Indian Health Service

Optimizing the Problem List to Prepare for the Enterprise EHR Part I

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AUGUST 2023

Agenda

Why Talk About the Problem List?

Business Process Modeling and WRAP

Rose, Bud, and Thorn Exercise

Design and Decide Session – Modeling the Problem List

Why Talk About the Problem List?

Howard Hays, MD, MSPH, FAAFP, FAMIA
Chief Medical Information Officer
Indian Health Service Headquarters

EHR Modernization & Historical Patient Data

- RPMS will be retired and inaccessible
- ALL RPMS data will be moved to the Four Directions Warehouse (4DW) – see separate presentation
- Only a subset of historical data from RPMS will be migrated from 4DW into the new EHR solution
  - Patient Registration / Demographic data
  - “PAMPI” data (next slide)
  - *Possibly* some additional data (certain notes, etc.)

What is PAMPI?

- **P** – Problems
- **A** – Allergies (and Adverse Reactions)
- **M** – Medications
- **P** – Procedures
- **I** – Immunizations

PAMPI Elements – Considerations for Cleanup

- **Immunizations**
  - Mostly structured data, based on fact – patient either got the vaccination or they didn't
  - Main consideration for data migration – how far back do we go with the immunization history?
- **Procedures**
  - Also structured data (CPT)
  - Main considerations for data migration – which procedures (scope) and how far back (timeframe)?

PAMPI Elements – Considerations for Cleanup

- **Medications**
  - Structured data, although variable data capture for “outside” medications
  - Consideration for migration – Active meds only, or include historical, and how far back?
- **Allergies & Adverse Reactions**
  - Manually entered, lots of user judgment & variability, impacting order alerts and decision support
  - **Allergies need thoughtful cleanup pre-migration**

PAMPI Elements – Considerations for Cleanup

- **Problems**
  - The Problem List is the most user-dependent, subjective, inconsistent, cluttered, and poorly maintained of all the PAMPI elements
  - It is also the most important, because:
    - It is the best way for a new provider to learn what is going on with the patient
    - It drives clinical decision support and alerts
    - It is central to the logic of many quality, performance, and population health measures/indicators
  - **The Problem List MUST be "clean" pre-migration**

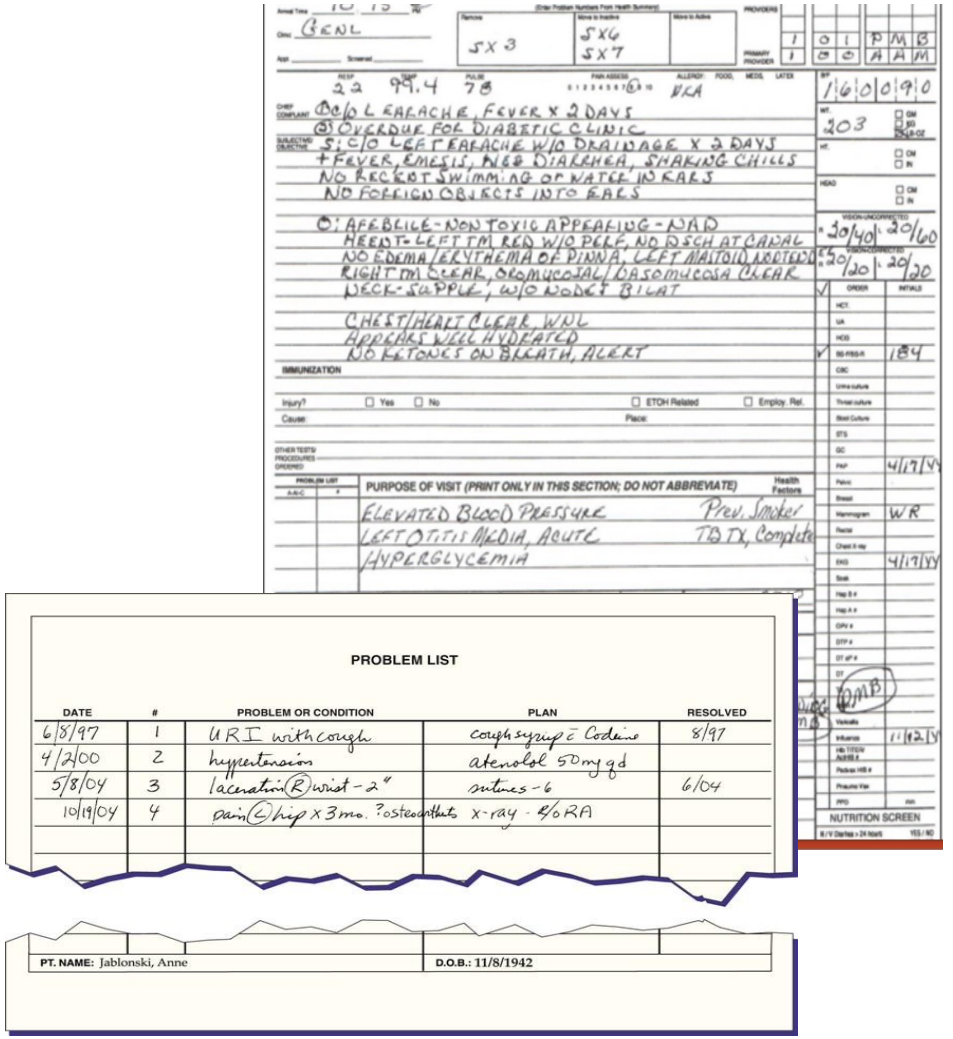
What is the Problem List?

