

Health IT - Supporting the Military Health System (MHS) Transformation

Dr. Michael P. Malanoski
Executive Director
Bureau of Medicine and Surgery

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Agenda

Navy Perspective

- Overview
- Navy Medicine's Approach
- Shaping the eHR to Support
- Connected Health





What Navy Medicine Needs from DHA

- Management of the data
- Strong linkages between functional and IT communities
- Reasonable cycle times in product development
- Support of innovation in the field





Change Is Here

“The secret of change is to focus all of your energy, not on fighting the old, but on building the new” – Socrates

- The Military Health System is transforming to:
 - Deliver Healthcare when it’s needed and where it’s needed
 - Ensure a medically ready force, and a ready medical force
 - Enhance global security through global presence
 - Improve the beneficiary experience (including our service members, their families, and all who served before), regardless of location.





The Evolving MHS

“We serve to save lives and do what’s right for our patients to keep them healthy and this will always be our true north.” - VADM C. Forrest Faison III

- Focuses on Value-Based Care
 - Shift focus from services provided to patient outcomes achieved
 - Personalize the patient experience
- Leverages the private sector advances
 - Adopt tools, capabilities and best practices to further enhance the MHS
 - Apply advances in technology (i.e., digital health, telemedicine) to improve delivery of services and patient-centric health
- Creates a High Reliability Organization (HRO)
 - MHS Enduring Principles: Sensitivity to Operations; Reluctance to Simplify; First, Do No Harm, Deference to Expertise; Commitment to Resilience; Respect for People; Constancy of Purpose; and Foster a Culture of Safety
 - Stimulate high velocity learning
- Facilitates a Culture of Innovation – “Challenge the Force ... Change the Game”
 - Incentivize Innovation
 - Share best practices
 - Remove administrative barriers

Strategic Environment

America's pivot to the Pacific demands a new focus on naval battle casualty treatment and evacuation

Convenience, the experience of care, and technology are what drive healthcare choices

Changing attitudes about the health care experience demand innovations in technology and new models of treatment while requiring a unique synergy of in-garrison and operational force health care delivery models

Navy Medicine FY17 Strategy Map



Looking Ahead

Advances in medical science and signature injury emergence, require health care practitioners to have cutting edge clinical experience

Decreasing resources demand strategic partnerships to bridge increasing capability gaps

Maintaining extraordinary survival rates dictates new standards of training and clinical competence through high reliability and high-velocity organizational principles

Mission

Keep the Navy and Marine Corps family ready, healthy and on the job

Vision

The Navy and Marine Corps family has the best readiness and health in the world

Guiding Principles

Honor the trust to care for America's sons and daughters

Honor the "uniform" we wear

Honor the privilege of leadership

Strategic Goals

Readiness

We save lives wherever our forces operate – at and from the sea

Health

We will provide the best care our nation can offer to Sailors, Marines, and their families to keep them healthy, ready, and on the job

Partnerships

We will expand and strengthen our partnerships to maximize readiness and health



Key Factors Driving Transformation

Millennials Changing Patient Expectation:

- Embrace technology
- Research healthcare information and communicate online
- Demand quick, convenient, affordable and quality healthcare

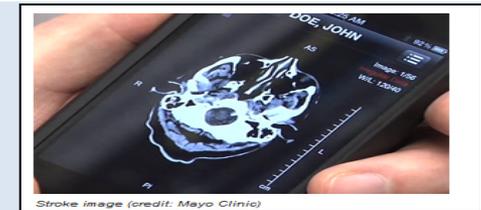


Policy and Reform:

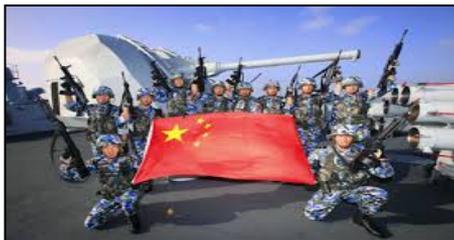
- Organizational changes
- Fiscal constraints
- Beneficiary coverage changes

Private Sector and Technological Advances:

- Localized healthcare (e.g., urgent care, minute clinic, etc.)
- Enhanced Communications (e.g., patient portals, telemedicine)
- Integrated, Smart Medical Devices



Stroke image (credit: Mayo Clinic)



Increased Threats:

- Healthcare privacy (e.g., Data Breaches)
- Physical security (e.g., war time, terrorism, etc.)



Importance to the Mission

"To improve is to change; to be perfect is to change often."

- Winston Churchill

The MHS will and should continue to evolve, and IT will remain an enabler for this change. It's important that the IT community recognize their impact to the success of the MHS mission.

You are a part of the change, and it will take the commitment and actions of the whole enterprise to ensure mission success!



