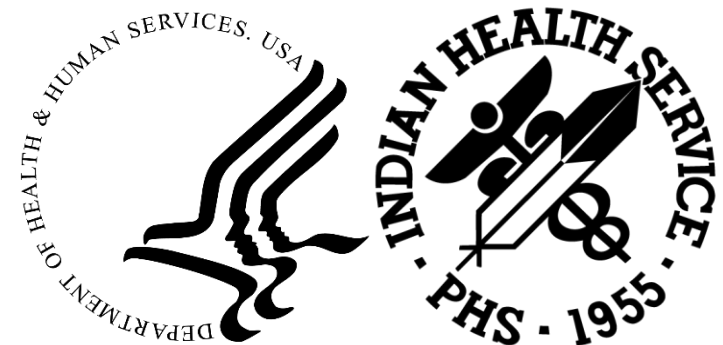


The IHS Health Information Technology (IT) Modernization Program

NIHB 2022 National Tribal Health Conference

MITCHELL THORNBRUGH
CHIEF INFORMATION OFFICER, IHS
SEPTEMBER 27, 2022





IHS Health IT Modernization Program Summary

- In consultation with tribes, the Indian Health Service (IHS) began a multi-year Health Information Technology (IT) Modernization Program
- At the center of the Program is the replacement of the Resource and Patient Management System (RPMS) with a commercial electronic health record (EHR) solution that meets or exceeds existing capabilities
- The enterprise approach to health information technology will offload the majority of health IT development, minimize technical support burden for facilities, permit focus on system optimization for end-users, and promote standardization and best practices