Structured and organized summary of a patient's current chronic and acute medical conditions

Comprehensive reference for healthcare providers to quickly understand a patient's ongoing health needs

Supports the making of informed decisions on diagnosis and treatment, and the coordination of care across settings

Originated with the Problem Oriented Medical Record (POMR), institutionalized in IHS beginning with Industrial Strength Triage



The RPMS Integrated Problem List (IPL)

Multidisciplinary, longitudinal list of issues that are being, or have been, addressed for the patient

Collects, associates, and aggregates problem and visit-related information

Not just for licensed prescribers - responsibility of all providers (e.g., Primary Care, Pharmacists, Nurses, Physical Therapists)

Utilizes SNOMED CT as specified in ONC EHR certification requirements

Updated during office visits, at time of admission, discharge, and daily during hospital stays

Should only contain problems that are likely to **influence ongoing clinical decision making**

Why the Problem List is important

The Problem List supports clinical care decisions

- Provides visibility of diagnoses that impact care decisions
- Often the source for clinical charting via smart links
- Informs decision support (e.g., best practices, reminders, drug-disease alerts)
- Used for reporting and registries that impact our approach to population health

An incomplete, inaccurate, or cluttered Problem List may result in

- Suboptimal clinical decisions for individual patients
- Inefficiencies and inaccuracies in clinical charting
- Decision support that fires inappropriately
- Suboptimal decision-making regarding population health
- Inappropriate notifications to patients

Managing the Problem List

Problem List Management is a significant challenge for organizations including IHS

IHS has undertaken Problem List cleanup twice:

RPMS EHR Deployment

IPL, SNOMED CT, and ICD-10

Problem List cleanup is a critical aspect of “What Can You Do Now” to prepare for Health IT Modernization and RPMS replacement

The Workflow Research and Alignment Plan (WRAP) and Business Process Modeling (BPM) can help plan cleanup and management of the problem list

WRAP and Business Process Modeling

David Maddirala, MD

Amanda Cray, CLSSGB

August 2023

Transforming the way we deliver care begins with realigning our processes

Targeted configuration of unique high-risk, problem-prone, and high variability workflows

IMPROVING CARE DELIVERY

Seamless, consistent, rigorous processes across the field will drive efficiencies to deliver better care

ENHANCING PATIENT EXPERIENCE

Enhanced processes in telehealth, patient portal, and digital health applications expands our digital footprint and will enrich patient experiences and provide more seamless access to care

LEVERAGING DATA TO DRIVE OUTCOMES

Redesigned processes will improve data capture and data quality fostering innovative analytics to better understand our patient populations and drive improved outcomes

Workflow Research Alignment Plan (WRAP) Overview

WRAP utilizes Business Process Modeling (BPM) to document shared best practice future-state workflows, supporting the configuration and implementation of the new EHR

FIELD ENGAGEMENT

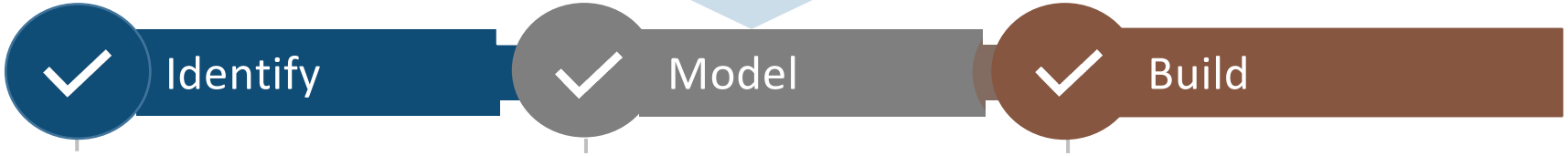
Engage IHS, Tribal Health Programs, Urban Indian Organizations (I/T/U) clinicians, business, and technical experts

COMPREHENSIVE APPROACH

Select specific and complex service lines (e.g., Emergency Department, inpatient care, primary care)

PARTNERSHIP

Use models to inform improvement of current processes, new system build, and user training



Gaps and Inefficiencies

Future State

Configured EHR

WRAP: From Challenges to Opportunities

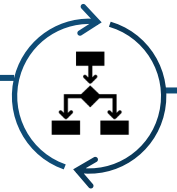
With every challenge comes an opportunity

CHALLENGES

Mastery of the EHR by the User
Inefficient and disparate processes can present a challenge to initial and ongoing training and compromise EHR mastery

Configuring the EHR for the User
Lack of consistent, rigorous models that do not meet the needs of the user can negatively impact the adoption of the EHR

Listening to the User in Decision Making
Various clinical and business partners, dispersed across the country with unique needs, require consistent and deliberate engagement



OPPORTUNITY

Using the Models for Configuring, Testing, and Training
Use of models will be continuous and iterative, lasting through the EHR implementation and optimization

Leveraging the Models for Vendor Collaboration
Comprehensive models based on SME engagement will help inform the EHR vendor's configuration efforts

Empowering the User Via Engagement
Through consistent and deliberate engagement with user, models will ensure confidence and ownership in the new technology and form a more personalized EHR experience

IHS Health Information Technology Modernization Preparation

"Too often clinics believe workflow should only be assessed after a vendor product has been selected and just before the health IT is implemented."

- **Agency for Healthcare Research and Quality (AHRQ)**

By understanding workflows and preparing for changes to them throughout the planning and implementation process, an organization is better prepared for the workflow changes post-implementation.

The Approach to WRAP

Prioritization and Categorization of Process Models

Models are prioritized based on 4 distinct criteria, and categorized into 22 service lines, of which 16 are in progress

Criteria for Prioritizing BPM Process Models (via Service Lines)

1 Core Functionality

Low — High

*Hospitalization**

- Essential service to the organization?
- Apart of the core business operations?
- Necessary to fulfill mission?

2 Uniqueness to IHS

Low — High

*Substance Use Disorder**

- Specialized program or focus area?
- Special configuration required in the EHR?

3 Volume

Low — High

*Community Health Aide**

- Number of patients impacted?
- Processes that consume staff time?
- Frequently performed procedures or services?

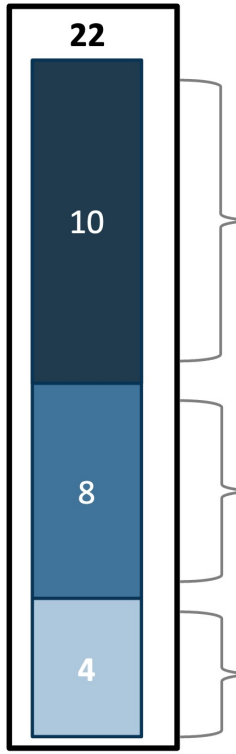
4 High Risk

Low — High

*Medication Management**

- Potential for harm to patient or impact to business operations?
- Increase of incidents or errors?
- Complexity of service?