READINESS



HEALTH



PARTNERSHIPS



Shaping the eHR to support



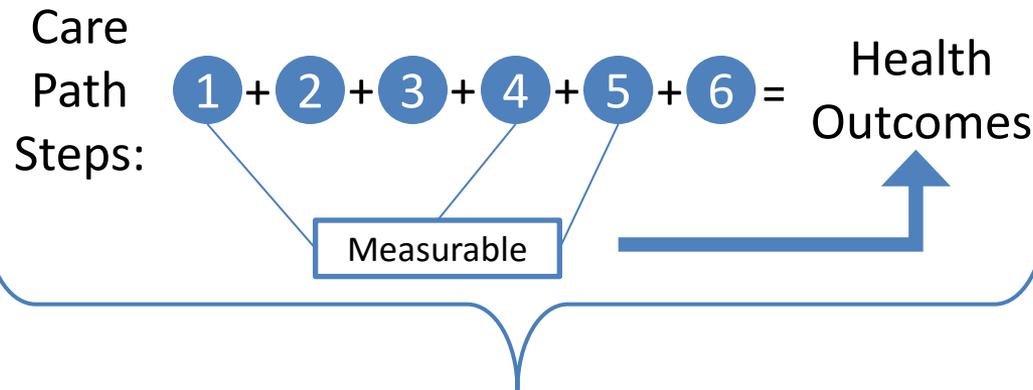


Condition-Based Care: A Closer Look

Condition-Based Care

Dynamic Care Pathways

Care paths are a set of defined steps recommended for use to manage a condition



Process-Based Management

Process-based management, as it applies to medicine, views the delivery of health care as a set of defined processes

Ensuring that many of the steps in a care path are measurable allows for insight into points of success/failure to inform continuous process improvement

Continuous Process Improvement

Improved quality, safety and Value



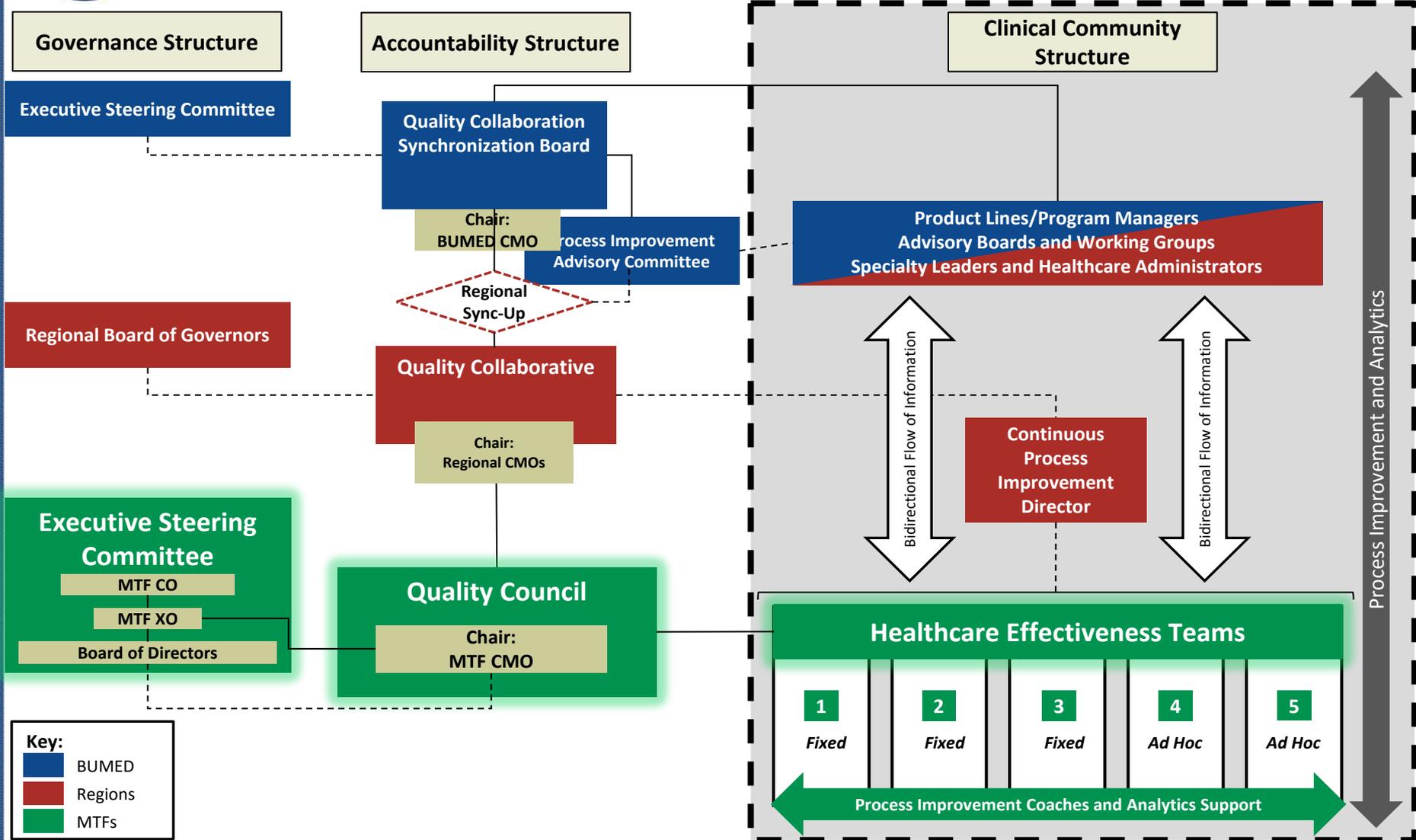
Navy Medicine: Organizing for High Reliability*