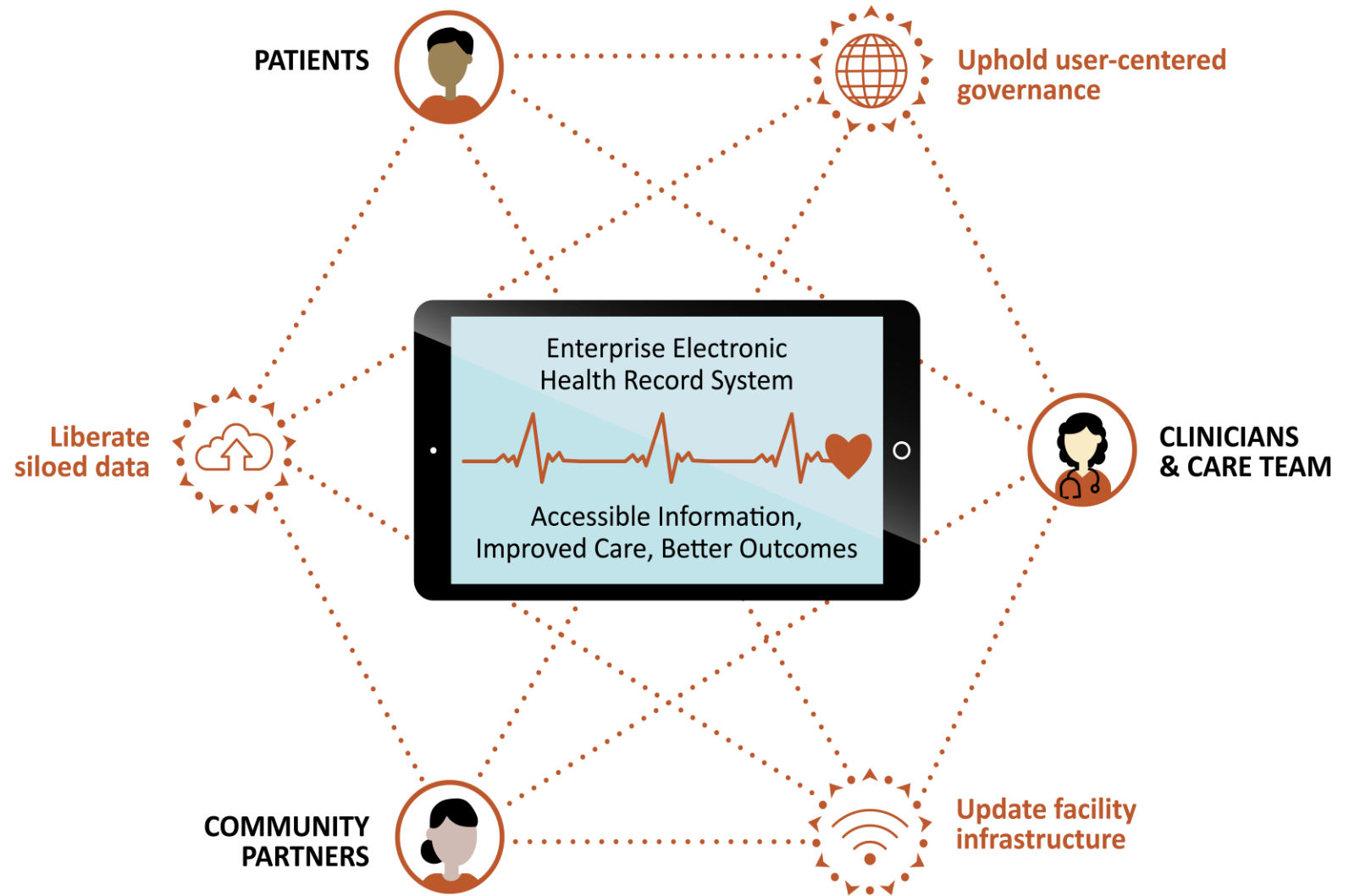
Need for Health IT Modernization

After system-wide analysis and Tribal Consultation / Urban Confer, the IHS determined to fully replace RPMS in order to fulfill its mission

- The Resource and Patient Management System (RPMS) has served the I/T/U for nearly 40 years
- Technology advances, the regulatory environment, and the distributed deployment model have created significant challenges for RPMS development and operations
- The RPMS has dependencies on the U.S. Department of Veterans Affairs' VistA system which is scheduled for replacement with a commercial EHR product
- Several independent reviews identified opportunities for Health IT to improve AI/AN patient care:
 - The U.S. Government Accountability Office [Report 19-471](#) listed RPMS as a “critical federal legacy system in need of modernization”
 - Two U.S. Department of Health and Human Services Office of Inspector General reports cited deficiencies ([A-18-16-30540](#) and [A-18-17-11400](#))

Improve Care and Patient Coordination

IHS envisions an enterprise health IT system built together with tribal and urban partners that enables clinicians to consistently and easily provide high-quality care across Indian Country with integrated data on a modern platform



