical records were not available or because the appointment selection did not take into consideration a patient's transportation limitations) and/or appointments cannot be kept (e.g., because ancillary test results are not ready in time for the appointment).
6B	Manage Co-Pay	This sub-capability includes the activities to monitor the correct association of a patient's co-pay regarding services rendered. Refer to VHA Directive 2010-048 and the BPIC Task Force Whitepaper issued in June 2011.
6C	Manage Medical Treatment Information	Encounter information captures the specific information about the medical service that was provided during the course of the appointment. Information includes procedural, diagnostic, and prognostic details. The information captured in the encounter note may be codified for research and billing purposes
6D	Manage Appointment & Encounter Closing Activities	The scheduling application currently contains data which is not necessarily part of an appointment, therefore, separation of appointment and encounter information is desired. Appointment information captures the fact that an appointment occurred. It reflects whether or not an appointment was kept as scheduled or handled as a walk-in, as well as date/time statistics associated with patient arrivals and departures. Additionally, the provider might place a request to the system for a follow-on appointment.

### 10.1.3 Business Process Scenarios

Common business process scenarios that should be met by a COTS solution are described in Table 33. The information represents the first phase of an iterative process of gathering, analyzing, and reviewing information within the supporting business scenarios of the manage appointment made and kept capability.

**Table 33 Business Process Scenarios - Manage Appointment Made and Kept**

BUSINESS PROCESS SCENARIOS – MANAGE APPOINTMENT MADE AND KEPT
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## BUSINESS PROCESS SCENARIOS – MANAGE APPOINTMENT MADE AND KEPT

### Notification of Deceased Patient:

The notification of a deceased patient is first received by the Veterans Benefit Administration. Updates to a patient's master record are handled in the Manage Patient Information capability; however, the cancellation of appointments and other services is dealt with during the Manage Appointment Made process. The scenario involves the communication of a patient's death and the activities that follow with regard to outpatient scheduling.

Cancelling Appointments when a Patient has passed

A patient may pass inside or outside a VA facility. In the case where a patient is pronounced dead at a VA facility, that facility is required to notify the Veterans Benefit Administration in a timely manner. The current process required the facility to wait to cancel appointments associated with the deceased patient until a formal notification is available and distributed.

In an effort to remove bottlenecks in the process, any facility responsible for the announcement of a patient's death should be able to justify that facilities actions to clear their books of any appointments associated with the deceased patient. The full range of possible situations within the scope of a facility's control to notify others will be discussed during future requirements solicitation sessions.

### Administrative Activities:

Once an appointment has been made, daily operational activities ensue to support the organization and coordination of committed resources. The generation of reports and lists from the scheduling application helps to maintain an efficient operation by providing the necessary information for just-in time decision making. Whether a patient was a no-show or the episode of care completed, a series of administrative activities take place to disposition the appointment and encounter.

Generate various operational reports and lists

The generation of operational reports and lists is performed throughout the process to help ensure an efficient coordination of activities and resources.

Disposition Appointment and Encounter

The coordination of appointment and encounter information is essential in capturing and monitoring resource workflow and utilization.

### Patient Notifications (output notifications):

Notifications to patients are handled differently in each facility and by each type of service. One area that the VHA could experience efficiencies is in the form, format, and type of communication being sent to Veterans. Some standardization has begun with the inception of the Recall List and the introduction of the Appointment Card project. Similar discussions and pilots have emerged to automate communications.

There are three main scenarios involving patient notifications. They include: patient preparation, patient reminders, and patient follow-up. Whether the mode of delivery is a personal call, a letter, or a post card, the workload should be organized, prioritized, monitored and tracked for efficiency. Notifications should be standardized so the process is the same for each Veteran regardless of the location or service being provided.

Patient Preparation

This scenario is first triggered when the patient is confirming an appointment or a series of appointments. The notification could include:

- Preparation instructions prior to arriving for an appointment such as required preliminary test and x-rays; or of special instructions (e.g. not eating 12 hours prior to the visit).
- An itinerary of times, providers' names and locations for multiple same day appointments along with confirmation regarding a patient's special needs and/or requests (e.g. escort services for handicapped patients).
- Coordination of services would be indicated where transportation and other types of assistance is required.

## BUSINESS PROCESS SCENARIOS – MANAGE APPOINTMENT MADE AND KEPT

Patient Reminders	<p>Three main types of patient reminders currently exist. They include:</p> <ul style="list-style-type: none"> <li>• Patient reminder of existing appointment</li> <li>• Patient reminder to call for an appointment</li> <li>• No-show notification to reschedule appointment</li> </ul> <p>The purpose of the Recall List is to alert patients with a reminder to call and make an appointment as requested by their provider when the desire date is out three to four months from the original appointment. Patients that fail to appear for their appointment may receive a call immediately by the service or are added to a patient reminder list.</p>
Patient Follow-up	<p>This scenario is the result of an encounter. As a courtesy to Veterans by some services, a post appointment follow-up call is carried out. A second type of follow-up scenario involves the results of tests that were performed. In some cases a follow-up for test results could result in a request to make an additional appointment with the provider.</p> <ul style="list-style-type: none"> <li>• Post appointment follow-up call</li> <li>• Notification of test results</li> </ul>
Notification of cancellations	<p>The request to cancel is triggered in the Manage Request and Make Appointment process; however, when a provider requests to cancel scheduled appointments with the proper advanced notice, the activities to support this scenario take place in the Manage Made Appointment process.</p>
<p><b>Daily Appointment Check-in/Check-out:</b></p> <p>Many activities take place during the check-in/check-out process. In some cases, a patient might check-in at a kiosk provided by the facility, but in many cases the Veteran checks in at a receptionist type set-up. The various scenarios of the process include: basic appointment with either a financial or non-financial obligation (e.g. travel voucher, co-pay), walk-ins or cancellations, no shows, checked in but left without being seen (LWBS), coordination of same day appointments and special needs, special alerts to clerks and providers, and hand-off between provider and check-out process.</p>	
Appointment Check-in/Check-out: Financial/Non-Financial	<p>Two scenarios not necessarily handled in the scheduling practices of the check-in and check-out process but are triggered by these activities include co-pay and travel reimbursement.</p> <p>To date, most of the co-pay activities are included in the billing activities outside of scheduling; however, since the co-pay is associated with the type of service and a patient's eligibility, it seems logical for the Manage Appointments Kept process to include steps to validate the association and business rules that govern the final billing.</p> <p>Another scenario with a financial component is the travel reimbursement agreement with the Veteran. It is the confirmation and validation that the patient fulfilled their obligation in the appointment and encounter process that enables the issuance of a travel voucher during the check-out process.</p> <ul style="list-style-type: none"> <li>• Service must ensure workflow occurs in a standardized manner to include patient check-in with scheduling staff, nurse interviews, provider visits, and check-out processes.</li> </ul>
Itinerary of Multiple Same Day Appointments and Patient with Special Needs	<p>An efficient operation is one that coordinates all activities affecting the timely service of care. Tracking a patient's check-in/check-out status from one appointment to the next on days with multiple same day appointments would significantly improve the ability for a service to monitor, coordinate, and manage patient movement and provide a just-in-time need for a resource to attend to patients with special needs.</p>