*Does not represent organizational reporting structure

FOR DISCUSSION

DRAFT
PRELIMINARY
DRAFT

17-DEC-2015





VISION FOR CLINICAL COMMUNITIES IN NAVY MEDICINE

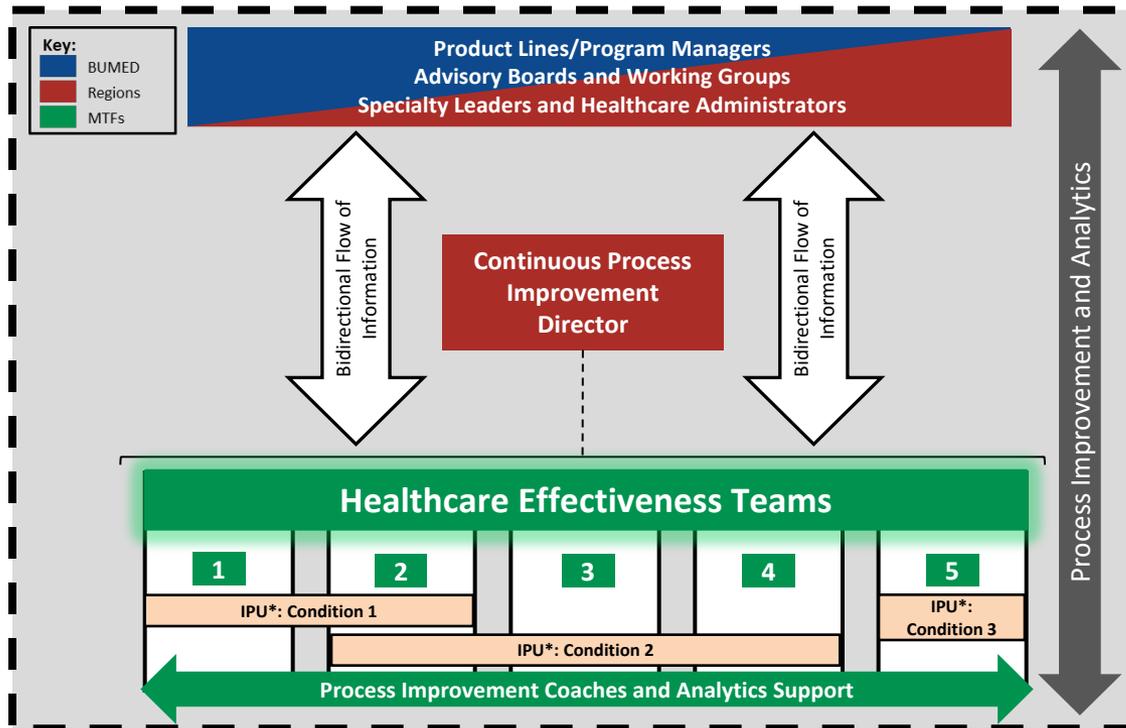
Definition

A **Clinical Community (CC)** aligns processes, technology, and facility infrastructure in both a horizontal and vertical continuum of care to achieve a patient-centric approach that results in enhanced value, standardization, and improved clinical, operational, and financial outcomes.

Benefits

- Aligned and not duplicative investment strategy in organizations, programs, staff, equipment, and resources for specific issues and patient populations
- Collaboration and standardization of care across region and time
- Key enabler for delivery of condition-based care

Clinical Communities/Condition-Based Care Framework



- HETs are the MTF-level manifestation of the Clinical Community. They implement either enterprise-wide projects at the MTF level or address MTF-specific projects that arise to address quality/safety initiatives from a bottom-up perspective
- IPUs are organized around a specific (usually high risk, high volume, high cost, or high return) medical condition or disease.
- IPUs can utilize the work of the HETs and team up with the clinicians involved to address the condition they are focusing on. Depending on the condition, an IPU may need to span multiple HETs in order to enlist the help of multidisciplinary team of clinicians to support a patient with that condition.

*An IPU is an integrated practice unit, which is a patient-centric health care delivery model in which a multidisciplinary team focuses on a specific condition to maximize the patient's overall outcomes as efficiently as possible (ex. Diabetes IPU)

Clinical Communities Next Steps





Navy Medicine EHR Success Plan

Vision

Navy Medicine is entrusted to provide the best care our nation can offer to those who have sacrificed to defend our freedom. We honor that trust by continually improving our system to meet evolving healthcare demands.

Mission

Navy Medicine implements a new EHR that enhances the provision of healthcare, facilitates transformation to HRO, and provides tools for improving the health of our beneficiaries.



Navy Medicine EHR Goals and Initiatives

Enhance provision of care

- Integrate clinical decision support into routine workflow
- Reduce risk of harm events
- Teach users how to use the EHR in their workflow to maximize care and efficiency
- Keep operational forces integrated with sustaining base with ease

Facilitate transformation to HRO

- Provide analytic tools and data for measuring variance and outcomes
- Facilitate the management of multidisciplinary episodes of care
- Inform continuous process improvement methodology for clinical practice, practice management, and implementation of new tools

Provide tools for Improving Health

- Maintain health and minimize visits through patient education tools/portals
- Allow local portability/mobility with local development
- Stimulate patient activation in the improvement of their health
- Integrate readiness information into Line reporting systems



Implementation vs Adoption

Trait	Implementation	Adoption
Emphasis	Go Live (Event)	Outcomes (Process)
Ownership	Technical/IT	Clinical/Executive
Success Criteria	Technological Integrity	Role Based Performance
Management Focus	Milestones and Cost	Quality of Care
Workflow Expectations	Repair	Redesign
Clinical Involvement	Negligible	Critical
User Attitude	Apathetic or Prejudiced	Adaptable
Metrics	Project Milestones	Outcomes
Training Design	Demonstrate Feature and Function	Role based simulation, Task completion
Sustainment	Left to Chance	Primary Management Focus

Excerpted from Haugen, H.A., and Woodside, J.R., *Beyond Implementation: A Prescription for Lasting EMR Adoption*, Magnusson Skor Publishing, Denver, Colorado 2010



Operating Model

Current: Business-Centric Model

- Volume not Value
- Inputs and Outputs are the drivers
- Clinical care and business processes independent
- Outcomes not part of business planning
- Static