Health IT Modernization Program Funding

IHS uses one-time and recurring funding to support Health IT Modernization

Recurring Appropriations

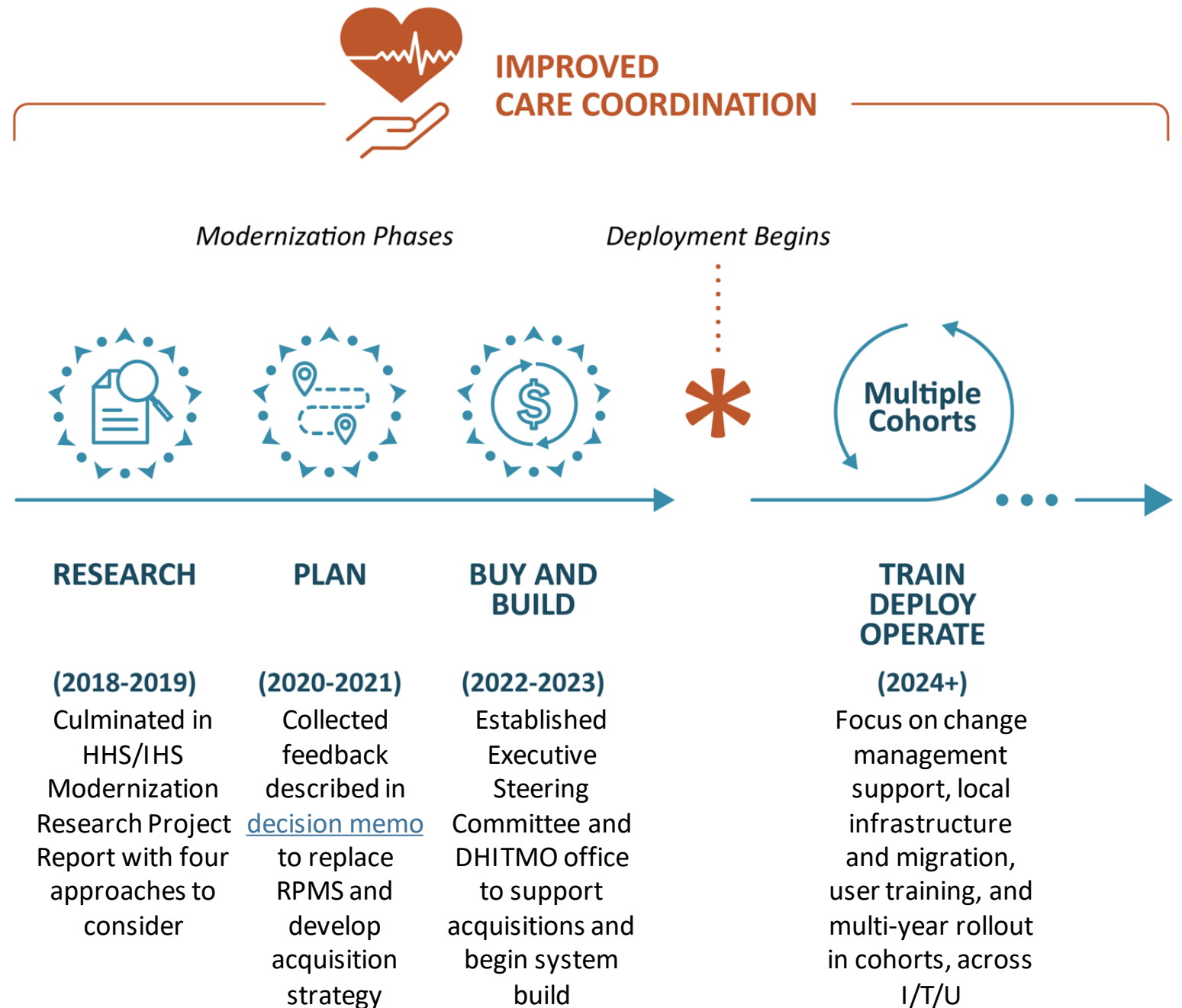
- FY2020 appropriations included **\$8M** to initiate modernization and establish the Modernization Program Management Office
- FY2021 appropriations increased to **\$34.5M** for the Health IT Modernization Program
- The FY2022 Omnibus appropriation added \$110M for a total of **\$144.5M** in recurring funding for EHR modernization
- The FY2023 Congressional Justification includes an ask of **\$284.5M** for FY2023 and **\$6B** over five years, from FY2024 to FY2028, to replace the IHS EHR with a modernized system

One-Time Funding

- The CARES Act of 2020 provided **\$65M** in one-time funding to accelerate the Program
- The American Rescue Plan Act (ARPA) provided **\$70M** of one-time funding in FY2021 for the IHS Electronic Health Record
- **IHS also distributed \$141M from the CARES ACT and ARPA to federal, tribal, and urban sites in FY2021 for telehealth and technology needs**

Enterprise Electronic Health Record Roadmap

The Program will methodically create and deploy the new enterprise EHR system across Indian Country in coordination with our partners



Request for Proposals (RFP) Released

- IHS took an important next step in Health IT Modernization with the release of a Request for Proposals (RFP) for commercial products to replace RPMS, including the complex work of implementing, training, and supporting the new solution across the country
- IHS released the [EHR solicitation on August 4, 2022, on SAM.gov](#). Of note:
 - IHS plans to engage a wide range of health IT system users from I/T/U sites who can provide input as advisors by attending demonstrations
 - IHS expects to ask I/T/U organizations to identify individuals who can serve as advisors; all advisors will sign non-disclosure agreements to cover their participation in demonstration events



EHR Objectives

- IHS is replacing a comprehensive suite of applications covering processes from patient registration to billing, and everything in between (EHR, pharm, lab, etc.)
- IHS will not write thousands of functional requirements, but instead published a Statement of Objectives
- Key Objectives include, among others:
 - **Scope** – Can the EHR support the full range of business processes and interfaces that are currently supported by RPMS
 - **Scalability** – Can the vendor and their products support a national multi-tenant enterprise with numerous federal and non-federal participants
 - **Security** – Can the EHR meet rigorous federal security requirements (e.g., Federal Information Security Management Act (FISMA) and others)
 - **Usability** – I/T/U end-users will assess usability of core processes through product demonstrations



Tribes, Urban Indian Organizations, and Health IT Modernization

Tribes and UIOs are Critical Partners

- Many tribes/UIOs rely on RPMS as their core health IT solution
- Many others have adopted commercial off-the-shelf (COTS) health IT products
- All have an interest in the IHS approach to health IT infrastructure modernization
- Tribes/UIOs – both on RPMS and not – need to understand their options and plan their solutions as IHS moves forward with modernization