BUSINESS PROCESS SCENARIOS – MANAGE APPOINTMENT MADE AND KEPT	
Walk-ins, No-shows, and LWBS	Although walk-ins help to fill the gaps in the daily schedule, no-shows and LWBS trigger other processes and reporting criteria concerning effectiveness of service.
Check-out and Follow-up Appointments	<p>The check-out scenario is an area where efficiencies can be recognized. In cases where a follow-up is requested by the provider, the appointment should be made during the check-out process. The same should be accomplished regardless of the provider or service (e.g. Primary to Specialty or Specialty to Specialty)</p> <ul style="list-style-type: none"> <li>• Orders are documented during the encounter and are available for scheduling prior to the check-out process.</li> <li>• Providers must document rational and timeframes for medications, diagnostic tests, laboratory studies, return appointments, consultations and procedures before the patient leaves the examination room.</li> <li>• The check-out process should occur following every encounter. Check-out process may consist of: <ul style="list-style-type: none"> <li>○ Nurse-administered patient education</li> <li>○ Clinical pharmacist education and review of prescription orders</li> <li>○ Collection of patient feedback</li> <li>○ Scheduling of diagnostic studies, consultations, and follow-up visits</li> </ul> </li> <li>• The check-out process must also include the verification of the disposition of the appointment and the encounter.</li> </ul> <p>Additional details of this scenario can be found in the Coordinate Associated and Occasions of Services capability.</p>

#### 10.1.4 Business Process Characteristics and Parameters

The characteristics and process parameters are represented in Table 34. Characteristics include triggers, process inputs and outputs, volumes and frequencies. The process parameters include process owner, organizational units, roles, process flows, media, technology, and business objects. Each provides an example of the components needed to map to a COTS solution. Components will be refined and others might be identified during future requirements solicitation sessions.

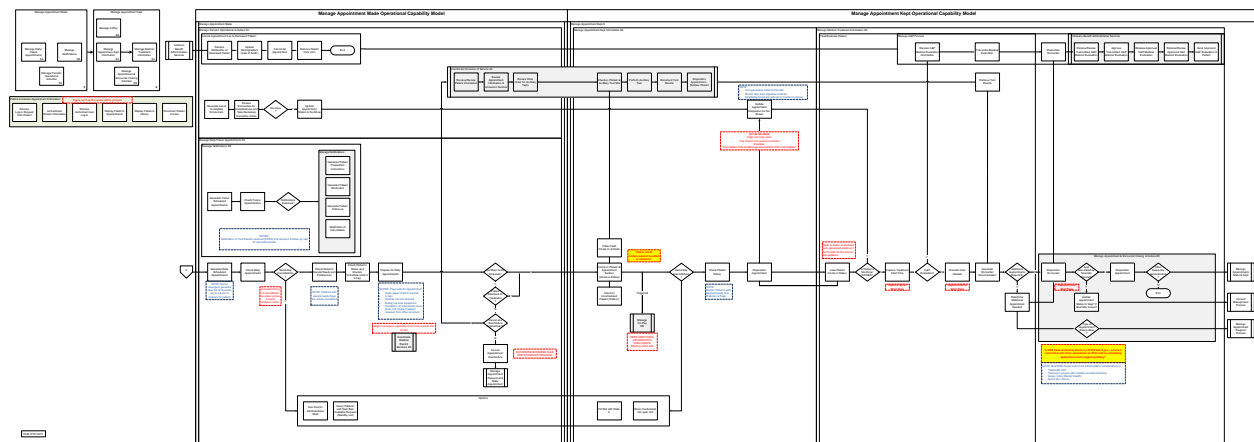
Table 34 Process Characteristics – Manage Made and Kept Appointment

PROCESS CHARACTERISTICS – MANAGE APPOINTMENT MADE AND KEPT	
Process Trigger	<ul style="list-style-type: none"> <li>Confirmed appointments</li> <li>Patients that require notifications</li> <li>Operational and administrative functions</li> <li>Check-in process</li> </ul>
Process Input	<ul style="list-style-type: none"> <li>MyHealtheVet, TeleHealth, Unfulfilled Appointment Request List, operational reporting, walk-in, cancellations</li> </ul>
Process Output	<ul style="list-style-type: none"> <li>Notifications to patients</li> <li>Telehealth set-up</li> <li>Intra and Inter-facility coordination</li> <li>Appointment cancellations, no-shows and LWBS tracking</li> <li>Coordination and disposition of appointment and encounter</li> <li>Operational reporting</li> </ul>
Process Volumes	TBD
Process Frequencies	TBD
Process Owner	Who is responsible for the capability/process?
Organizational Unit	<p>Which organizational unit owns the capability/process execution</p> <ul style="list-style-type: none"> <li>National <ul style="list-style-type: none"> <li>VISN <ul style="list-style-type: none"> <li>Facility <ul style="list-style-type: none"> <li>Service <ul style="list-style-type: none"> <li>Section</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul>
Roles	<p>Roles that should contribute to the capability/process execution</p> <ul style="list-style-type: none"> <li>Associated Services Administrator</li> <li>Front Desk</li> <li>Management</li> <li>Patient</li> <li>Provider</li> <li>Registration</li> <li>Schedule Administrator</li> <li>Scheduler</li> <li>Scheduling Component System Administrator</li> <li>Section Chief</li> <li>Technician</li> <li>Timer</li> <li>Triager</li> <li>VHA Management</li> </ul>
Process Flows	<p>Which processes proceed and follow?</p> <p><b>Proceeding processes:</b>  VHA Master Data Management  Master Data and Set-up for Resource Centric Scheduling</p> <p><b>Integrated processes:</b>  Manage Patient Information  Manage Request and Make Appointment  Coordinate Associated and Occasions of Service</p> <p><b>Follow-on processes:</b></p>

PROCESS CHARACTERISTICS – MANAGE APPOINTMENT MADE AND KEPT	
	Mange Reports
Media	By which media do capabilities/processes interact (means of communication workflow) <ul style="list-style-type: none"> <li>• Phone</li> <li>• Fax</li> <li>• Email</li> <li>• MyHealtheVet</li> <li>• Telehealth</li> <li>• Scheduling workflow alerts and work-list</li> </ul>
Technology	What kind of technology enables the capability/process execution? COTS Resource Centric Application
Business Object(s)	Which business objects are used, modified, produced? <ul style="list-style-type: none"> <li>• Patient master record</li> <li>• Provider master record</li> <li>• Services master record</li> <li>• Facility master record</li> <li>• Appointment master record</li> <li>• Calendar master record</li> <li>• Operational Reports</li> <li>• DSS Identifiers</li> </ul> Others will be identified during requirements solicitation sessions

## 10.1.5 Business Process Diagram

Figure 13 Manage Appointment Made and Kept Process



Process flow is located in Appendix A.

