Integrated Systems Deployment Approach

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Agenda

- VHA as a Complex Adaptive System – Why it's Important to Understand and Manage
- System of Systems Approach – Goals and Key Questions
- System of Systems Approach – Value
- System of Systems Approach – How we do it
- Proposed Next Steps
- Recommended Approach and Timeline
VHA Healthcare as a Complex Adaptive System

• Healthcare systems are complex adaptive systems. If permitted to, these systems adapt over time in response to changing physical, psychological or social conditions. Adaptations are self-organizing, with emergent patterns.

• Current VHA enterprise systems have evolved through adaptation (in contrast to intentional design and control), resulting in extensive fragmentation/customization across the enterprise and limited integration across systems.

• This adaptive design has resulted from gradual deviation from localized standards of practice as a result of a succession of small decisions, each a step away from the original norm and often based on empirical success from prior changes (and no obvious sacrifice of safety/quality). This is known as Normalization of Deviance and is a primary characteristic for organizations at risk for catastrophic systems failures.

• **Risk:** Risk of failing to manage the system and subsequently repeating system wide failures
The goals of the System of Systems Approach are to minimize redundancy within the system and to **maximize the potential for the customer to extract value from the system.** (contrast to clinical delivery)

**Key Questions:**
- How to shift the paradigm of enterprise systems design/deployment away from adaptive design to intentional design and control of robust, highly integrated enterprise VHA systems?
- How to balance design/control of enterprise VHA systems with local autonomy needed to maintain resiliency at the point of care delivery?
System of Systems Approach
Why Important for IPT's work?

• Taking a system of systems approach enables the IPT teams to evaluate the set of recommendations and initiatives and determine whether they will have the desired system impact.

• It enables the teams to ask – "where are the gaps and overlaps in making the system successful," answering the question of "do we want to implement all recommendations, and if not, what is our rationale?"

• It enables the teams to prioritize recommendations and initiatives against system success, which is customer's ability to extract value from the system.
System of Systems Approach

How do we do it?

- Goal: maximize potential for the customer to extract value from the system
- Customer Focused – Human Centered Design
- Methods:
  - Customer Personas
  - Customer Journey Mapping (current state and future state)
  - Enterprise Service System Blueprint, including gaps / overlaps analysis
  - Multi-phase Rapid Deployment
- Facilitated sessions with system owners and subject matter experts
Human Centered Design puts users at the center of a multi-stage problem solving process, with the goal to analyze and foresee their needs and desires in the system in order to effect transformational change.

Our Vision:
To design meaningful change with Veterans
Step 1: Develop Personas

- Personas are an abstract representation (i.e. model) or various user groups. They serve as a communication tool that helps to inform design decisions.

**Persona Type:** (2-5 word description)
- Name: (use a realistic name)
- Representation: (Primary/Secondary or %)

**Quote**

*Day in the life:* Tell us a little about this persona using full sentences in narrative/story form. What does he/she want to accomplish? Family? Technology literacy? Chief concerns, complaints, DX, etc.

**Fears & Frustrations**
- Common objections during process
- What problem is stopping them?
- What are they worried about?

**Values & Goals**
- Primary Values
- Primary goal
- Secondary goal
- What do they hope to accomplish?
- What is their ideal experience?
- What features or functions would the ideal experience have?

**How we can help?**
- How can we help them achieve their ideal experience?
- What is their ideal experience?

**The Reluctant Aging Veteran**

John Cooper

*I like hanging out with my fellow Veterans at the VA*

*Day in the life:* John is divorced, obese, and wheelchair bound on limited income coming in for a PACT and mental health appointment. He finds it difficult to come to the VA, since he lives over an hour away and has to use the travel services. He hates revolving doors and crowds. He had a bad experience before, but this is his only option. He enjoys coming early to his appointment to socialize with his fellow Veterans.