Total Service Lines



8 in progress

- **Emergency Department***
- **Hospitalization***
- **Labor Delivery Recovery Postpartum***
- **Primary Care***
- **Residential Treatment Centers***
- Swing Beds
- **Substance Use Disorder***
- **Surgery***
- **Telemedicine***
- Urgent Care

Support Services

6 in progress

- **Community Health Aide Program***
- **Employee Health***
- Imaging
- **Laboratory***
- **Medication Management and Administration***
- **Nutrition***
- **PAMPI***
- Referral Management

Business Services

2 in progress

- Population Health
- **Public Health***
- Reporting
- **Revenue Cycle Management***

WRAP Process Model Journey

WRAP has five distinct phases that are based on an iterative, agile methodology

Phase 1: Environmental Scan
to collect internal and external information

Phase 2: Conceptual
to form an overarching understanding of each process model

Phase 3: Design and Decide
to map out the future state models with IHS SMEs

Phase 4: Quality Review
to final check process models for clinical and technical accuracy

Phase 5: Approval
to approve models for Governance review and shared with EHR vendor

Progressive Process Refinement

- Each stage enhances process definition

Assessment for Advancement

- Each phase end with evaluation using Prioritization and Categorization (Service Line review)

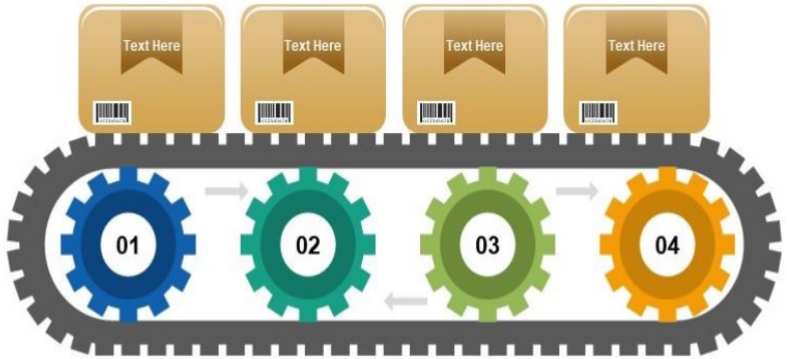
Iterative Approach

- Previous stages reevaluated for promotion as resources allow

Key Features

- Repetition
- Standardization
- Training & Onboarding

Production Line

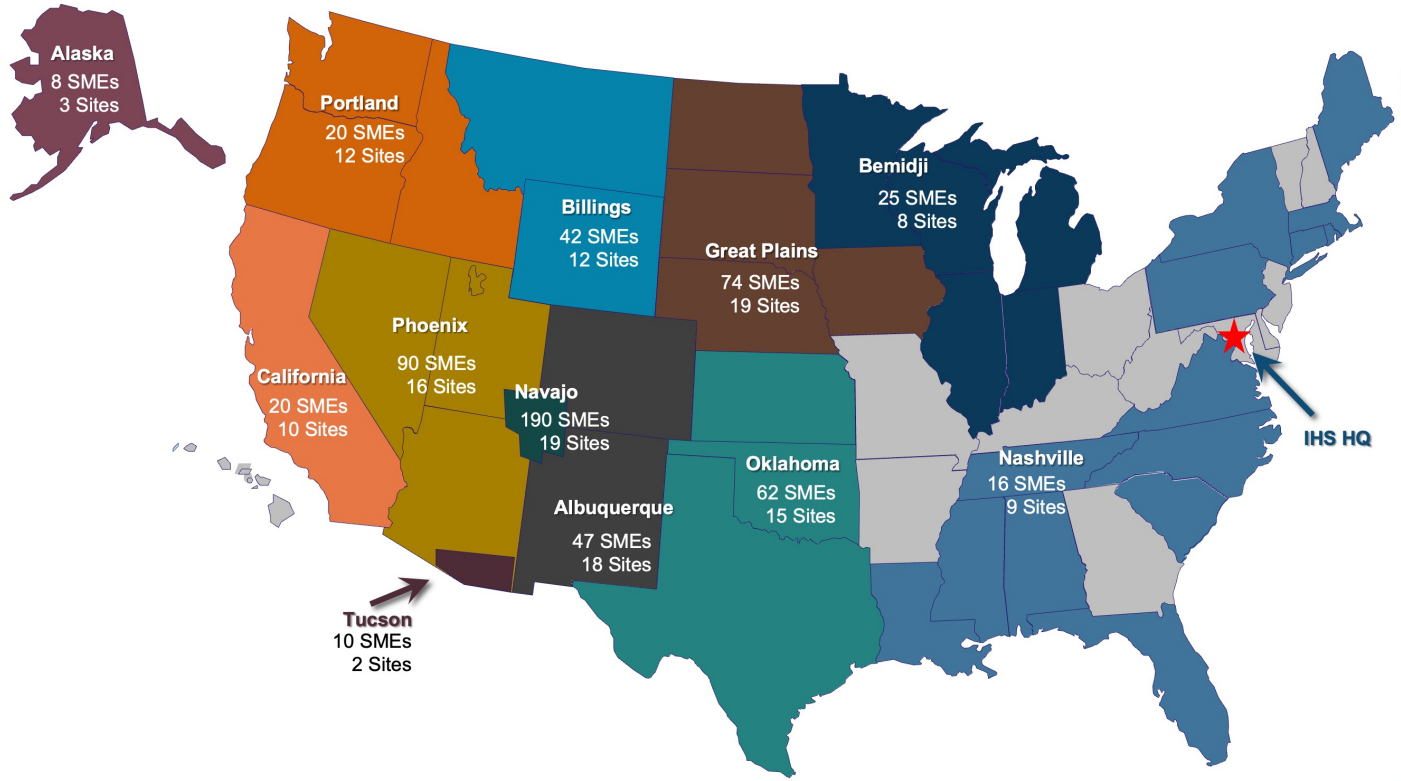


WRAP Pulse Check

WRAP by the Numbers

As of August 1, 2023

WRAP-related engagement with I/T/U SMEs across the country has been strong and steady



I/T/U SME engagement throughout the sessions

201 WRAP Work - Sessions held between Sept. 2021 and July 2023

22 Service Lines

12 Areas Participating (plus IHS HQ)

204 Sites of Care Participating (Station, Center, Clinic, Hospital)

1300+ Unique SMEs Participating

5300+ Participant Encounters

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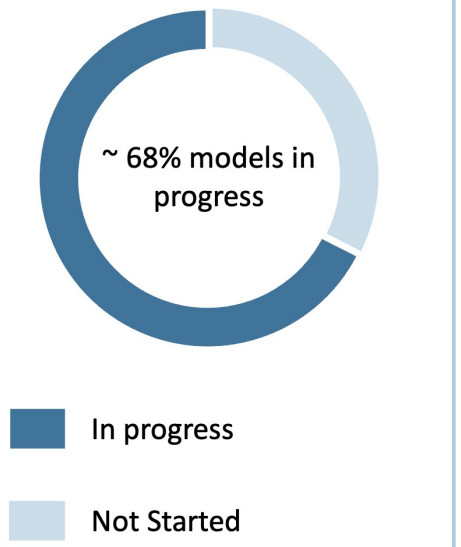