Desired: Patient-Centric Model

- Value not Volume
- Outcomes and process measures are the drivers
- Integrated clinical and business processes
- Dynamic

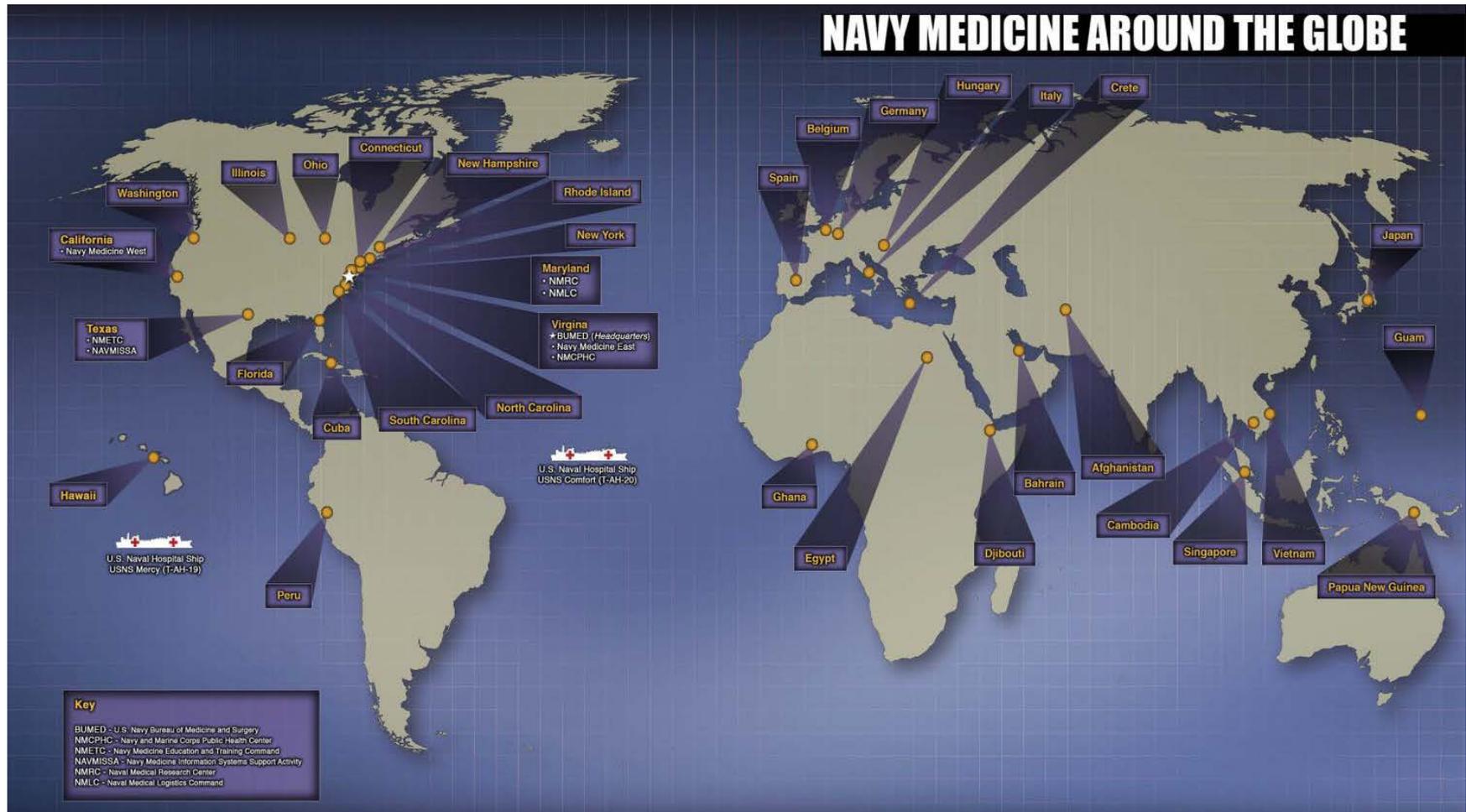


Food for Thought

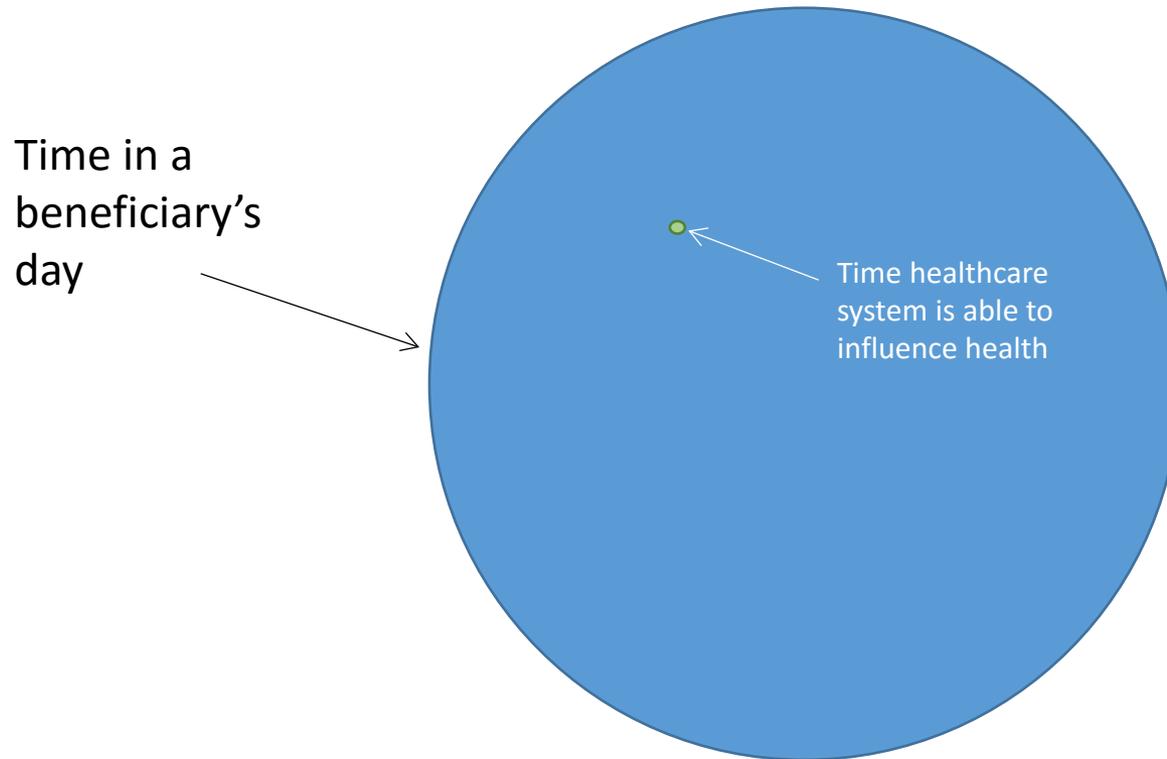
- The EHR needs to support the clinical care/business model for successful adoption.
- At the present time there are four clinical care/business models in the MHS.
- It is unclear how the MHS will transition to a single model, or alternatively how the EHR will support the four components' models.