**Fears & Frustrations**
- Fear of being in the VA experience
- Fear of being treated “badly” medically
- Fear he will be dying and the end is near
- Hates loud noises and crowds
- Confused by technology

**Values & Goals**
- Get his medication and healthcare
- Does not want wait
- Wants to lose weight & stop smoking
- Needs to stay active
- Sees his VSO for options
- Wants to socialize

**How can we help?**
- Created by a knowledgeable person
- Easy in/out main entrances
- Short waiting in room, safe, and uncluttered space
- Easy to find where he is going with clear signage & transportation (e.g. golf cart)
- Supportive staff on site available (e.g. VSO, Social Worker)
Step 2: Create a Current State Veterans Experience Journey Map of the System (Current State – Outpatient/Non-Emergent)

Veteran Journey

- Veterans Identifies Need For VA Health Care
- Veteran Eligible for Needed Services?
- Veteran Accesses VHA Primary Care for initial visit
- Veteran Accesses Specialty Care/Ancillary Services
- Veteran Accesses VHA Primary Care for F/U
- Veteran Receives Treatment/Condition Management Services

Interaction (who/what)

- Family/Friends Non-VA Providers
- VHA Eligibility Staff
- VHA Schedulers; Contract Schedulers; VHA Providers; Non-VHA Provider
- VHA Schedulers PACT Teams VHA Provider
- VHA Schedulers; Local Eligibility Offices
- E-Benefits, VHA Eligibility Systems; local Eligibility Offices
- Local VISTA Scheduling Package; CPRS
- VISTA Scheduling Package; CPRS; Local patient referral/authorization systems; NVCC Systems; VCP Systems; PC3; ARCH

Emotions

- Scared, Worried
- "...finally, I can talk to someone about what is going on.."
- "...but it took a while to see the doc.."
- "...it takes so long to schedule these tests and appts..."
- "...I'm going to get treatment!!"
- Relief at finally getting the care that was needed!

Challenges

- No Central/Standa rd Triage Services
- Complex Eligibility Criteria; Benefits do not meet clinical need
- VHA Primary Care Capacity/Scheduling
- Multiple VHA Care in the Community Programs; insufficient internal VHA and non-VA Specialty Care Capacity , Referral Queues Lengthy
- VHA Primary Care Capacity/Scheduling; non-VA Medical Documentation not entered into the medical record
- VISTA Scheduling Package; CPRS; Local patient referral/authorization systems; NVCC Systems; VCP Systems; PC3; ARCH

Current Supporting Systems (Admin, Org, Clinical, IT)

- VISN/Local RN Call Lines
- E-Benefits, VHA Eligibility Systems; local Eligibility Offices
- Local VISTA Scheduling Package; CPRS
- VISTA Scheduling Package; CPRS; Local patient referral/authorization systems; NVCC Systems; VCP Systems; PC3; ARCH
Step 3: Create a Future State Veterans Experience Journey Map (Future State – Outpatient/Non-Emergent)

Veteran Journey
- Veteran Identifies Need For VA Health Care
- Veteran Contacts Nat’l VA Customer Service
- Veteran Accesses VHA or Community Primary Care
- Veteran Accesses Specialty Care/Ancillary Services
- Veteran Accesses Care Coordination Services For Treatment/Care Management

Interaction (who/what)
- On-line Patient Information Portal –or– Central RN Triage Line
- National VA Customer Services Hotline Staff
- VHA PACT Teamlets –and/or– Community Network Care Teams
- VHA Specialty Care/Ancillary Services
- VHA and/or Community Network Contracted Care Coordination Programs

Emotions
- Concerned but Informed
- "I know what services I’m eligible for... and whether I should go to VHA or the Community..."
- "I was able to see a provider quickly...
- "...all of my appts and tests were scheduled for me when I needed them..."
- "...my care coordinator keeps me in the loop for all of my care, test results and appts... and coordinates the care that I need when I need it..."