## 10.1.6 Business Process Description

### 10.1.6.1 Locations Where this Business Process is Performed

Manage Appointment Made and Kept activities are primarily performed at the location

where healthcare services are being performed. The supervisory activities of managing daily operations and running reports can be performed at other location; however are typically performed at the same location as the healthcare service. The capability to manage notifications is an area that requires review and standardization. Workshops to discuss the capabilities will be scheduled in the near future.

#### 10.1.6.2 Process Step Detailed Requirements & Solution

This section refers to the Visio process model and contains a descriptive walk-through of the process for each step or event and any unique variations. Related design considerations, gaps, configuration, and/or development items will be discussed with a COTS vendor upon selection of an application solution. File is located in Appendix B.

### 10.1.7 Business Requirements for Process Manage Made and Kept Appointment

The Business Requirements Document (BRD) provides the first step to collect basic requirements from the business. These requirements are refined and tailored through a series of further requirements solicitation processes. Business needs are identified in Table 35.

**Table 35 Business Needs - Manage Made and Kept Appointment**

BUSINESS NEEDS – MANAGE APPOINTMENT MADE AND KEPT (HIGH LEVEL)	
BN 5: Manage Appointment Made – The system will provide the capability to display and manage information about activities including left without being seen (LWOBS), cancelled and rescheduled. Cancellations and no-shows can serve as a trigger to display the appointment slots as available for requests.	
5.1	Appointment Rescheduling –The system shall identify appointments to be rescheduled and route them automatically to the reschedule status or pending list
5.1.1	<ul style="list-style-type: none"> <li>The system shall have the capability to disposition rebooking of no-shows.</li> </ul>
5.1.2	<ul style="list-style-type: none"> <li>The system shall have the capability to link associated appointments so that if one is cancelled, all linked appointments can be dispositioned together.</li> </ul>
5.1.3	<ul style="list-style-type: none"> <li>The system shall be capable of configuring when appointment slots become available due to additional resources added, cancellations etc. based upon configuration parameters for the resource.</li> </ul>
5.1.4	<ul style="list-style-type: none"> <li>The system shall have the capability to permit automatic rebooking of patients into comparable appointment slots (e.g., of the same type/duration).</li> </ul>
5.1.5	<ul style="list-style-type: none"> <li>The system shall have the capability to merge, purge, or distribute scheduled appointments from one resource to another.</li> </ul>
5.1.6 (t)	<ul style="list-style-type: none"> <li>The system shall allow for administrative closure of consults.</li> </ul>
5.2	Optimize Resource Utilization – The system shall incorporate mechanisms that support optimization of resources.
5.2.1	<ul style="list-style-type: none"> <li>The system shall have the capability to capture the reason for cancellations /no-shows.</li> </ul>
5.2.2	<ul style="list-style-type: none"> <li>The system shall have the capability to book or cancel recurring appointments (e.g., recurring appointments to same resource) all at once.</li> </ul>
5.2.3	<ul style="list-style-type: none"> <li>The system shall have the capability to provide users the capability to view available appointments beyond one year.</li> </ul>
5.2.4	<ul style="list-style-type: none"> <li>The system shall have the capability to receive notification of expired/deceased patients</li> </ul>

BUSINESS NEEDS – MANAGE APPOINTMENT MADE AND KEPT (HIGH LEVEL)	
	from authoritative source and take appropriate action such as cancel future appointments/ancillary services/orders, etc.
5.2.5	<ul style="list-style-type: none"> <li>The system shall have the capability to detect and notify users if patients have similar appointments scheduled close together (e.g., possible duplicate or both can be seen at one time).</li> </ul>
5.2.6. (t)	<ul style="list-style-type: none"> <li>The system shall check availability and status of telecommunications connectivity for a CVT session.</li> </ul>
5.3	Unfulfilled Appointment Requests – The system shall have the capability to manage unfulfilled appointment requests.
5.3.1	<ul style="list-style-type: none"> <li>The system shall have the ability to place patients on an unfulfilled appointment list, which is accessible throughout the scheduling process.</li> </ul>
5.3.2	<ul style="list-style-type: none"> <li>The system shall have the ability to merge, purge, or distribute scheduled appointments from one resource to another when emergency scheduling changes occur.</li> </ul>
5.3.3	<ul style="list-style-type: none"> <li>The system shall have the ability to link unscheduled CPRS consults to the scheduling system for viewing.</li> </ul>
5.3.4	<ul style="list-style-type: none"> <li>The system shall have the ability to capture attempts to contact patient.</li> </ul>
BN 6: Manage Appointment Kept – The system will have the capability to differentiate between encounter data and appointment data. The encounter data is not tracked by the scheduler, but by providers in the electronic health record.	
6.1	The system shall have the capability to provide check-in, check-out, cancellation reasons, and no-show data for auditing purposes.
6.2	The system shall have the capability to provide facility-wide visibility for a patient (i.e. checked-in or out, in treatment room etc.).
6.3	The system shall provide statistics for appointments such as: no-shows, left without being seen, etc.
6.4	The system shall provide the capability to generate notifications for upcoming appointments.
6.5	The system shall have the ability to disposition for travel reimbursement.
6.6	The system needs the ability to disposition co-pay requirements based on authoritative source.

### 10.1.8 Additional Manage Made and Kept Appointments Topics

Additional topics of the Manage Patient Information section to be discussed include:

**Table 36 Additional Manage Made and Kept Appointments Topics**

Topic	Required Information
Business Rules	Provide a high-level list of requirements and expectations.-link to the Value Dependency document and to be leveraged for Business Process Requirement Gathering sessions
Key Policies/Operational Decisions or Logic	Describe key policies, operational decisions, and logic related to this process.> All the Key policies / operational decisions relating to [XXXX process] have been

within the Process	detailed in the following documents, and maintained in [XXXX SharePoint Site]. <ul style="list-style-type: none"> <li>• KDD_xx_001    xxx</li> <li>• KDD_xx_002    xxx</li> </ul>
Reference to Key Process Changes and Process KPIs	Refer to key process change document on process level
Integration Points	List known integration topics/issues with other COTS modules / components, etc.
Potential Future Process Improvements	Summarize future improvements, based on requirements that have been discussed that will NOT be implemented in the project. (out of scope for this implementation)

Refer to Appendix D for additional Business Blueprint template details.

## 11 Business Process and Solution Design for Manage Reports

### 11.1 Process Overview Manage Reports

Getting the balance right between strategic, tactical and operational reporting will support decision making at all levels of the VHA enterprise. The first step to finding the right balance is to go back to basics and examine the 3 levels of decision-making. It will help in determining which areas need more and less attention on identifying and determining critical success factors, key performance indicators and process performance measurements. It is important to shift the decision making focus on proactive factors rather than reactive ones.

#### Strategic Decisions – ‘What’

Strategic decisions deal with the big picture. The focus of strategic decisions is typically external to the operation and usually future oriented. Strategic decision-making supports the creation of organizational goals and objectives and future vision.

It includes decisions about:

- What business are you in?
- What is your vision for the business?
- What's your business' identity?
- What do you stand for?
- Which direction is the business headed?
- How will the business compete?