- If the question is not addressed we standardize at a clinic level but sub-optimize at the system level.



Connected Health



Health & Readiness Influence Challenge



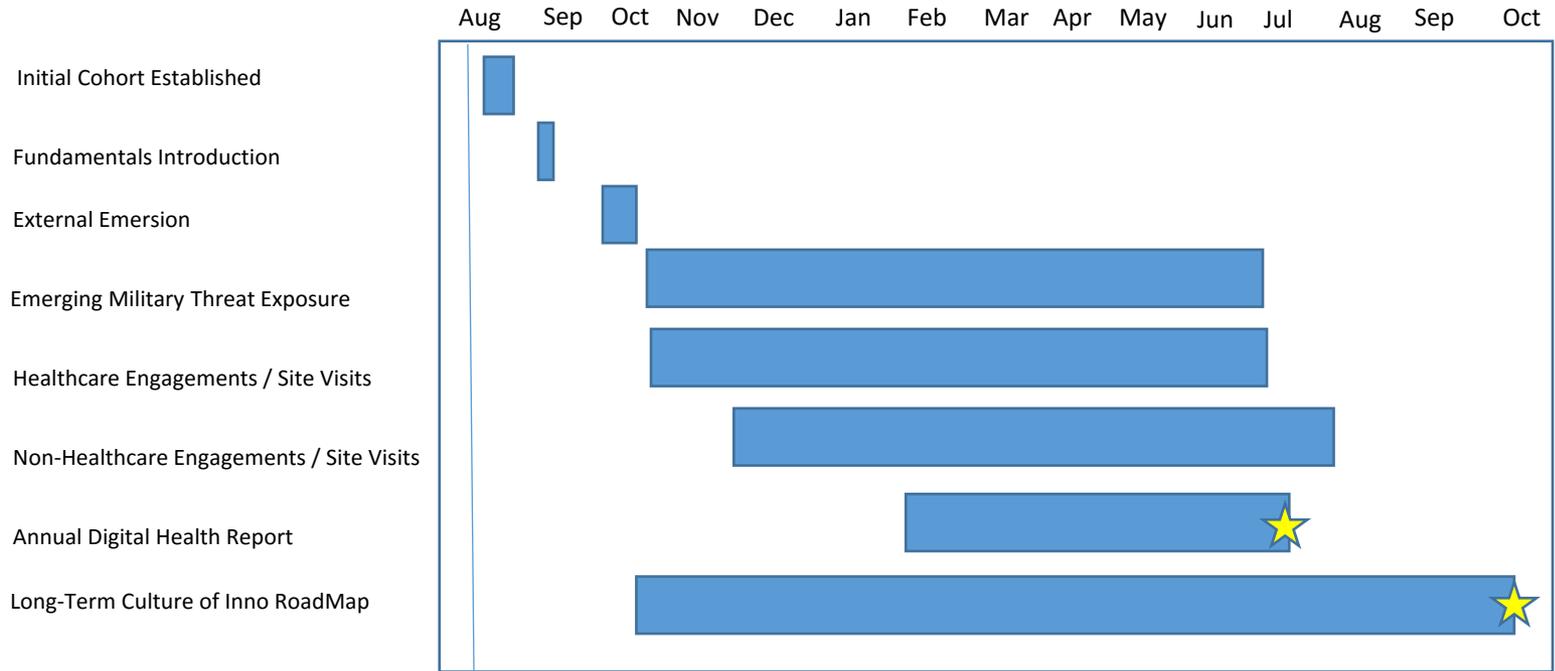
We must expand our ability to influence the health and readiness of our beneficiaries in ways which are meaningful, empowering, integrated, and convenient if we are going to generate significant improvements toward achieving our mission.