Future State System Requirements
- Enterprise (National) Management Structure
- Robust Provider Networks established, including provider eligibility requirements, simplified provider agreements
- Streamlined Patient Eligibility
- Single, fully integrated system for accessing community care
- Defined set of services requiring authorization, business rules for auto-adjudications
- Updated Provider Reimbursement Rates
- "Prompt Payment" Compliance
- Seamless Veteran care experience across VA and Community Providers
- Scheduling for VHA and Community Providers
- Robust Records Management

Future State Supporting Systems (Admin, Org, Clinical, IT)
- Customer Services Systems, includes:
  - On-line Patient Information Portals
  - Central RN Triage Lines
  - National VA Customer Services Hotline
- Integrated Patient Authorization, Referral, Billing and Reimbursement Systems, to include:
  - Administrative Support Systems
  - Pharmacy and DME Systems
- Integrated Care Coordination Systems, including:
  - Integrated Patient Scheduling, Records management Systems
  - Patient Navigation/Basic Care Coordination
  - Care/Disease Management Systems
  - Case Management Systems

Enterprise Governance, Systems Management, Analytics and Reporting Systems
Step 4: Create a System Blueprint
Access to Care
(Future State – Outpatient/Non-Emergent)

Veteran Actions
Veterans Identifies Need For VA Health Care

Customer Service Systems
On-line Patient Portal provides information
RN Triage Phone Line staff answers questions

Care Coordination/ Clinical Systems
Determination/ communication of eligibility for VHA and/or community care services

Integrated Authorization, Referral and Claims Systems
Primary Care Appt Occurs
Specialty Care Appt Occurs/Clinical Tests Conducted

Support Systems
Additional Treatment/Care Coordinated/Scheduled as needed

Governance, Management and Reporting Systems
Results verified and communicated to Care Team and Patient

Resource Management Systems (Financial, HR Systems and Supply Chain)
IT Systems
Governance Systems
### Supply Chain Logistics Modernization Current Systems Deployment - FY16

<table>
<thead>
<tr>
<th>Assessment J Recommendations:</th>
<th>Type of Supply/ Equipment</th>
<th>Plan</th>
<th>Source</th>
<th>Make/Deliver</th>
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</thead>
<tbody>
<tr>
<td>5.2.1 Transform and consolidate VA’s entire supply chain organization.</td>
<td>Expendables/ Non-Expendables</td>
<td>Identify Need</td>
<td>Request</td>
<td>Aquire</td>
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<tr>
<td>5.2.1a: Rationalize the organizational structure by consolidating entities into one integrated supply chain organization</td>
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<td>5.2.1c Develop deep category-level expertise within the organization.</td>
<td>Expendables/ Non-Expendables</td>
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<td>5.2.2 Standardize supply chain data and overlay user-friendly interfaces</td>
<td>Expendables/ Non-Expendables</td>
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<tr>
<td>5.2.2a Update or replace supply chain IT systems to make them fit for purpose.</td>
<td></td>
<td>K.3 Clinician Driven Sourcing (Cleveland Clinic Model)</td>
<td>K.5 Leverage Interagency Opportunities</td>
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<tr>
<td>5.2.2 Streamline, standardize, and integrate key processes.</td>
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<tr>
<td>5.2.3 Standardize and simplify purchasing processes</td>
<td>Non-Expendables</td>
<td></td>
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<tr>
<td>5.2.3a Expedite product selection and standardization in key product categories</td>
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<tr>
<td>5.2.3b Rationalize contracting requirements wherever possible</td>
<td>Expendables</td>
<td></td>
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<tr>
<td>5.2.3d Systematically identify, collect data from, and propagate innovations</td>
<td>Expendables/ Non-Expendables</td>
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<tr>
<th>Minimally Viable Process/Systems (MVP/S)</th>
<th>Primarily Interfaced System</th>
<th>Fully Integrated System</th>
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</table>
Example: Service System Blueprint
(Future State – Integrated Supply Chain FY 16)

**Clinicin Journey**
- Clinical Identifies Need For Item
- Clinical Staff Readily Obtains Item

**Logistician Journey**
- Logistician orders from national contract and/or approves automatic order
- Item received and distributed directly to clinical point of use
- Logistician has complete visibility/oversight in on-hand stock levels, proactively tracks/manages
- Logistician plans strategically for new items/assets based on projected clinical needs/direction