#### Tactical Decision – ‘How’

Tactical decision-making is the domain of 'mission' statements and the glue that creates

a strong connection between a long-term vision and day-to-day operations. Tactical decisions involve the establishment of key initiatives to achieve the overall strategy.

## Operational Decisions - 'How will resources be managed?'

Operational decisions determine how activities actually get done. They provide the core foundation for decisions about who is going to do what and when. It includes:

- How will we spend our money this month?
- How will we service that client?
- What is our procedure for delivering an order?
- Who will be doing quality control?

Figure 14 illustrates the relationship between the VA's strategies with the VHA's strategies and tactical initiatives. Each initiative must now be decomposed to include process performance indicators to properly monitor each initiative to successfully accomplish the strategy and vision of the organization.

**Figure 14 Link between VA and VHA Strategies**

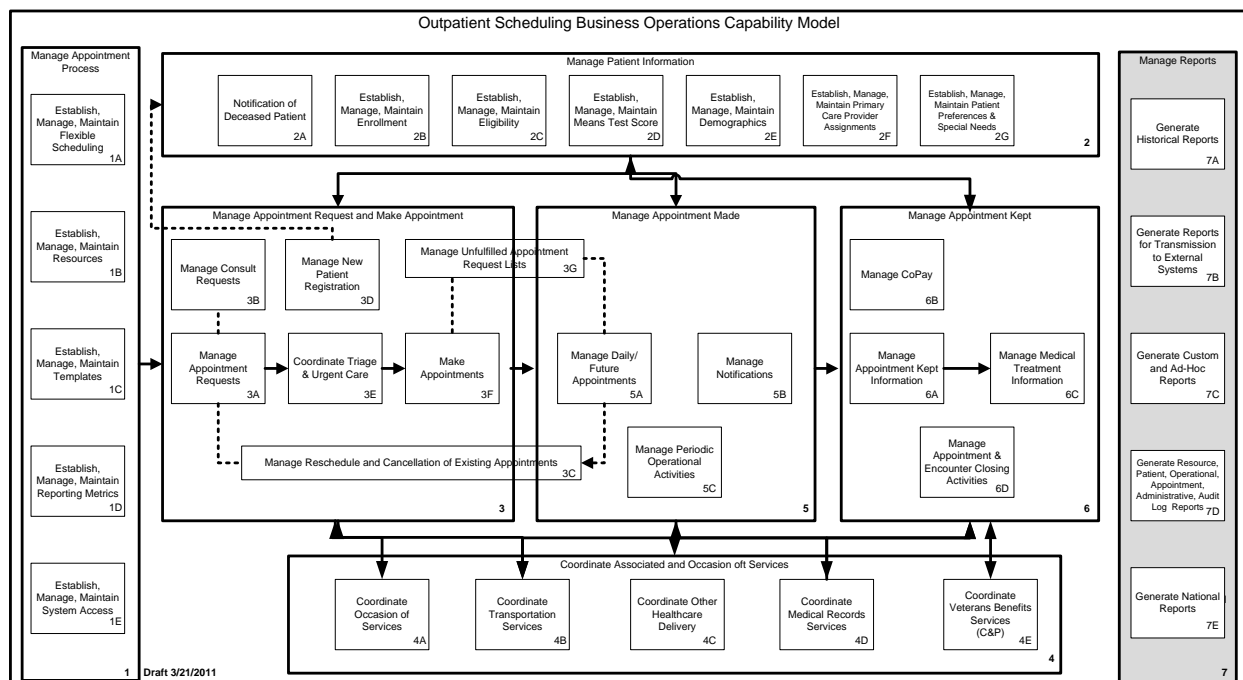
VA Objectives		VA Strategies		VHA Specific Strategies				21st Century Scheduling Program
#	Definition	#	Definition	Integrated Objective	#	Definition	Integrated Strategy	Link to Strategy
1.	Make it easier for Veterans and their families to receive the right benefits, meeting their expectations for quality, timeliness and responsiveness	A.	Improve and integrate services across VA to increase reliability, speed and accuracy of delivery	1.	1.	Adopt Center for Medicare & Medicaid Services (CMS) methodology to estimate avoidable hospital readmissions	A.	
					2.	Decrease Health care Associated Complications	A.	
					3.	SPD Scope Action Plan (ISO-9001)	A.	
					4.	Preventive Care program	A.	X
		B.	Develop a range of effective delivery methods that are convenient to Veterans and their families	1.	1.	Establish and ensure stable housing for homeless Veterans in collaboration with ongoing medical care and other supportive services	B.	
					2.	Improve access to care for Veterans in rural areas	B.	X
					3.	Readjustment Counseling for Women Veterans	B.	
					4.	Patient-Centered Care/Medical Home Model	B.	X
					5.	Increase investment in Mental Health	B.	
		C.	Improve VA's ability to adjust capacity dynamically to meet changing needs, including preparedness for emergencies	1.	1.	Implement innovations in services that enhance VA capabilities in Long Term Care by providing care in non-institutional settings	C.	X
					2.	Strengthen VHA emergency preparedness training and response including collaborations with communities and other organization	C.	
					1.	Provide timely and appropriate access to health care by implementing best practices	D.	X
		D.	Provide Veterans and their families with integrated access to the most appropriate services from VA and our partners	1.	2.	VA Point of Service (Kiosk)	D.	X
					3.	Transport for Immobilized and remote VA patients	D.	X
2.	Educate and empower Veterans and their families through proactive outreach and effective advocacy	A.	Use clear, accurate, consistent, and targeted messages to build awareness of VA's benefits amongst our employees, Veterans and their families, and other stakeholders	2.	1.	Expand "virtual medicine" for Veterans	A.	X
		B.	Leverage technology and partnerships to reach Veterans and their families and advocate on their behalf	2.	1.	Perform research and development to provide evidence-base findings that enhance the health and well-being of Veterans	B.	
					2.	Expand "real time" virtual medicine to meet the needs of Veterans and their families	B.	X
3.	Build our internal capacity to serve Veterans, their families, our employees, and other stakeholders efficiently and effectively	B.	Recruit, hire, develop, deploy, and retain a diverse VA workforce to meet current and future needs and challenges	3.	1.	Promote excellence in the education of future health care professionals and enhance VHA partnerships with affiliates	B.	
					2.	Ensure a qualified and engaged workforce	B.	
		C.	Create and maintain an effective, integrated, Department-wide management capability to make data-driven decisions, allocate resources, and manage results	3.	1.	Deploy best practices in financial, business, and clinical processes	C.	X
					D.	Create a collaborative, knowledge-sharing culture across VA and partners to support our ability to be Veteran-centric, results-driven, and forward-looking at all times	3.	1.

### 11.1.1 Business Process Capability Overview

Manage Reports is an overarching system capability, and include scheduling-related data as well as information queried. Manage Reports consists of viewing, creating and controlling reporting from an Enterprise level. Reports will also be configurable and available to facility/local levels. This management and oversight will allow VHA to produce accurate,

consistent and timely reports and statistics for both internal and external entities. The Manage Reports Level 0 model in Figure 15 illustrates the supporting Level 1 capabilities and their contribution to managing the reports process.