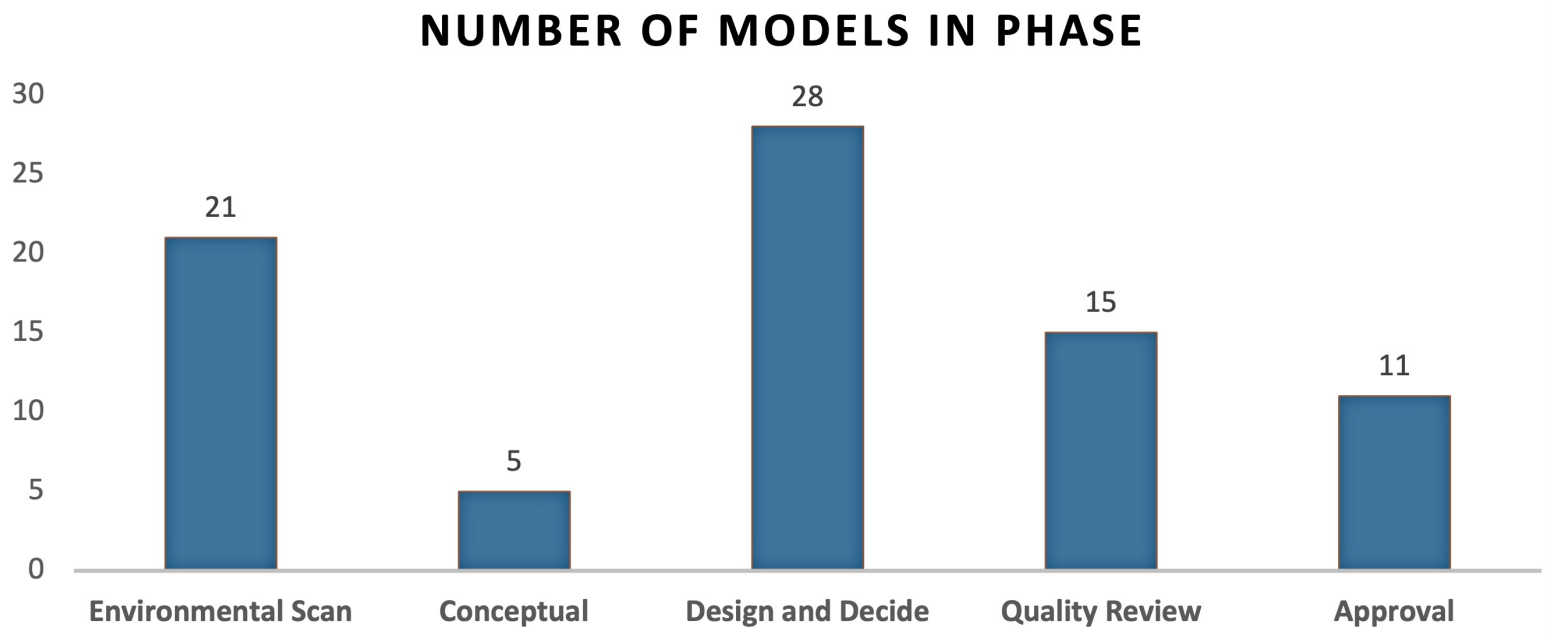

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21. Transfer to another hospital from floor

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2. Day Surgery, Post-op
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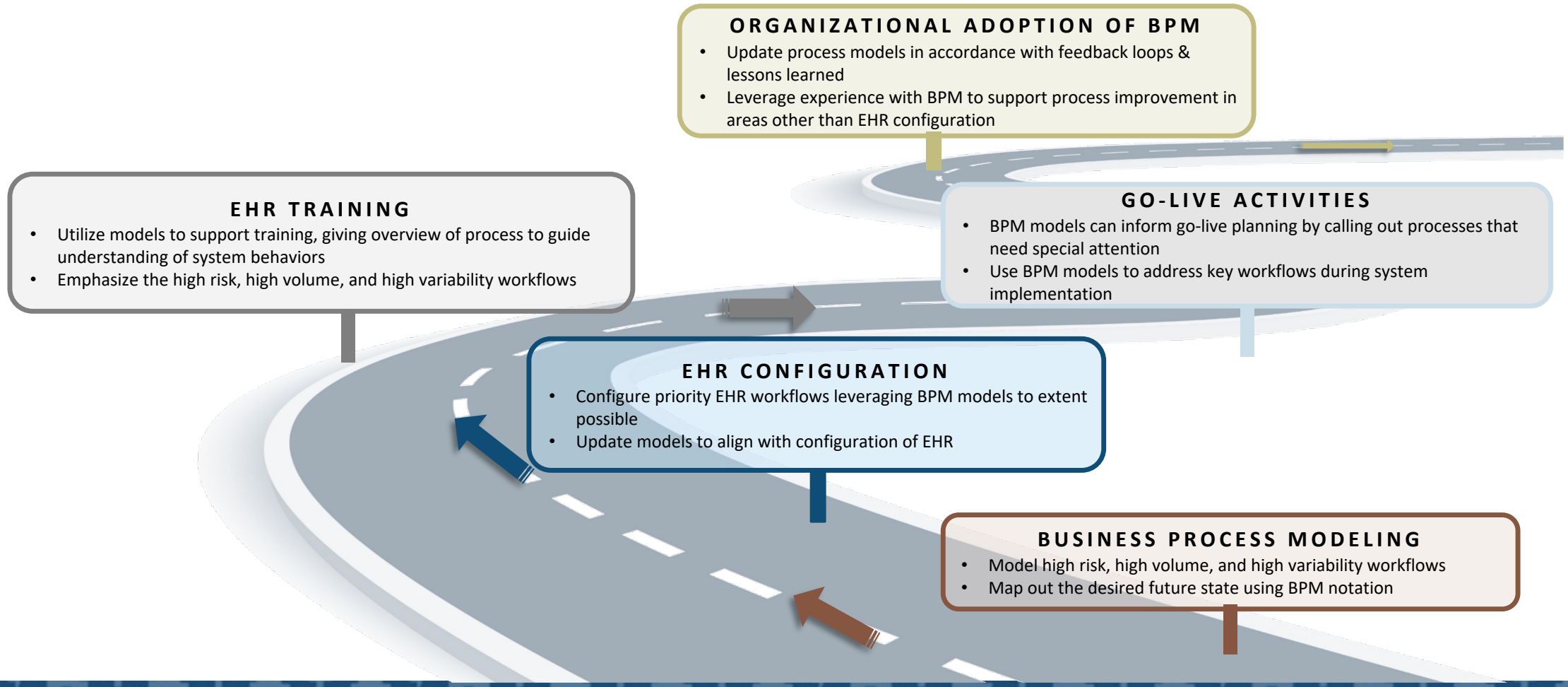
The Path Ahead with WRAP