Interoperability and Care Coordination are Key

- Patients are shared among I/T/U healthcare facilities
- All locations have referral networks, often crossing state lines
- All tribes/UIOs, regardless of their health IT solution, share data with IHS
- This data is critical to understanding the success of the IHS mission, reporting on this success to entities such as HHS and OMB, and securing funding from Congress



RPMS Replacement Impact on I/T/U Programs

EHR Users - IHS/Tribal/Urban (I/T/U)

Organizations self-managing their EHRs
(T/U)

Organizations directly supported by
IHS (I/T/U)

1. Commercial EHR
users can continue to
use existing systems

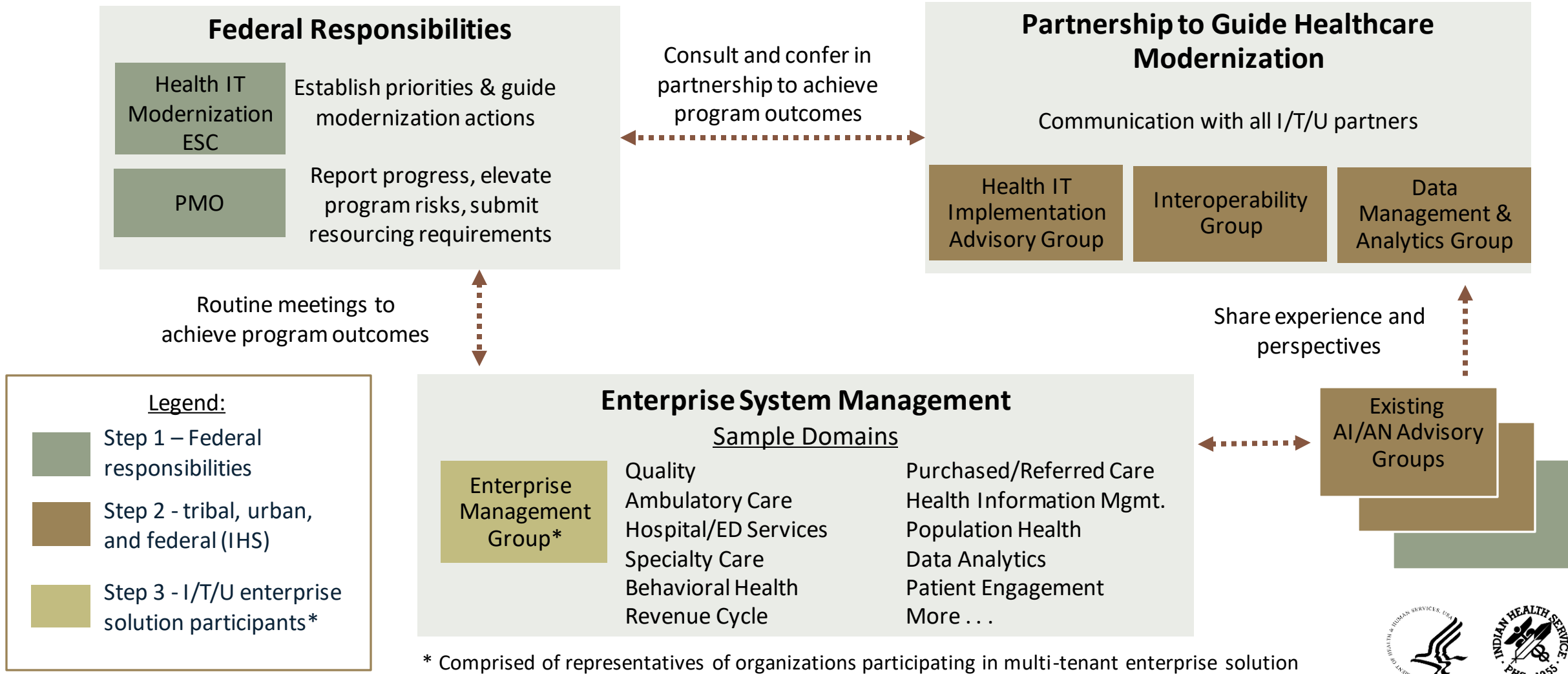
2. RPMS users will need to
implement a commercial
system or adopt the IHS
Enterprise EHR