**Figure 15 Manage Reports - Level 0 Capability Model**



### 11.1.2 Capability Model Description

Table 37 is a high-level description of the sub-capabilities included in Manage Reports. The sub-capabilities include: Generate Historical Reports; Generate Reports for Transmission to External Systems; Generate Custom and Ad-Hoc Reports; Generate Resource, Patient, Operational Appointment, Administrative, Audit Log Reports; and Generate National Reports.

**Table 37 Manage Reporting- Level 1 Sub-capability Model Description**

MANAGE REPORTS SUB-CAPABILITIES		
7A	Generate Historical Reports	Historical Reports consists of reports containing scheduling data from both the new system and legacy system. These reports also have to provide both a summary and detailed view for a variety of historical data.
7B	Generate Reports for Transmission to External Systems	The capability supports data which is exchanged with external systems. Currently, much of this reporting is performed manually. The COTS will provide automated transmission of reports and data to the following external agencies/systems: AITC, CPRS, MyHealtheVet, and VACO, and other systems as determined during requirements elaboration/development.
7C	Generate Custom and Ad-Hoc Reports	The capability supports reporting of both custom, regular reports as well as ad hoc reports. The system requires a substantial number of reports that are standard and regularly run, but there

MANAGE REPORTS SUB-CAPABILITIES		
		is also a substantial need for users to run custom and ad-hoc reports.
7D	Generate Resource, Patient, Operational Appointment, Administrative, Audit Log Reports	The capability supports a variety of audit log reports that support activities of the Enterprise. This sub-capability ranges from user-access, security reports, details about resource utilization and day-to-day activities.
7E	Generate National Reports	National reports are regular reports required by Congress and other Organizations. These reports must meet a specified format, and require precise accuracy.

### 11.1.3 Business Process Scenarios

Manage Reports is not a process in the same arena as making or managing the appointment process. The most critical aspect of a COTS solution to managing reports is that the COTS interact with the master data and authoritative sources for master data elements and scheduling transactions.

### 11.1.4 Business Process Characteristics and Parameters

The characteristics and process parameters are represented In Table 38 Characteristics include triggers, process inputs and outputs, volumes and frequencies. The process parameters include process owner, organizational units, roles, process flows, media, technology, and business objects. Each provides an example of the components needed to map to a COTS solution. Components will be refined and others might be identified during future requirements solicitation sessions.

**Table 38 Process Characteristics – Manage Reports**

PROCESS CHARACTERISTICS – MANAGE REPORTS	
Process Trigger	<ul style="list-style-type: none"> <li>Newly enrolled Veteran (to VA, Facility, Service)</li> <li>New Enrolled Appointment Request call list (NEAR)</li> <li>Urgent care</li> <li>Patient request: initial/follow-up appointment</li> <li>Provider request: initial/follow-up appointment</li> <li>Consult Management process (CPRS)</li> <li>C&amp;P process</li> <li>DoD liaison from a VA facility</li> <li>TeleHealth</li> </ul>
Process Input	<ul style="list-style-type: none"> <li>NEAR, MyHealtheVet, phone, fax, in person, walk-in, group, Recall List, EWL</li> </ul>
Process Output	<ul style="list-style-type: none"> <li>MPI/PD</li> <li>See Section Four, Master Data</li> </ul>
Process Volumes	25 million appointments from October 2010 to April 2011

Process Frequencies	TBD
Process Owner	Who is the process owner?
Organizational Unit	Which organizational unit owns the capability/process execution <ul style="list-style-type: none"> <li>• National <ul style="list-style-type: none"> <li>○ VISN <ul style="list-style-type: none"> <li>○ Facility <ul style="list-style-type: none"> <li>○ Service <ul style="list-style-type: none"> <li>○ Section</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul>
Roles	Roles that should contribute to the capability/process execution <ul style="list-style-type: none"> <li>• Personnel with access to update patient information.</li> </ul>
Process Flows	<p><i>Proceeding processes:</i></p> <p>VHA Master Data Management</p> <p>Master Data and Set-up for Scheduling</p> <p><i>Integrated processes:</i></p> <p>Manage Request and Make Appointment</p> <p>Coordinate Associated and Occasions of Service</p> <p>Manage Appointment Made and Kept</p> <p><i>Follow-on processes:</i></p> <p>Manage Reports</p>
Media	By which media do capabilities/processes interact (means of communication workflow) <ul style="list-style-type: none"> <li>• Phone</li> <li>• Fax</li> <li>• Email</li> <li>• MyHealtheVet</li> <li>• Scheduling workflow alerts and work-list</li> <li>• Telehealth</li> <li>• Other authoritative systems</li> </ul>
Technology	<p>HL7 messaging</p> <p>TCP/IP</p> <p>LDAP</p>
Business Object(s)	<ul style="list-style-type: none"> <li>• Patient master record</li> <li>• Provider master record</li> <li>• Services master record</li> <li>• Facility master record</li> <li>• Appointment master record</li> <li>• Calendar master record</li> <li>• DSS Identifier</li> </ul> <p>Others will be identified during requirements solicitation sessions</p>

### 11.1.5 Business Process Diagram

N/A

### 11.1.6 Business Process Description

N/A

### 11.1.7 Business Requirements for Process Manage Reports

The Business Requirements Document (BRD) provides the first step to collect basic

requirements from the business. These requirements are refined and tailored through a series of further requirements solicitation processes. Business needs are identified in Table 39.

**Table 39 Business Needs - Manage Reports**

<b>BUSINESS NEEDS – MANAGE REPORTS (HIGH LEVEL)</b>	
BN 7: Reporting – The system shall have the capability to produce, display and format reports, including letters, templates and notifications which are configurable for all data related to appointment scheduling activities.	
7.1	Structured Query Language (SQL) shall be available to use for system queries.
7.2	Ad Hoc Reports – The system shall have the capability to support ad hoc report generation and provide the capability to save the report definition for future use.
7.3	<p>External System Reports - The system shall have the capability to format and transmit electronic reports and/or performance measures to the following external agencies/systems including:</p> <ul style="list-style-type: none"> <li>• Austin Information Technology Center (AITC)</li> <li>• CPRS</li> <li>• My HealtheVet</li> <li>• Veterans Affairs Central Office (VACO)</li> <li>• Others (to be determined)</li> </ul>
7.4	Audit Log Reporting – The system shall have the capability to produce and display various audit logs including the following:
7.4.1	• Administrative Entity / Resource Profile
7.4.2	• Letter Change
7.4.3	• Patient Group
7.4.4	• Resource Set / Appointment Purpose Map
7.4.5	• User Access
7.4.6	• Appointment Purpose Profile
7.4.7	• Changes to scheduling events (appointments, cancelations, reschedule, etc.)
7.4.8	• Capacity of resources for a defined period of time
7.4.9	• Trend analysis at the enterprise, VISN and facility level
7.5	Historical Reports – The system shall have the capability to generate reports containing scheduling data from the new system and legacy system
7.5.1	• The system shall have the capability to access legacy system scheduling data for the previous three (3) years.
7.5.2	• The system shall have the capability to export “brief” view history, directly from a view screen, with values of: Patient Name, Appointment Date, Appointment Time, Appointment Status, Appointment entered by person’s name, and Request Date.
7.5.3	• The system shall have the capability to export “detailed” view history directly from a view screen that displays the following values: Patient Name, Appointment Date, Appointment Time, Appointment Status, Appointment Status Reasons, Appointment entered by person’s name, and Appointment comments.
7.6	Custom Reports – The system shall have the capability to support custom reporting functions.