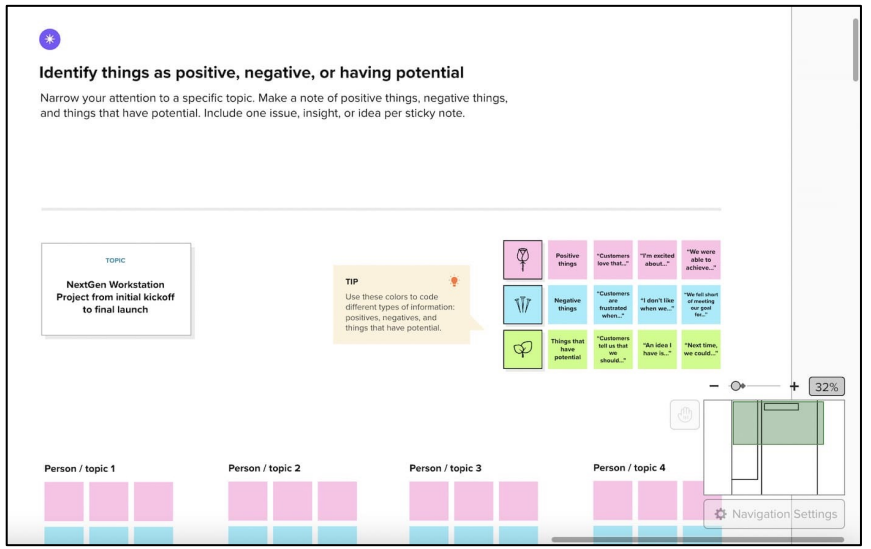
WRAP lays the groundwork for configuration, training, implementation, and optimization of the new EHR



Rose, Bud, and Thorn Exercise - Design and Decide Session Modeling the Problem List

Today’s exercise

- Design and Decide starting with a “Rose, bud, and thorn” exercise
- Exercise helps teams:
  - Define the central topic or problem
  - Brainstorm with your team to identify what is going well, what isn’t working, and opportunities for improvement
  - Organize and identify themes across your feedback for further analysis
  - Get aligned in next steps
- Done using Mural, a virtual whiteboard for facilitating interactive meetings and workshops
- Part I Mural: [Mural]



Question & Answer - Discussion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Optimizing the Problem List to Configure the Enterprise EHR Part 2

DAVID MADDIRALA, MD

AMANDA CRAY, CLSSGB

AUGUST 2023

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WRAP and Business Process Modeling

Session 1 Recap

Review and Verify – Problem List Model

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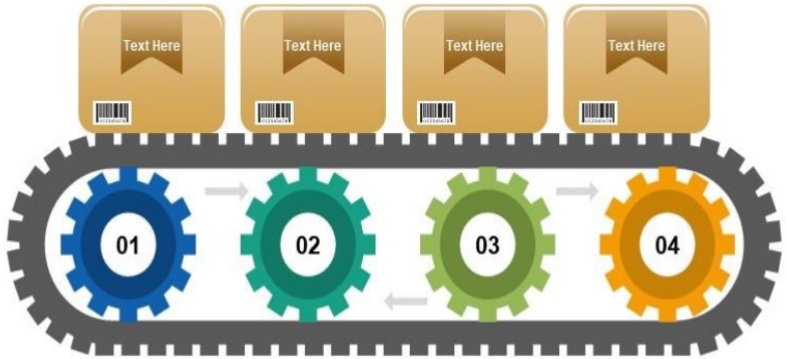

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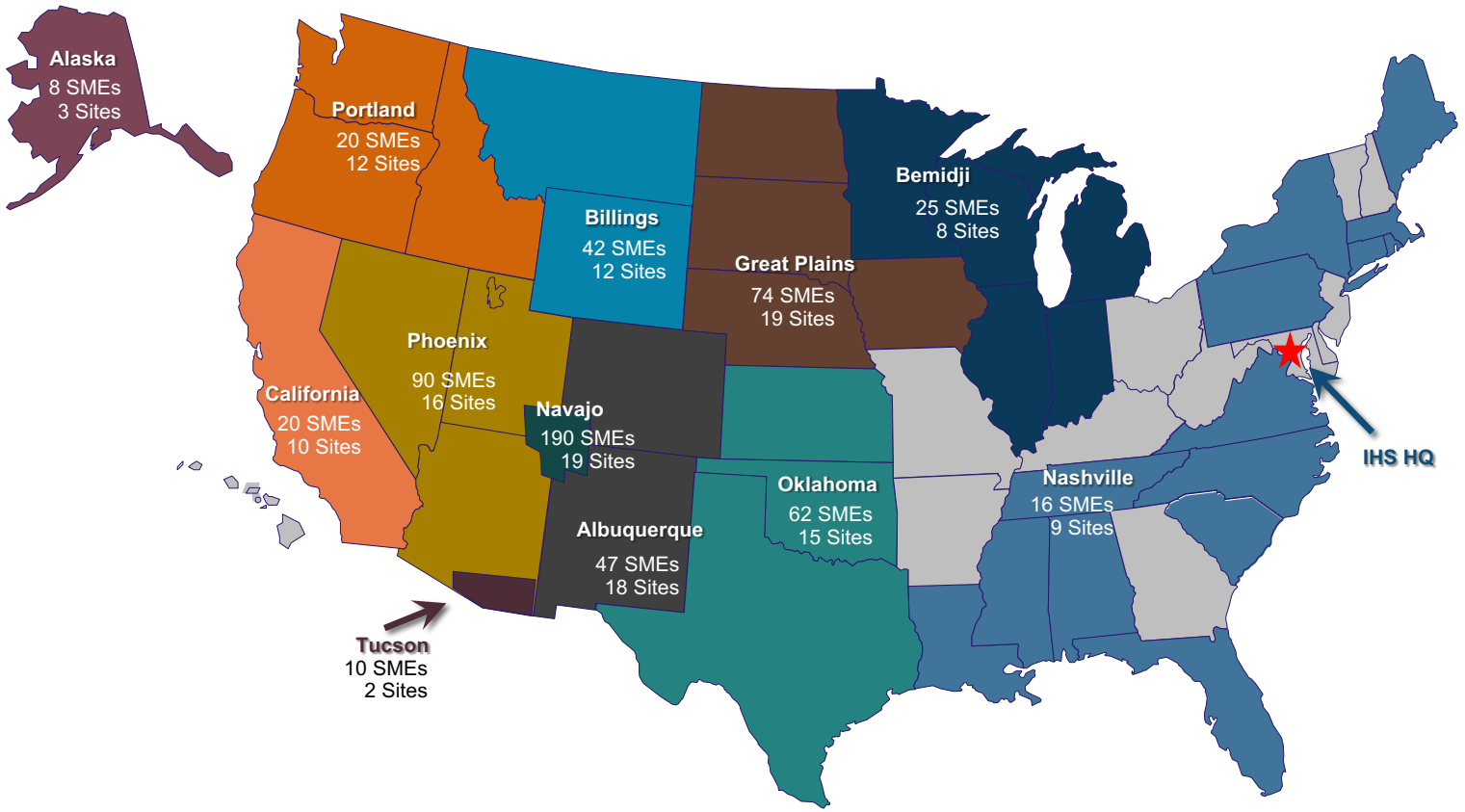