3. RPMS will be
replaced with the IHS
Enterprise EHR

Note: The options and flexibilities through Public Law 93-638 remain available



Governance Model for IHS Health IT Modernization



Partner Communication and Engagement

- Organizational Change Management (OCM) strategies engage I/T/U partners through Health IT Modernization activities in addition to frequent and consistent communications
- IHS regularly updates partner groups, e.g., Tribal Self-Governance Advisory Committee, National Council of Urban Indian Health, National Indian Health Board, National Combined Councils, and Information Systems Advisory Committee
- Engagement through Tribal Consultation and Urban Confer sessions will be ongoing throughout Modernization
- Individuals participating in focus groups will provide expert recommendations regarding various aspects of governance
- Multi-disciplinary I/T/U users will comprise the Enterprise System Management subgroups



Health IT Modernization Tribal/Urban Engagement

- **August 2022** – DTLL/DUIOLL published announcing the release of a [Request for Proposals](#) seeking commercial products to replace the Resource and Patient Management System (RPMS)
- **August 2022** – [Tribal Consultation and Urban Confer session](#) about the Program’s data management strategy and focus group participation
- **July 2022** – DTLL/DUIOLL invitation to [participate in conversations around the effectiveness of current engagement efforts in the Health IT Modernization Program](#) and provide insight to support continued engagement with partners
- **May 2022** – [Tribal Consultation and Urban Confer session](#) around the Modernization Program’s governance approach, effective IT governance, and promotion of focus groups for I/T/U clinical and technical SMEs
- **March 2022** - [Tribal Consultation and Urban Confer session](#) around the benefits of the EHR Modernization Program, Program trajectory, and acquisition strategy
- **February 2022** – DTLL/DUIOLL [announcing a series of upcoming Tribal Consultation/Urban Confer sessions](#) around the Health IT Modernization, in particular Program updates, opportunities for participation, and next steps
- **August 2021** – DTLL/DUIOLL [announcing Program updates](#) and asking for written feedback to the RFI containing the Statement of Objectives
- **May 2021** – DTLL/DUIOLL [announcing a data call](#) to inform Tribal Health Programs and Urban Indian Organizations' experiences with electronic health record acquisitions and costs
- **April 2021** – DTLL/DUIOLL [announcing IHS decision for full replacement](#) of the Resource and Patient Management System after significant tribal and urban engagement and input
- **December 2020** – DTLL/DUIOLL [announcing Listening Sessions for input on next steps](#) in the Health IT Modernization
- **November 2019** – DTLL/DUIOLL announcing the [Strategic Options for the Modernization of the Indian Health Service Health Information Technology Roadmap Executive Summary and Strategic Options for the Modernization of the Indian Health Service Health Information Technology Final Report](#)
- **October 2018** – DTLL/DUIOLL [announcing the IHS Health IT Research Project](#) and first steps in evaluation options in modernizing Health IT
- **July 2017** – DTLL/DUIOLL [announcing two additional listening sessions for further input and recommendations](#) around how to best modernize the RPMS EHR
- **June 2017** – DTLL/DUIOLL [announcing two listening sessions for input and recommendations](#) around approaches to modernize the RPMS EHR



Tribal Consultation and Urban Confer

- Key topics in the [August 2, 2022, session](#) included the planned data management strategy and the continued promotion of focus group participation and explanation of the volunteer process
- Past sessions held in [March 2022](#) and [May 2022](#) reviewed focus groups, the acquisition status, and the Program's governance structures and approach
- Upcoming session November 1, 2022, will cover the [Health IT Modernization Implementation Deployment Plan](#)

The IHS Health Information Technology Modernization Program

TRIBAL CONSULTATION / URBAN CONFER
MARCH 10, 2022

RPMS Challenges and Benefits of Modernization

Outdated Technology
Does not support modern interfaces, mobile devices; difficult to recruit developers, and support staff

Decentralized
RPMS is implemented and managed locally, with considerable variability in support, user experience, and data quality; little interoperability

Unstable Development & Support Model
Constantly evolving

Current RPMS Challenges

Health IT Modernization Solutions

Improved Capabilities & Usability
Fill gaps in legacy system functions, modern user interfaces, improved patient-provider communication and access to information

Improved Interoperability
Facilitate data sharing within the I/T/U, with VA and private sector partners for care coordination & patient safety