Objectives - Initiatives

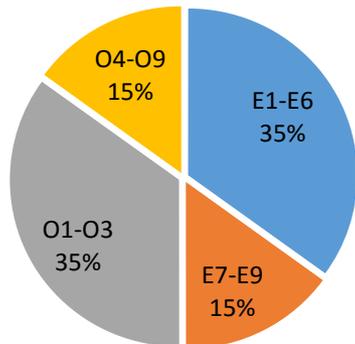
- Establish a Culture of Innovation within Navy Medicine
 - Digital SGAC
 - Innovation Cohort
 - Distributed App Development
- Empower the patient and improve the quality and precision of our care
 - Connected Health - Patient Generated Health Data
- Improve the and effectiveness and efficiency in how we conduct the business of improving health and readiness
 - Digital Workplace

Culture of Innovation

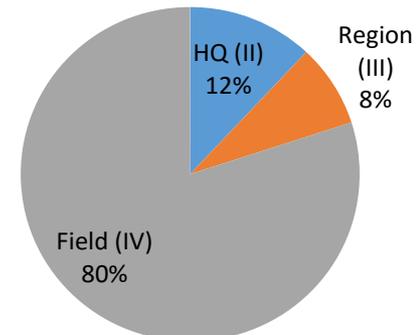
Enhanced Thought Leaders Knowledge Plan



Cohort Distribution by Rank

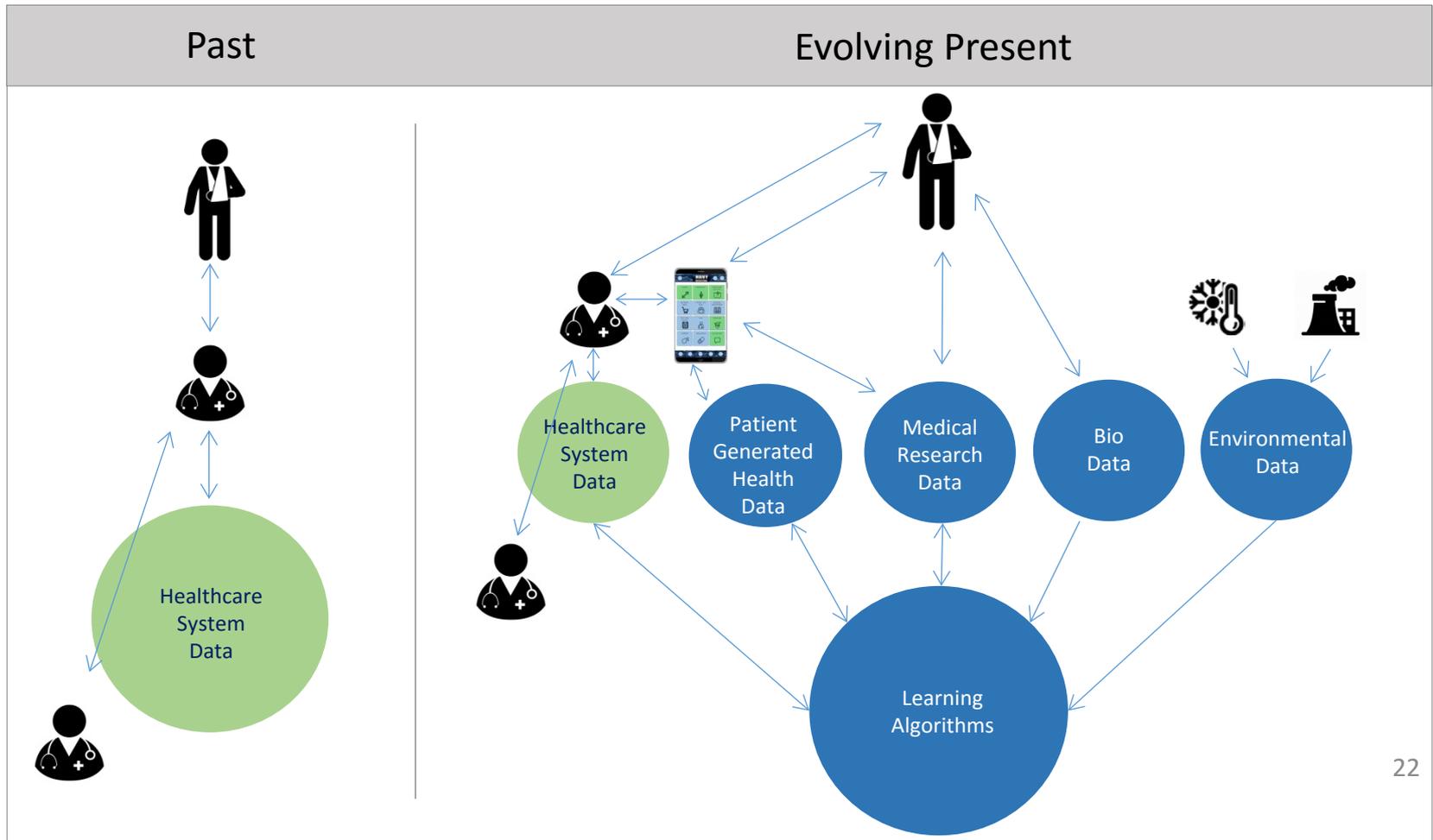


Cohort Distribution by Echelon



Connected Health

The rapid evolution of digital capabilities coupled with the widespread use of personal smartphones has created opportunities for healthcare systems to expand their influence on health and readiness and to improve patient care delivery, access to care, and the overall patient experience. **Connected health** is an expanded approach to how data across various modes are leveraged in health and healthcare to capitalize on these digital opportunities. **Connected Health** brings together patients' personal devices, medical system issued devices, medical system data and non-traditional data sources, clinical research and best practices, and machine learning algorithms to develop a more integrated experience for patients and a more holistic perspective for providers on the factors that contribute to patients' health.