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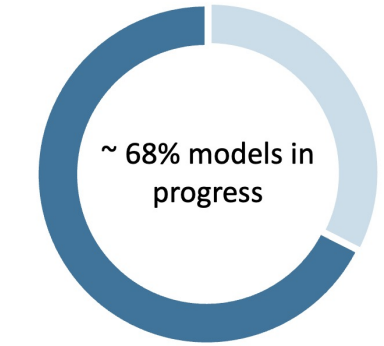

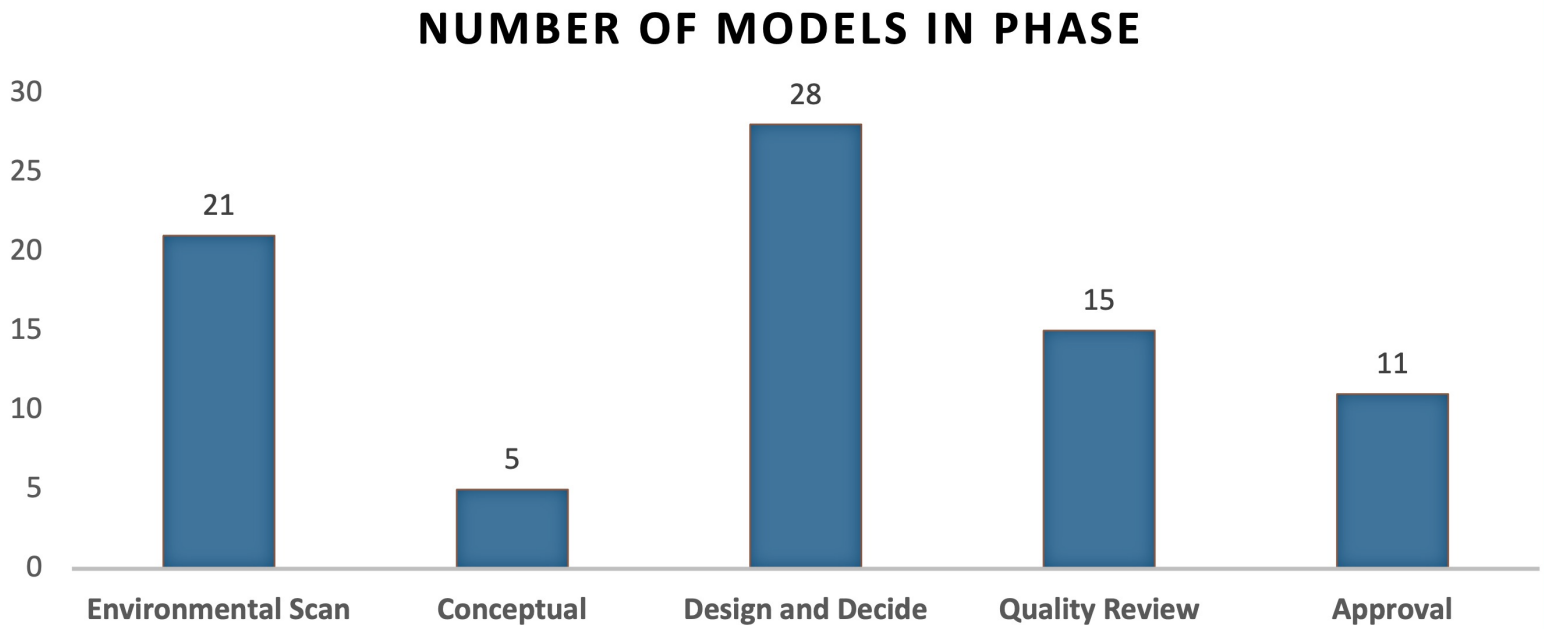

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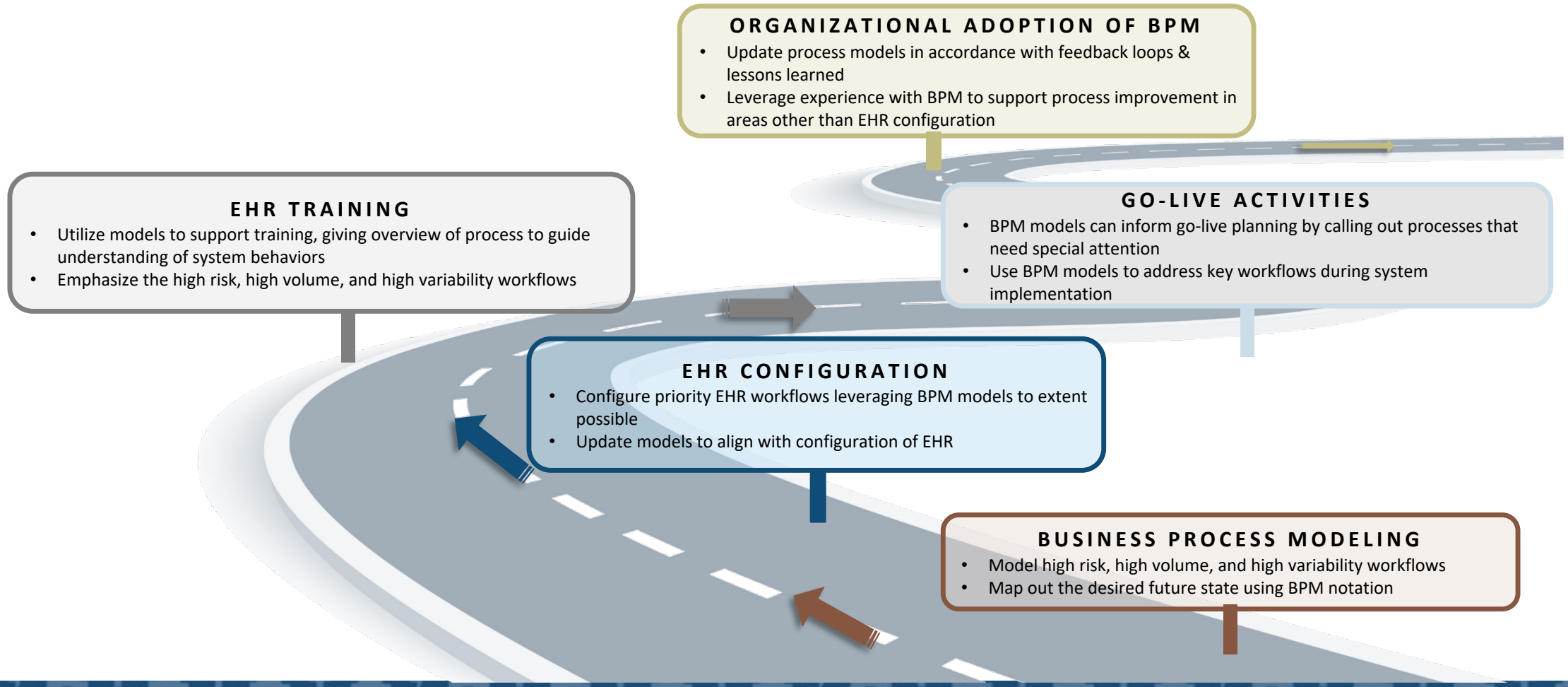
Approval
to approve models for Governance review and shared with EHR vendor

1. Advanced Practice Pharmacist
2. Ambulatory Nutrition
3. Buprenorphine Bridge Program, Emergency Department
4. Community Health Aide
5. Employee Health Exposure – Emergency Department
6. Employee Health Exposure – Primary Care