Enterprise Operations
Simplify the system support, improve collaboration, improve data management, and leverage a user-driven governance model

Call to Action: Identify Subject Matter Experts

■ If you would like to identify someone from your organization for the Focus Groups, please contribute your selections via IHSHITModernization@ihs.gov. Include the following information in the email:

- Name
- Title
- Credentials
- Organization
- Email address, and
- Focus Group(s) participation

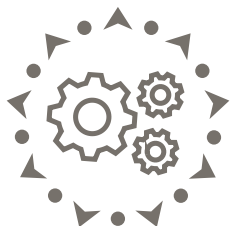
Sept 2022: March 2, 2022

Participation in Focus Groups



Interoperability Group

Responsible for reviewing and suggesting strategies, operational requirements, clinical practice standards, and performance measures that inform the interoperability solution design and project planning



Data Management & Analytics Group

Responsible for reviewing and suggesting strategies that support effective data use, security and privacy controls, and standards



Implementation Group

Responsible for helping the IHS understand the lessons learned, challenges, and strategies used by other federal agencies, tribes, and urban Indian organizations to modernize their health IT capabilities

Subject matter experts from I/T/U organizations can email Modernization@ihs.gov to volunteer for a focus group of interest

Submit name, title, credentials, organization represented, email address, and focus group(s) they would like to support

Focus groups will be activated after the RFP award announcement

Vendors cannot participate



Invitation to Improve Engagement Efforts with I/T/U Outreach Discussions

- Individuals from I/T/U are invited to [participate in conversations](#) about the effectiveness of current engagement efforts in the Health IT Modernization Program
 - Current level of awareness of the IHS Health IT Modernization Program
 - Effective methods of communication and collaboration with your organization (I/T/U)
 - Organizational outcomes and measures for future success
 - Constraints and barriers to Health IT Modernization that need to be mitigated
 - Lessons learned from previous Electronic Health Record implementation or modernization efforts
- To participate, email Modernization@ihs.gov with the subject line, “Health IT Modernization Discussion” and include the following information
 - Name
 - Tribe, UIO, or Area/Service Unit represented
 - Role within your organization
 - Contact email address (if different from the sending account)





EHR Modernization – Considerations for Build, Configuration, and Roll-out

Legacy Data Management – The Challenge

- There are hundreds of RPMS instances in the I/T/U field
- RPMS is very highly configurable, so data at one site may not carry the same meaning as the same field does at another
- Many RPMS databases have been in production for more than 30 years
- Some are semi-retired – not used in production but still referenced
- Others have been turned off but contain substantial legacy health record data
- There are additional image and document repositories:
 - Digital radiographs (DICOM), documents (PDF), others (e.g., JPEG photos)
 - Many of these reside in VistA Imaging, which will also be retired



Data Management Needs in a Modernized EHR

- Continuity of care
 - Only a small subset of data will be moved to the enterprise EHR – basic demographics and recent core clinical data – Problems, Allergies, Medications, Procedures, Immunizations, and some clinical notes
 - Providers will need to reference older records on occasion, and they should not have to access old RPMS boxes to do that – need to centralize older data
- Interoperability
 - Accessing data on shared patients, both within the I/T/U and with private/public sector
- Medical record retention
 - IHS medical records currently must be retained for 75 years after last encounter
 - This may change, but it is unrealistic for RPMS or any EHR
 - Need a vendor-agnostic solution for long-term record retention
 - Tribal/urban organizations seek to retain data from outdated/retired RPMS databases