**Customer Service Systems**
- On-Contract?
  - Order through e-Procurement
- Not on Contract?
  - Request off-contract procurement
- Customer Interaction/Visible Contact

**Integrated/Automated Ordering and Utilization Management Systems**
- Item Ordered utilizing standard procurement nomenclature and packages
- Item distributed by MSPV vendor to POR –or– Item distributed directly POU by Supply Clerks
- Logistician has complete visibility/oversight in on-hand stock levels, proactively tracks/manages
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**Integrated Strategic Planning and Management Systems**
- Logistician has complete visibility/oversight in on-hand stock levels, proactively tracks/manages
- Logistician plans strategically for new items/assets based on projected clinical needs/direction

**Governance, Management and Reporting Systems**
- Information logged into Lifecycle Management e-Portal
- Opportunities to leverage/create national contracts identified

**Support Systems**
- Med PDB Data Analytics and Reporting Systems
- Governance and Performance Management/Tracking Systems
- Standard Care Management Pathways
- Dynamic Utilization/Ordering Models
**Example: Service System Blueprint**  
(Future State – Integrated Supply Chain FY16)

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**POU System** proactively notifies logistician of risk of stock out (real-time)

**RTLS System** notifies user of asset location/availability

**Customer Interaction/Visible Contact**
- Logistician has complete visibility/oversight in on-hand stock levels, proactively tracks/manages
- Logistician plans strategically for new items/assets based on projected clinical needs/direction

**Invisible Contact**
- System notifies logistician of shift in utilization, or end of life issue, recommends changes to par-levels or re-order of asset

**Integrated Strategic Planning and Management Systems**
- Med PDB Data Analytics and Reporting Systems
  - Governance and Performance Management/Tracking Systems
  - Standard Care Management Pathways
  - Dynamic Utilization/Ordering Models
- Clinical Product Review Committee(s) prioritizes/identifies opportunities for reducing procurement variation
- Sourcing Program develops procurement standards
- Information logged into Lifecycle Management e-Portal

**K2, K3, K9**
- Opportunities to leverage/create national contracts identified

**Governance, Management and Reporting Systems**
Step 6: Create Multi-phased Deployment Plans

- **Phase I - Minimally Viable Process/Systems (MVP/S):** The MVP/S are the lowest level of standard process/systems that can be deployed across the enterprise with minimal resource investment (IT, personnel) while providing significant enhancement to currently provided services or products.

- **Phase II - Interfaced System Deployment:** The Interfaced Systems Deployment represents the next level of technical complexity within the deployment cycle and often includes introduction of new technologies or technology enhancements that are *interfaced* with the MVP/S introduced during Phase I.

- **Phase III - Integrated System Deployment:** The Integrated Systems Deployment is the final deployment phase. Fully or partially integrated systems (fully tested and refined during Phase II) are deployed at the enterprise level.
Backup Slides
Changes to primary systems must be assessed for 1) alignment of across a specific key initiatives and 2) impact across all key initiatives utilizing those systems.
Enterprise-Wide Knowledge Management Tool: The Hub

The Hub is a knowledge management tool developed through the VHA Veterans Engineering Resource Center (VERC), focused on continuous performance improvement. Scaling the Hub to an enterprise-wide platform will promote best practice sharing across administrations and staff offices, and enhance the capabilities of the Performance Improvement office through access to Field-level insights and successes.

Elements of the Hub

- Models and capabilities to support evidence-based decision making, such as: Gap Analysis, Strategic Thinking, Capacity Planning, Cost/Benefit comparisons, Process Improvement, and Experimentation/Simulation
- Opportunities to review, develop, and update operational plans to transition strategy into action and implement performance improvement
- Metrics, dashboards, and toolkits to visualize and compare outcomes and metrics to national targets and strategies

Through the Hub, the Performance Improvement Office will create a enterprise-wide opportunity for the Field to continue driving performance improvement efforts. The Hub encourages users to capture current best practices and challenges while leveraging other elements within the platform to gain access to VA-wide performance improvement knowledge and tools for success.