7. Employee Health Immunizations
8. Employee Health Mass Wellness
9. Group / School Nutrition Event
10. Occupational Health
11. Public Health / Community Nutrition Home Visit

The Path Ahead with WRAP

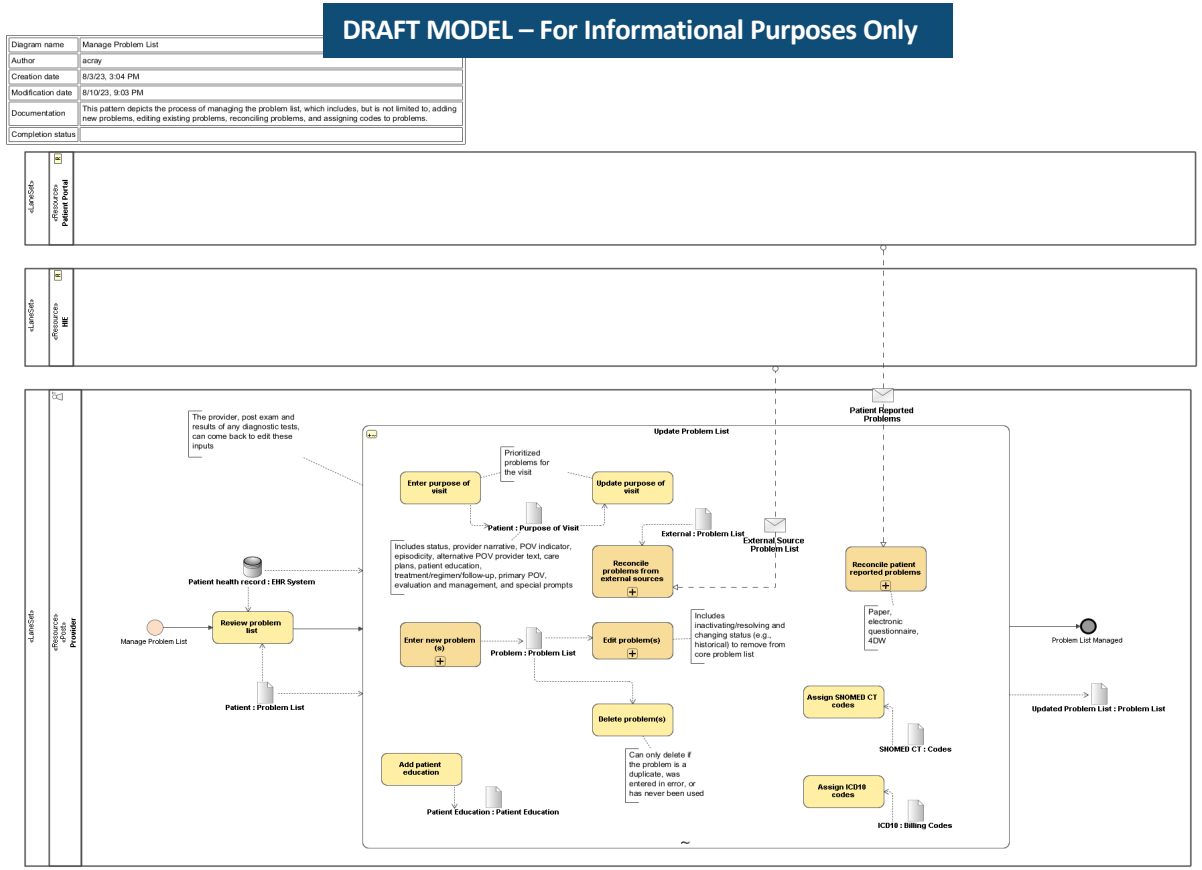
WRAP lays the groundwork for configuration, training, implementation, and optimization of the new EHR



Recap Session 1

Review and Verify – Problem List Model

Problem List



Manage Problem List.png

EHR Modernization
What Can We Do Now?

Health IT Modernization

What We Can Do Now?