Connected Health

Patient Generated Data - Mobile App Evolution

1ST GENERATION: Operational Today

- App informational
- Data embedded in app
- MTF centric
- Minimal security and governance considerations
- Limited patient engagement



2ND GENERATION: Operational Soon (0-2 Months)

- App informational
- Data fed to app from external source
- Minimal user entered data – stored only on device
- Patient centric
- Administrative security / privacy review
- Centralized governance



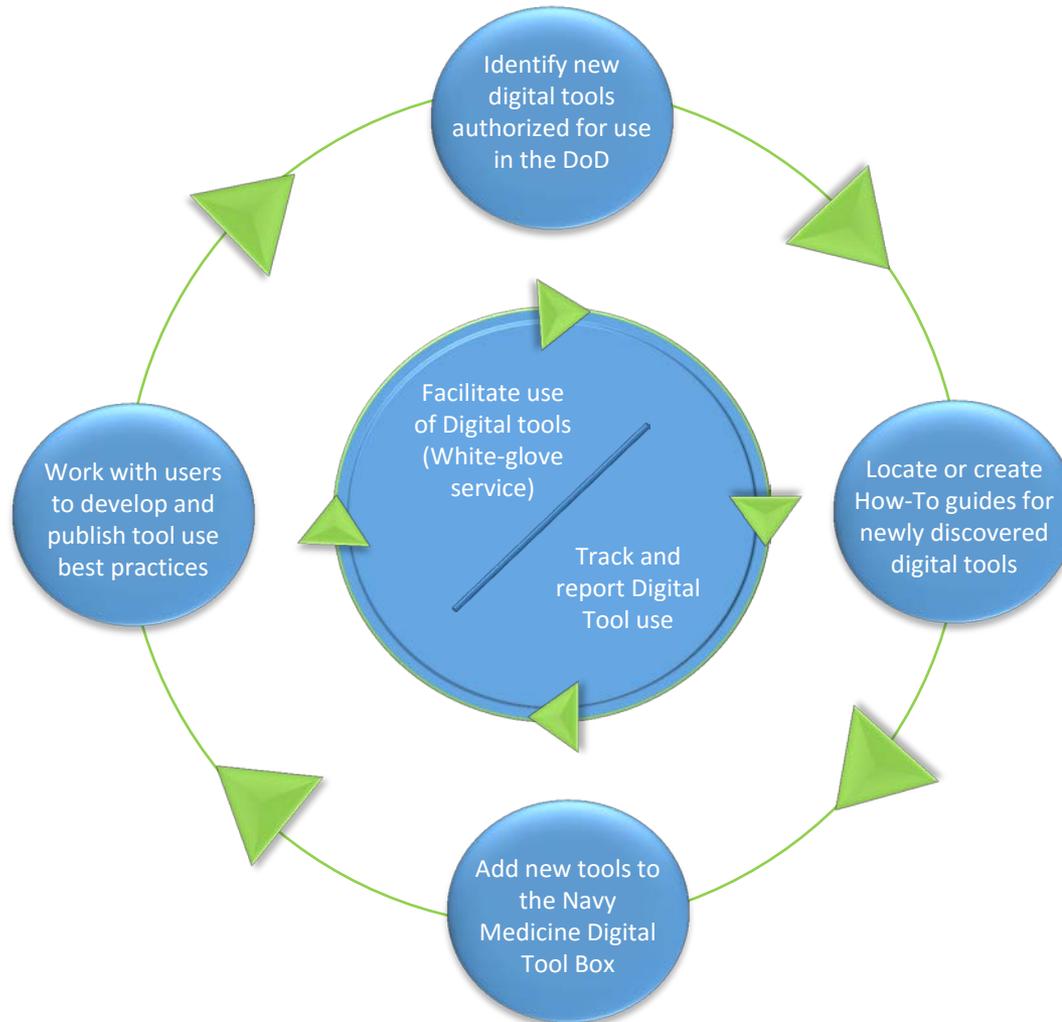
3RD GENERATION: Mobile Connected Health (12-18 Months)

- Bi-directional data flows
- Data fed to app from external sources
- High quantities of patient entered data
- Patient centric
- Low / no comms capabilities
- 2 Factor user authentication and app level encryption
- Centralized governance
- Automated patient alerts
- Patient device / wearable data feeds
- Data stored on device and in cloud



Digital Workplace

Tool Adoption Support Cycle



Questions?





Back Up Slides



Design for Maintaining Maritime Superiority

ACHIEVE HIGH VELOCITY LEARNING AT EVERY LEVEL: Apply the best concepts, techniques and technologies to accelerate learning as individuals, teams and organizations. Clearly know the objective and the theoretical limits of performance – set aspirational goals. Begin problem definition by studying history – do not relearn old lessons. Start by seeing what you can accomplish without additional resources. During execution, conduct routine and rigorous self-assessment. Adapt processes to be inherently receptive to innovation and creativity.

1. Implement individual, team and organizational best practices to inculcate high velocity learning as a matter of routine.
2. Expand the use of learning-centered technologies, simulators, online gaming, analytics and other tools as a means to bring in creativity, operational agility and insight.
3. Optimize the Navy intellectual enterprise to maximize combat effectiveness and efficiency. Reinvigorate an assessment culture and processes.
4. Understand the lessons of history so as not to relearn them.