7.7	Templates – The system shall have the ability to create and modify templates.
7.7.1	<ul style="list-style-type: none"> <li>Scheduling Templates – The system shall have the ability to create and modify scheduling templates.</li> </ul>
7.7.1.1	<ul style="list-style-type: none"> <li>No-Show/Reschedule Later template, for patients in a no-show state and placed on the pending list.</li> </ul>
7.7.1.2	<ul style="list-style-type: none"> <li>Past Due/Ready to Schedule template, for appointment requests that have been on the Ready to Schedule list more than 30 days past the requested target date.</li> </ul>
7.7.1.3	<ul style="list-style-type: none"> <li>Patient LWOBS/Reschedule Later template, for patients left without being seen (LWOBS) and were placed on the pending list.</li> </ul>
7.7.1.4	<ul style="list-style-type: none"> <li>Patient Notification No-Show/Reschedule Now template, for patients who are not present for a scheduled appointment.</li> </ul>
7.7.1.5	<ul style="list-style-type: none"> <li>Ready to Schedule (RTS) template, for appointment requests initially placed on the RTS.</li> </ul>
7.7.1.6	<ul style="list-style-type: none"> <li>Patient LWOBS/Reschedule Now template, for patients in the left without being seen (LWOBS) state and are rescheduled for another appointment within the same action.</li> </ul>
7.7.1.7	<ul style="list-style-type: none"> <li>The scheduling application shall have the capability to populate various data fields within the Patient Appointment Template.</li> </ul>
7.7.1.8	<ul style="list-style-type: none"> <li>Allow multi-page capabilities for all letter templates.</li> </ul>
7.7.1.9	<ul style="list-style-type: none"> <li>Create a default letter template for single appointments for the same patient on the same date.</li> </ul>
7.7.1.10	<ul style="list-style-type: none"> <li>Create a default single letter template for multiple appointments for the same patient within the same facility on the same date.</li> </ul>
7.7.1.11	<ul style="list-style-type: none"> <li>The scheduling application shall have the capability to set a flag to exclude a pre-appointment letter from being included with other letters for multiple appointments</li> </ul>
7.7.2	<ul style="list-style-type: none"> <li>Notification Templates - The system shall have the ability to create and modify notification templates.</li> </ul>
7.7.2.1	<ul style="list-style-type: none"> <li>Create and configure a No Show Notification Template.</li> </ul>
7.7.2.2	<ul style="list-style-type: none"> <li>Create and configure a Past Due/Ready to Schedule Notification Template.</li> </ul>
7.7.2.3	<ul style="list-style-type: none"> <li>Create and configure a Pre-Appointment Notification Template.</li> </ul>
7.7.2.4	<ul style="list-style-type: none"> <li>Create and configure a Ready to Schedule Notification Template.</li> </ul>
7.7.2.5	<ul style="list-style-type: none"> <li>The system shall have the capability to group each patient appointment within a data block and contained within a border for Pre-appointment Letter types created in the Patient Notification template.</li> </ul>
7.7.2.6	<ul style="list-style-type: none"> <li>Patient Notification Pre-Appointment template, for patients where the appointment is in the schedule state.</li> </ul>
7.7.2.7	<ul style="list-style-type: none"> <li>Patient Notification Pre-Appointment template, for patients where the appointment is less than 45 days beyond the current system date.</li> </ul>
7.7.2.8	<ul style="list-style-type: none"> <li>Patient Notification Pre-Appointment template, where the appointment date conditions are met.</li> </ul>

7.7.2.9	<ul style="list-style-type: none"> <li>The system shall have the capability to create and configure a Cancellation by Patient Notification Template.</li> </ul>
7.7.2.10	<ul style="list-style-type: none"> <li>The system shall have the capability to create and configure a Cancellation by Facility Notification Template.</li> </ul>
7.7.2.11	<ul style="list-style-type: none"> <li>The system shall have the capability to display information created within the Patient Notification template.</li> </ul>
7.7.2.12	<ul style="list-style-type: none"> <li>The system shall have the capability to display various components within the Pre-Appointment Schedule template.</li> </ul>
7.7.2.13	<ul style="list-style-type: none"> <li>The system shall have the capability to display the data field/block elements within the Patient Appointment letter template.</li> </ul>
7.8	Surgical Templates - The system shall have the ability to create and modify surgical templates.
7.8.1	<ul style="list-style-type: none"> <li>The system shall have the capability to display various elements of the Scheduled Pre-Appointments template.</li> </ul>
7.8.1.1	<ul style="list-style-type: none"> <li>An alert notification message before the scheduler prints a pre-appointment letter that falls before the minimum date.</li> </ul>
7.8.1.2	<ul style="list-style-type: none"> <li>Any associated ancillary tests/appointments for new primary appointments within the Pre-Appointment CVT – specific information including diagnosis(es) and Schedule template.</li> </ul>
7.9	Cancelled Appointments – The system shall have the capability to support cancelled reporting functions/templates.
7.9.1	<ul style="list-style-type: none"> <li>Cancelled by Facility/Reschedule Later template, for facility cancelled appointments that were placed on a pending list to coordinate rescheduling the appointment.</li> </ul>
7.9.2	<ul style="list-style-type: none"> <li>Cancelled by Facility/Reschedule Now template, for facility cancelled appointments that were rescheduled within the same action.</li> </ul>
7.9.3	<ul style="list-style-type: none"> <li>Cancelled by Patient/Reschedule Later template, for patients who cancelled an appointment and were placed on a pending list to coordinate rescheduling appointment.</li> </ul>
7.9.4	<ul style="list-style-type: none"> <li>Cancelled by Patient/Reschedule Now template, for patients who cancelled an appointment and rescheduled another appointment within the same action.</li> </ul>
7.9.5	<ul style="list-style-type: none"> <li>Cancelled Appointment List type report.</li> </ul>
7.9.6	<ul style="list-style-type: none"> <li>Print cancelled appointments and Appointment Requests with a cancellation reason of "Patient Death".</li> </ul>
7.9.7	<ul style="list-style-type: none"> <li>Cancelled by Facility/Reschedule Later template, for facility cancelled appointments that were placed on a pending list to coordinate rescheduling the appointment.</li> </ul>
7.9.8	<ul style="list-style-type: none"> <li>Cancelled by Facility/Reschedule Now template, for facility cancelled appointments that were rescheduled within the same action.</li> </ul>