- **Prioritize** your People – Address staffing concerns
- **Identify** change champions – i.e. Superusers, Package Owners
- **Catch up** on any billing, coding & accounts receivable
- **Engage** with Workflow Research & Alignment Plan (WRAP)
- **Optimize** RPMS EHR as delineated through the WRAP Best Practice/Future State workflows & IHS Program Initiatives (**e.g. PAMPI, 4DW,** STI/Syphilis, ACT, ASQ, HOPE, EHR Component Functionality)
- **Keep** RPMS up to date with patches
- **Adhere** to life cycle management best practices for all technologies
- **Leverage** Health Information Technology (HIT) to improve safety and patient outcomes (**e.g.** Clinic BCMA, Outpatient ADC Profiling, Smart Pumps)
- **Routinely** monitor RPMS
- **Ensure** system administration process & backups are performed

Standardization - EHR Modernization

https://www.ihs.gov/hit/

- CHIT 2015 (Certified Health Information Technology)
- HL7 Data Transmission
- COVID-19 Vaccine CDC-IHS Data Management
- 21st Century Cures Act (21 CCA – Cures Bundle)
- IHS Four Directions Warehouse (4DW) - PAMPI & Migration of Data
  - Problems
  - Allergies
  - Medications
  - Procedures
  - Immunizations

IHS Health IT Modernization Program

- Follow agency updates at www.ihs.gov/hit
- Follow IHS Office of Information Technology updates at CIO Newsletters - newsroom (ihs.gov)
- Join the HITMOD Listserv: Listserv Signup
- Reach Dr. Howard Hays at Howard.Hays@ihs.gov.
- Reach Jeanette Kompkoff at Jeanette.Kompkoff@ihs.gov

Problem List Management Guidance

Problem List Management Guidance

The following slides are derived from a variety of sources, including:

- American Medical Informatics Association (AMIA)
- Children's Hospital of Philadelphia
- Johns Hopkins
- Penn State Holy Spirit Medical Center
- Vanderbilt University Medical Center
- Vidant Health (University Health Systems of Eastern Carolina)

Problem List Definition

The Problem List is a comprehensive inventory of health issues that are likely to impact ongoing clinical decision making

- The problem list is ultimately what defines our patients' health status and an aggregate of our populations ' health
- There is arguably nothing more important to our ability to deliver optimal care than an accurate problem list
- Table of Contents to the Patient Medical Record

Definitions

Problem List is the primary means in the EHR for communicating important aspects of the patient's ongoing care across all areas of patient care. It is designed to be a comprehensive summary of the patient's active health issues and is a central part of their care plan over time.

History area of an EHR is the primary place to enter and update past historical information regarding a patient's birth, medical, surgical, family, and social and histories. It should ***not*** duplicate issues that are on the patients Problem List.

Purpose of Visit (POV) or Encounter Diagnoses are limited to the pertinent diagnoses for a particular Ambulatory ***encounter***. POV can reflect problems from a patients Problem List (**e.g.** chronic otitis media) or can be encounter limited diagnoses that are not reflected on a patients long-term problem list (**e.g**. acute otitis media).

Why Maintain the Problem List (1)

Problem list is critically important & drives clinical care decisions:

- Provides easy visibility of diagnoses that impact care decisions
- Often the source for clinical charting via smart links
- Drives decision support

  E.g., best practices, reminders, drug-disease alerts
- Used for reporting and registries that impact our approach to population health

Why Maintain the Problem List (2)

Risks of an incomplete or inaccurate problem list include:

- Suboptimal clinical decisions for individual patients
- Inefficiencies and inaccuracies in clinical charting
- Decision support that fires inappropriately
- Suboptimal decision making regarding population health
- Inappropriate notifications to patients

Who Maintains the Problem List?

Responsibility of all providers (Primary Care, Pharmacists, Nurses, Physical Therapists)

Primary care specialties such as pediatrics, internal medicine, and family practice as well as admitting services for hospitalized patients and subspecialists who are serving as de facto primary care providers

e.g. oncology, cardiology, nephrology.

Specialist providers should focus on updating those problems within their specialty domain.

Any provider making a diagnosis or becoming aware of a condition that is appropriate for the problem list should add it if it is not already present.

Non-providers may update the problem list in certain situations as outlined in service line policies.

When and How Should the Problem List be Updated (1)

- During office visits, at time of admission, discharge, and daily during the hospital stays.
- The diagnoses on the problem list should be as specific as possible.
- Duplicates should be removed.
- Errors should be corrected.

When and How Should the Problem List be Updated (2)

Providers should review the problem list regularly, and update all problems within their scope of expertise

It is acceptable for one provider to alter the entry of another to increase the level of specificity of the problem, or to correct a misdiagnosis

Example: Ophthalmologist who diagnoses diabetic retinopathy should change the entry of “diabetes mellitus E11.9” to “type 2 diabetes mellitus with retinopathy E11.319”

But Neurologist should not change that diagnosis, rather add “DM type 2 causing neurologic disease E 11.49”

However, a specific diagnosis such as “DM type 2, goal A1c below 7”, which also codes to E11.9, should not be changed as it includes a treatment goal

When and How Should the Problem List be Updated (3)

- The diagnoses on the problem list should be as specific as possible
- Duplicates should be removed
- Errors should be corrected

What Should Be Included on the Problem List

- Only problems that are likely to **influence ongoing clinical decision** making should be maintained on the problem list
- Minor self-limited problems **should not be added and if present should be deleted**
- Acute problems on the list **should be resolved and/or added to past medical or surgical history** when appropriate
- It is particularly important to make sure to **resolve hospital problems prior to discharge** if they are no longer active
- All problems should be refined to more **appropriate or specific diagnoses** when possible
- Overview can be used to capture relevant details of problems

Problem List vs Past Medical History vs Past Surgical History

Past Medical History (PMH) is a comprehensive catalog of all significant active and historical medical problems.

Past Surgical History (PSH) documents all past procedures and surgeries. Every effort should be made to be specific and complete with relevant dates and comments

It is not appropriate for the Past Medical History to include **self-limited and temporary** problems, symptoms, inconsequential problems, and remote historical problems

Active Medical Diagnoses should be recorded in both the Problem List and the Past Medical History sections. Therefore, there will be overlap between the two lists. Both lists do need to be maintained, because they are used in different ways:

Problem List is used for ongoing patient management, both inpatient and outpatient.

Billing Requirements require documented review of the PMH rather than Problem List.

Prior Medical Diagnoses that don't impact ongoing care decision making are included only in PMH