How We Support

Navy Medicine provides support to the Chief of Naval Operations and the Commandant of the U.S. Marine Corps in the evolving strategic environment by enabling readiness, wellness, and health care to Sailors, Marines, their families, and others entrusted to the care of Navy Medicine worldwide.

CNO's Four Lines of Effort:

- Strengthen Naval power
 - Achieve high velocity learning
 - Strengthen our Navy team for the future
 - Expand and strengthen our network of partners
- **High Velocity Learning** – We are among the nation's best GME programs, have top-tier education for our corpsmen, and continue to have the most cutting edge research and development.
 - **Navy Team** – Medical readiness is our mission. We provide the very foundation for the readiness of our Sailors and Marines at home and abroad; it is our first priority as we strengthen the force for today, tomorrow, and the future.
 - **Outcome** – Providing health as the measurable outcome.



Navy Medicine Commander's Guidance

“The dynamic and often austere setting in which we practice requires that we commit ourselves to high velocity learning, bringing all of our expertise to bear expediently and effectively to solve deck plate challenges and then rapidly share the lessons learned throughout our entire enterprise.....”

Our success depends on the active engagement of everyone in Navy Medicine, from the most junior Corpsmen to our most senior flag officers in this regard. All are critical to success.”



Strategic Enabler of Navy's Maritime Strategy

Military Treatment Facilities



- Forward Presence
- Deterrence
- Sea Control
- Power Projection
- Maritime Security
- Humanitarian Assistance & Disaster Response

Hospital Ships



Aircraft Carriers



Casualty Receiving Ships



Blood Banks/Products



Expeditionary Medicine



Fleet Marine Force



Preventive Medicine



Fleet Surgical Support





Health IT - Enabling Change

How IT is Supporting the MHS Transformation



Joint, Enterprise IT Solutions

Supports standardized care across the services through a globally connected EHR



Big Data Analytics

Uses different data sets and available algorithms to define a patient's plan and care



Single, consolidated network infrastructure

The Medical Community of Interest (MED-COI) provides the backbone



Mobile Applications

Keeps healthcare at the patient's fingertips



Telehealth Solutions

Adds convenience & provides services for patients regardless of location



Web services

Organizes healthcare and organizational information for public education & usage



Cybersecurity

Keeps patient information private & protects the integrity of MHS networks/systems



Social Media

Serves as an outlet for crowdsourcing, collaboration & timely information distribution



Connected Health

Patient Generated Data Background – Objectives - Scope

The rapid evolution of digital capabilities coupled with the widespread use of personal smartphones has created opportunities for healthcare systems to improve patient care delivery, access to care, and the overall patient experience. Connected health is an expanded approach to how data across various modes are leveraged in health and healthcare to capitalize on these digital opportunities. Connected Health brings together patients' personal devices, medical system issued devices, medical system data and non-traditional data sources, clinical research and best practices, and machine learning algorithms to develop a more integrated experience for patients and a more holistic perspective for providers on the factors that contribute to patients' health.

Patient generated data is a key data source that is growing in significance in providing healthcare. In a traditional healthcare system encounter, a patient spends a small fraction of their time passing critical information to their provider; likewise, their provider has a limited amount of time to inform the patient on how to improve their health. This traditional approach to exchanging healthcare information produces low volumes of data that is often poor in quality due to patient memory, an understanding of what is medically relevant, level of effort required on the patient's part to generate the data, as well as many other contributing factors. Enabling a patient to produce, gather, and manage their personal health data- in a way which is already integrated into their daily life- will greatly increase the volume and quality of data available to improve health advice from the healthcare system ultimately impacting the decisions patients will make.

Objectives

- Increase a patient's awareness and engagement with their health and improve health related decisions
- Provide patients a tailored experience with their personal device based on their health needs and their physical environment
- Provide patients a secure mode to manage their health more effectively
- Provide patients with a means to share data with their provider
- Provide patients with a means to opt-in to share their data with the research community
- Establish a mode of communication from the healthcare system to the patient to advise a patient of health related issues when and where they are most effective

Scope

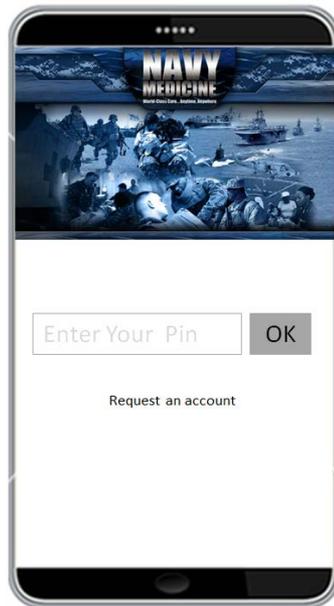
- Mobile capabilities for iPhone & Android
- Up to 10K test users
- 3-5 Apps integrated into secure container
- Integration of wearable device(s)
- Integration of data from commercial apps
- Integration of data from environmental data sources
- User alerts based on changes in near real-time data

Patient Generated Data

3rd Generation Mobile User Experience



- Single patient experience no matter which Navy Medicine facility patients leverage for care
- Log in once to access all healthcare apps
- Device agnostic



- Secure container for all PHI and PII
- Local storage for Low / No Comms with pull / push to central data base
- 2 Factor Access controlled Device / PIN



- Capabilities tailored to patient's wants and needs
- Apps able to share data (i.e., Medication)
- Open or Closed Communication channels (Centering) for social networking
- Patient can send data to provider
- Integration with external devices (i.e., Wearable, Scale, Thermometer, Glucose Monitor, Pulse Oximeter, Blood Pressure Monitor)