Proposed Architecture for Data Management

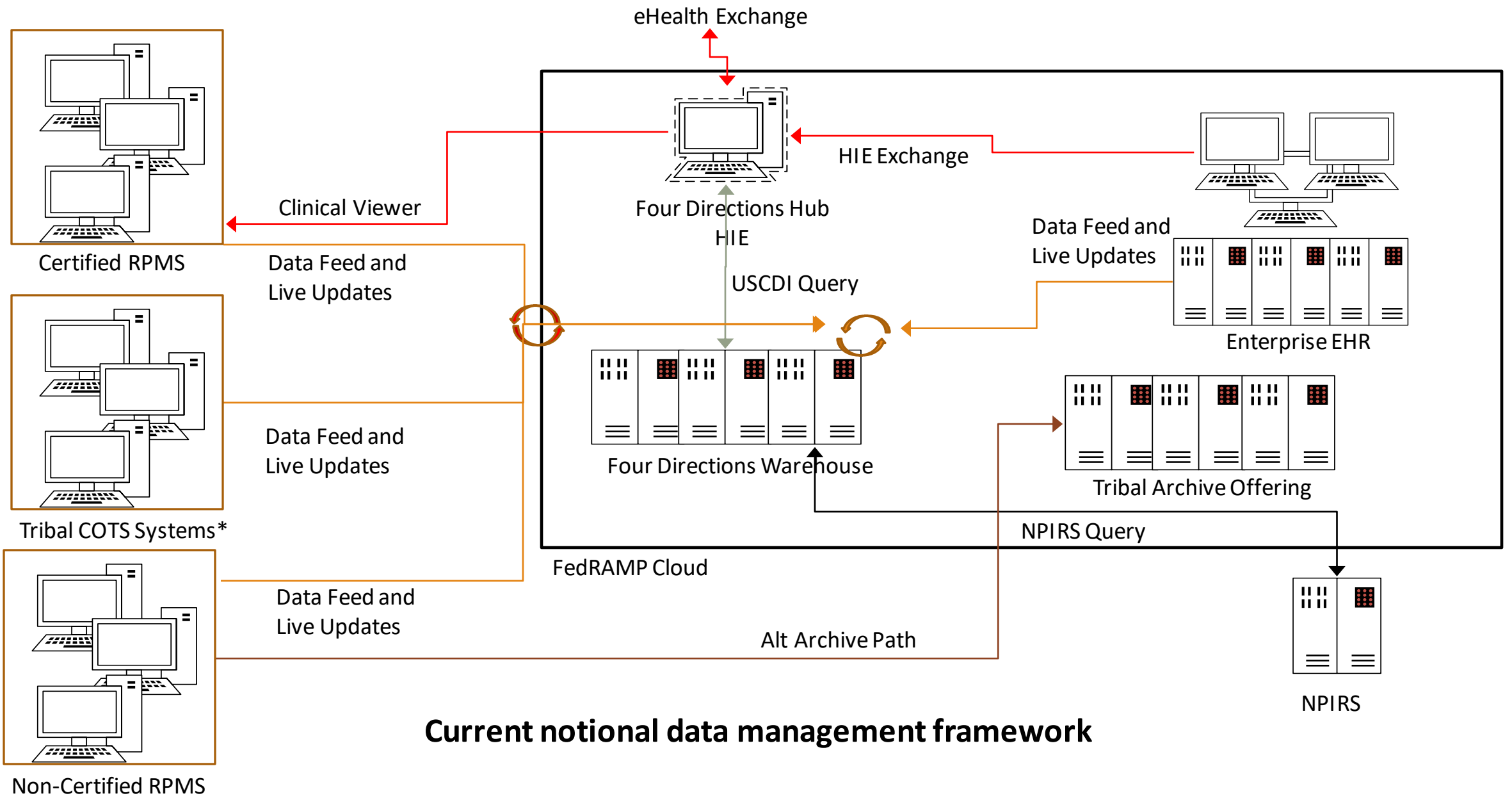
- Establish a new database – “Four Directions Warehouse (4DW)” – in a Federal Cloud environment
 - 4DW will be the repository for *all* patient record data contributed by participating organizations – historic and future
 - 4DW will be vendor-agnostic and designed to current data standards
- 4DW will be the source of data for Health Information Exchange (HIE) through a re-designed Four Directions Hub (4DH)
- 4DW will also be an important source of data for National Data Warehouse and analytics
- Offer an archiving option so that tribes will not lose data currently in RPMS, making it accessible long-term



Proposed Approach

- Move legacy data from RPMS to 4DW using standard data Extract, Transform, and Load (ETL) processes
 - This can be done in advance of and separately from implementing the new enterprise EHR
- Use data from 4DW to “preload” the enterprise EHR (demographics, core clinical data) prior to onboarding of sites
- Continuous (daily) feeds from live RPMS instances to update 4DW
- Continuous (daily) feeds from the enterprise EHR to update 4DW
 - This means that if/when the enterprise solution changes, we won’t have to do this again
- Publish an approach that tribes and UIOs can use to recover/transfer legacy data from RPMS
 - IHS can host the archive within the government cloud environment, and/or publish an archiving guide for tribes to manage their archives





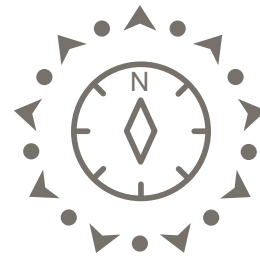
Current notional data management framework

Thank you

Stay informed on the
Health IT Modernization
Program at
www.IHS.gov/HIT

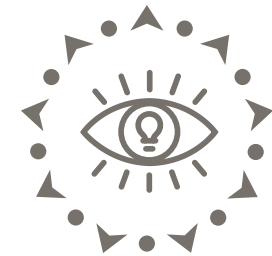
Questions?