7.9.9	<ul style="list-style-type: none"> <li>Cancelled by Patient/Reschedule Later template, for patients who cancelled an appointment and were placed on a pending list to coordinate rescheduling appointment.</li> </ul>
7.9.10	<ul style="list-style-type: none"> <li>Cancelled by Patient/Reschedule Now template, for patients who cancelled an appointment and rescheduled another appointment within the same action.</li> </ul>
7.9.11	<ul style="list-style-type: none"> <li>Cancelled Appointment List type report.</li> </ul>
7.10	National Saved Reports – The system shall have the capability to display and format reports.
7.10.1	<ul style="list-style-type: none"> <li>The system shall have the capability to make the national saved report available to all sites and the 72 hours of appointments report shall be distributed nationally as a saved report.</li> </ul>
7.10.2	<ul style="list-style-type: none"> <li>The system shall have the capability to minimize the site setup for this report capability by being distributed nationally as a canned report within a reports sub-system. Only site specific locations to store the reports shall have to be setup by the users at each site.</li> </ul>
7.11	<ul style="list-style-type: none"> <li>Administrative Reporting – The system shall have the capability to produce and display various administrative type reports.</li> </ul>
7.11.1	<ul style="list-style-type: none"> <li>Activity Counts Report</li> </ul>
7.11.2	<ul style="list-style-type: none"> <li>Actual Productivity Summary Report</li> </ul>
7.11.3	<ul style="list-style-type: none"> <li>Administrative Entity Profile Report</li> </ul>
7.11.4	<ul style="list-style-type: none"> <li>Administrative Entity/Resource Planned Productivity Statistical Summary Report</li> </ul>
7.12	Appointment Reporting – The system shall have the capability to produce and display various appointment type reports.
7.12.1	<ul style="list-style-type: none"> <li>Appointment History Report</li> </ul>
7.12.2	<ul style="list-style-type: none"> <li>Appointment Duration Report</li> </ul>
7.12.3	<ul style="list-style-type: none"> <li>Appointment Request Dispositions Report</li> </ul>
7.12.4	<ul style="list-style-type: none"> <li>Appointment Dispositions Report</li> </ul>
7.12.5	<ul style="list-style-type: none"> <li>Appointment Cancellations Report</li> </ul>
7.12.6	<ul style="list-style-type: none"> <li>Appointment List Report</li> </ul>
7.12.7	<ul style="list-style-type: none"> <li>Appointment Management Reports</li> </ul>
7.12.8	<ul style="list-style-type: none"> <li>Appointment Purpose Profile Report</li> </ul>
7.12.9	<ul style="list-style-type: none"> <li>Appointment Purpose Set Profile Report</li> </ul>
7.12.10	<ul style="list-style-type: none"> <li>Appointment Request List Report</li> </ul>
7.12.11	<ul style="list-style-type: none"> <li>Appointment List Extended Report</li> </ul>
7.12.12	<ul style="list-style-type: none"> <li>Time to Appointment Components Report</li> </ul>
7.12.13	<ul style="list-style-type: none"> <li>Time to Appointment Metric Report</li> </ul>
7.12.14	<ul style="list-style-type: none"> <li>Time to Appointment Report</li> </ul>
7.12.15	<ul style="list-style-type: none"> <li>Time to Appointment Components Report</li> </ul>
7.12.16	<ul style="list-style-type: none"> <li>Appointment Purpose Profile Report</li> </ul>

7.13	Operational Reporting – The system shall have the capability to produce and display various operational type reports.
7.13.1	<ul style="list-style-type: none"> <li>• Average Deviation from Target Date Components Report</li> </ul>
7.13.2	<ul style="list-style-type: none"> <li>• Average Deviation from Target Date Metric Report</li> </ul>
7.13.3	<ul style="list-style-type: none"> <li>• Carve Out Availability Report</li> </ul>
7.13.4	<ul style="list-style-type: none"> <li>• Carve-Out Effectiveness Report</li> </ul>
7.13.5	<ul style="list-style-type: none"> <li>• Cause of VHA Induced Late Appointment Starts Report</li> </ul>
7.13.6	<ul style="list-style-type: none"> <li>• Change Package Impact Report</li> </ul>
7.13.7	<ul style="list-style-type: none"> <li>• Late Start Statistics Report</li> </ul>
7.13.8	<ul style="list-style-type: none"> <li>• Hours of Operation Report</li> </ul>
7.13.9	<ul style="list-style-type: none"> <li>• Future Productivity Summary Report</li> </ul>
7.13.10	<ul style="list-style-type: none"> <li>• Late Start Statistics Report</li> </ul>
7.13.11	<ul style="list-style-type: none"> <li>• Notification Effectiveness Report</li> </ul>
7.13.12	<ul style="list-style-type: none"> <li>• No Show List Report</li> </ul>
7.13.13	<ul style="list-style-type: none"> <li>• Recurring Appointments Report</li> </ul>
7.13.14	<ul style="list-style-type: none"> <li>• Request List Usage Report</li> </ul>
7.13.15	<ul style="list-style-type: none"> <li>• Planned Productivity/Utilization Report</li> </ul>
7.13.16	<ul style="list-style-type: none"> <li>• Short Term Pending List Appointment Report</li> </ul>
7.13.17	<ul style="list-style-type: none"> <li>• Source of Appointment Request Report</li> </ul>
7.13.18	<ul style="list-style-type: none"> <li>• Unkept Appointment Patterns Reports</li> </ul>
7.13.19	<ul style="list-style-type: none"> <li>• Unique Patient Activity Summary Report</li> </ul>
7.13.20	<ul style="list-style-type: none"> <li>• Wait Time Statistics Report</li> </ul>
7.13.21	<ul style="list-style-type: none"> <li>• VHA Internal Coordination Failure Rate Report</li> </ul>
7.13.22	<ul style="list-style-type: none"> <li>• Wait Times Report</li> </ul>
7.13.23	<ul style="list-style-type: none"> <li>• Wait Time Components Report</li> </ul>
7.13.24	<ul style="list-style-type: none"> <li>• Wait Time Metric Report</li> </ul>
7.13.25	<ul style="list-style-type: none"> <li>• Wait Time Statistics Report</li> </ul>
7.14	Patient Reporting - The system shall have the capability to produce and display various patient type reports.
7.14.1	<ul style="list-style-type: none"> <li>• Patient Appointment List Report</li> </ul>
7.14.2	<ul style="list-style-type: none"> <li>• Patient Activity by Appointment Frequency Report</li> </ul>
7.14.3	<ul style="list-style-type: none"> <li>• Patient Activity Summary</li> </ul>
7.14.4	<ul style="list-style-type: none"> <li>• Patient Groups Report</li> </ul>
7.14.5	<ul style="list-style-type: none"> <li>• Patient Itinerary Report</li> </ul>
7.14.6	<ul style="list-style-type: none"> <li>• Patient Activity by Appointment Frequency Report</li> </ul>
7.14.7	<ul style="list-style-type: none"> <li>• Patient Routing Slip Report</li> </ul>
7.14.8	<ul style="list-style-type: none"> <li>• Data reflecting number of scheduled patients by location (driven by address of patient).</li> </ul>
7.15	Resource Reporting - The system shall have the capability to produce and display various resource type reports.
7.15.1	<ul style="list-style-type: none"> <li>• Resource Report – General</li> </ul>
7.15.2	<ul style="list-style-type: none"> <li>• Resource Status Report</li> </ul>
7.15.3	<ul style="list-style-type: none"> <li>• Resource Allocations Report</li> </ul>

7.15.4	<ul style="list-style-type: none"> <li>Resource Appointment List Report</li> </ul>
7.15.5	<ul style="list-style-type: none"> <li>Resource Inactivation Impact</li> </ul>
7.15.6	<ul style="list-style-type: none"> <li>Resource Itinerary Report</li> </ul>
7.15.7	<ul style="list-style-type: none"> <li>Resource Profile Report</li> </ul>
7.15.8	<ul style="list-style-type: none"> <li>Resource Set and Appointment Purpose Map Report</li> </ul>
7.16	Administrative Entity Reports – The system shall have the capability to produce and display various Administrative Entity reports.
7.16.1	<ul style="list-style-type: none"> <li>Level of detail for selected reports from the Administrative Entity Types at or below the selected scope, and between the scope and detail level.</li> </ul>
7.16.2	<ul style="list-style-type: none"> <li>Organizational Hierarchy.</li> </ul>
7.16.3	<ul style="list-style-type: none"> <li>Provide an option to access geographic related data that spans multiple time zones to display the results as the local time zone where the report was originated as well as the time zone for the Administrative Entity (AE) where occurs.</li> </ul>
7.17	Batch Job Reporting and Capabilities – The system shall have the capability to support batch job functions.
7.17.1	<ul style="list-style-type: none"> <li>Restrict batch job deletion to the AE level where it was created.</li> </ul>
7.17.2	<ul style="list-style-type: none"> <li>Send print batch notification jobs to the printer as a single print job not individual notification letters.</li> </ul>
7.17.3	<ul style="list-style-type: none"> <li>Assign a batch notification job name.</li> </ul>
7.17.4	<ul style="list-style-type: none"> <li>Remove a batch job created at a parent level from a single child level, all its children without removing it from any other sibling levels, and batch notification jobs at any authorized level.</li> </ul>
7.17.5	<ul style="list-style-type: none"> <li>Display the notification generation status of a batch notification job, generation status of a batch report job and status of a batch report job.</li> </ul>
7.17.6	<ul style="list-style-type: none"> <li>Allow definition of the date that recurring batch notification generation will begin and end.</li> </ul>
7.17.7	<ul style="list-style-type: none"> <li>Generate batch notifications for a section or individual patient, or only for appointments that have not yet had a notification of that type sent.</li> </ul>
7.17.8	<ul style="list-style-type: none"> <li>Modify existing batch notification job parameters, modify only at the AE tree level the report was originally created.</li> </ul>
7.17.9	<ul style="list-style-type: none"> <li>Prompt the user to confirm deletion of a batch notification before deleting.</li> </ul>
7.17.10	<ul style="list-style-type: none"> <li>Schedule batch reports to be run automatically for a future date/time as selected by the user.</li> </ul>
7.17.11	<ul style="list-style-type: none"> <li>Batch generate reports on a periodic basis, cancel existing batch report jobs, create batch report jobs, modify existing batch report job parameters.</li> </ul>
7.17.12	<ul style="list-style-type: none"> <li>Save modified batch report job parameters.</li> </ul>
7.17.13	<ul style="list-style-type: none"> <li>Select a batch report from the set of existing batch report jobs.</li> </ul>
7.17.14	<ul style="list-style-type: none"> <li>Provide a view-only option that is configured for batch print jobs which are not associated with a section.</li> </ul>
7.17.15	<ul style="list-style-type: none"> <li>Edits to be made in the same manner as setting up the initial batch job, and where the batch job was created.</li> </ul>
7.17.16	<ul style="list-style-type: none"> <li>Sorting by patient alphabetic order within each batch print job for all notifications.</li> </ul>
7.17.17	<ul style="list-style-type: none"> <li>Removal of batch notification jobs from the set of available batch notification jobs.</li> </ul>
7.17.18	<ul style="list-style-type: none"> <li>Add new batch notification jobs to the set of available batch notification jobs.</li> </ul>
7.17.19	<ul style="list-style-type: none"> <li>Specify a base date for the generation of batch notification jobs as well as range with a start and end date, specify the time of day to print a batch report job, and a batch report job by name.</li> </ul>
7.17.20	<ul style="list-style-type: none"> <li>Specify one of the following recurrence patterns for batch notification generation: daily,</li> </ul>

	weekly, or monthly, recurrence day of the month for monthly reports, number of months between monthly reports, recurrence pattern of daily, recurrence weekday of the month for monthly reports.
7.17.21	<ul style="list-style-type: none"> <li>Batch print job defined for a Schedulable AE to be used by its parent and to allow newly created AEs to be added to the parent batch job during the scheduled batch job run.</li> </ul>
7.17.22	<ul style="list-style-type: none"> <li>All batch job edits to propagate downward to each subordinate Schedulable AE.</li> </ul>
7.17.23	<ul style="list-style-type: none"> <li>Custom batch prints at the Schedulable AE.</li> </ul>
7.17.24	<ul style="list-style-type: none"> <li>Specify that a batch report generation range does not have an end date.</li> </ul>
7.18	Reports shall be able to be saved in various formats such as PDF, CSV, etc.

### 11.1.8 Additional Manage Reporting Topics

Additional topics of the Manage Patient Information section to be discussed include:

**Table 40 Additional Manage Reporting Topics**

Topic	Required Information
Business Rules	Provide a high-level list of requirements and expectations.-link to the Value Dependency document and to be leveraged for Business Process Requirement Gathering sessions
Key Policies/Operational Decisions or Logic within the Process	<p>Describe key policies, operational decisions, and logic related to this process.&gt;</p> <p>All the Key policies / operational decisions relating to [XXXX process] have been detailed in the following documents, and maintained in [XXXX SharePoint Site].</p> <ul style="list-style-type: none"> <li>KDD_xx_001    xxx</li> <li>KDD_xx_002    xxx</li> </ul>
Reference to Key Process Changes and Process KPIs	Refer to key process change document on process level
Integration Points	List known integration topics/issues with other COTS modules / components, etc.
Potential Future Process Improvements	Summarize future improvements, based on requirements that have been discussed that will NOT be implemented in the project. (out of scope for this implementation)

Refer to Appendix D for additional Business Blueprint template details.

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## Appendices

**Appendix A. HealtheVet Scheduling Processes**

**Appendix B. HealtheVet Scheduling Process Descriptions**

**Appendix C. Additional Template Criteria for Master Data Concepts Section**

**Appendix D. Additional Template Criteria for Business Process and Solution Design Section**

**Appendix E. Additional Template Criteria for Organizational Structure**

**Appendix F. Glossary of Terms and Acronyms**

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