Mitchell Thornbrugh
Chief Information Officer, IHS
Mitchell.Thornbrugh@ihs.gov



IHS Mission

To raise the physical, mental, social, and spiritual health of American Indians and Alaska Natives to the highest level



IHS Vision

Build healthy communities and quality health care systems through strong partnerships and culturally responsive practices



Questions & Answers

Context on IHS Health IT Modernization Program

Program Questions and Answers (1/4)

Question	Answer
Will tribes be reimbursed for their previous investments in new electronic health record systems?	IHS does not have the authority or mechanisms to retroactively reimburse tribes for monies with which they elected to supplement shares received in prior years. IHS plans to designate a substantial proportion of Congressionally allocated funding for shares in accordance with existing processes for Programs, Functions, Services, and Activities definition and shares distribution.
How will federal, tribal, and urban partners inform Health IT Modernization?	The Program will address tribal and urban leaders through Tribal Consultation and Urban Confer to engage leaders and solicit guidance as needed. IHS will ask tribal and urban leaders to identify technical subject matter experts to participate in focus groups to collaborate and provide input regarding the Program. The Program identified three initial groups for interoperability, implementation, and data management & analytics. Additionally, IHS will form an enterprise governance body to make sure the new system is managed and maintained by the I/T/U users participating through a robust governance structure.

Program Questions and Answers (2/4)

Question	Answer
Why can't IHS join the VA and DoD effort to save money and time?	IHS is collaborating with the VA/DoD effort to implement lessons learned and best practices. The VA/DoD project consolidates all their existing systems into one instance of an EHR that encompasses every site and patient. Joining the VA/DoD shared environment is not feasible. IHS will need to mature its EHR governance model to accommodate the consolidation of the Health IT infrastructure. The IHS program must address its unique and complex partnerships with tribes and urban Indian organizations to effectively manage and operate an enterprise solution.
My tribe plans to explore other EHR options. Can you tell me what you are selecting so we know what to do?	IHS has not decided on an EHR vendor for an Enterprise EHR. The IHS EHR will be a unique instance of a commercial system. IHS is building the infrastructure to address I/T/U Health IT needs through the Modernization Program. Selecting the same vendor will not put tribes on this unique and dedicated infrastructure. IHS is committed to building a solution on industry standards to be interoperable with any certified system on the market.

Program Questions and Answers (3/4)

Question	Answer
What new or enhanced capabilities is the modernized Health Information Technology solution expected to have?	<p>The modernized health information technology system is expected to meet or exceed the current capabilities of the Resource and Patient Management System electronic health record. Expected functionality includes:</p> <ul style="list-style-type: none">– Improved provider access to patient health records and data across IHS, tribal, and urban health care facilities– Interoperability with private sector, state, and federal health partners and compatibility with state and federal public health reporting systems– Ability to measure, assess, and visualize population health status, including clinical quality measures– Enhanced access to services for American Indian and Alaska Native (AI/AN) people seeking care from IHS, tribal, and urban programs through telehealth– Complete Revenue Cycle Management capabilities for billing and collection for health care services provided to AI/AN people

Program Questions and Answers (4/4)

Question	Answer
What steps is the IHS taking to replace the Resource and Patient Management System electronic health record?	<p>On August 4, 2022, the IHS released the Request for Proposals (RFP) for the enterprise electronic health record system on SAM.gov. The RFP enables the acquisition of commercial products to replace the Resource and Patient Management System, which includes the work of implementing, training, and supporting the new solution across Indian Country.</p> <p>As emphasized during tribal consultation and urban confer sessions, the IHS must adhere to federal acquisition regulations that restrict information that can be shared, in order to support a full and open acquisition process. More information about the RFP has been provided in a letter addressed to tribal leaders and urban Indian organization leaders.</p>