Indian Health Service

Centralized Interoperability Suite
4 Directions Hub update

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Objective

- Understand the history of Centralized Interoperability Suite

- Describe the value of Interoperability

- Understand Patient Consent Considerations & Confidentiality in Four Directions Hub (4DH)

- Recognize Benefits of Sharing and Workflow

- Patient Index and Clinical Viewer Demonstrations

- Expectations and Keys to success

- Future Considerations

History

- **Introduction of The Network by IHS**

    In 2015, IHS introduced The Network, a set of applications aimed at meeting Meaningful Use measures. These applications were designed to enhance RPMS and included the Personal Health Record (PHR), Direct Messaging, Master Patient Index, and the Health Information Exchange (HIE).

- **Utilization of PHR and Direct Messaging**

    Meaningful Use measures were successfully met, and currently, sites utilize the PHR and Direct Messaging applications.

- **Limited utilization of Health Information Exchange**

    Full utilization of the Health Information Exchange (HIE) did not occur. The IHS Health Information Exchange application, known as Four Direction Hub (4DH), is only used at pilot sites in Chinle, Zuni, Cass Lake, and Hopi.

- **Enhancements and the 21st Century Cures Act**

    With the implementation of the 21st Century Cures Act, further enhancements were required to meet Interoperability measures. IHS responded by enhancing The Network and renaming it The IHS Centralized Interoperability Suite (CIS).

- **Focus on 4DH and the Health Information Exchange**

    The focus of CIS is now on moving forward with the 4DH application for the Health Information Exchange. CIS includes the PHR, Direct Messaging, and 4DH applications.

What is Interoperability?

The ability of two or more systems to exchange health information and use the information once it is received.

What is the value of Interoperability?

- Improve patient care and outcomes
  - Facilitate coordination of care
  - Promote informed decision making
  - Reduce medical errors and adverse events

- Reduce costs
  - Increase efficiency and effectiveness

- Improve patient experience
  - Enable patient engagement in their healthcare
  - Promote communication on behalf of the patient

FOUR DIRECTIONS HUB

- 4DH allows participating IHS/Tribal/Urban (I/T/U) facilities to share information internally and includes additional applications used to access the health information exchange. Applications include:

- Patient Index –A web-based tool within 4DH that allows matching of patient records. Formerly known as Master Patient Index.

- Clinical Viewer – A web based tool used by providers to view a consolidated patient record.

- Patient Consent Management – manages the patient's choice to opt-in or opt-out of sharing health data externally through eHealth Exchange

4DH Initial Deployment Plan

- Deployment has been limited Federal pilot sites.

- No technical aspects to this deployment

- Updates are batched as per RPMS job configuration

- Liaisons at each Area will work to assess each site's readiness for deployment and be in communication with the 4DH Team

- Currently working through Patient Consent policies to comply with Confidentiality regulations

4DH Technical Process

- Data from July 1, 2020 to present is integrated into 4DH

- Participating sites contribute encounter data daily to the 4DH through the Consolidated Clinical Document Architecture (CCDA) export

- Data is unified from sources and presented as a longitudinal representation of the patient

4DH Onboarding

Technical

- ✓ 2015 RPMS Certified Health Information Technology (CHIT) software is required

- ✓ IHS Patient Index and Consolidated Clinical Document Architecture (CCDA) feed to the Health Information Exchange is required

- ✓ Browsers: Microsoft Edge or Chrome

- ✓ User Registration/Access:
  - Account within D1 Active Directory (AD)
  - Participants generate an agency's access management system request

Administrative

- All sites need to review policies and their agreements.
  - ✓ Security Agreement Summary or SAS Addendum
  - ✓ Part 8 Chapter 23
  - ✓ Ensure compliance with
    - HIM Policies
    - Employee Health
    - 42 CFR Part 2 Substance Use Disorder
- ✓ Multi-Purpose Agreement
- ✓ Tribal/Urban- Joinder Agreement

Types of Sharing

Internal Sharing

- All participating members of CIS understand that patient health information (PHI) excluding Substance Use Disorder, is shared internally with participating CIS I/T/U sites. No consent is required.

- Sharing of PHI within the 4DH system is compliant with the Privacy Act and the Health Insurance Portability and Accountability Act (HIPAA).

External Sharing

- Sharing PHI externally with state exchanges or the National eHealth Exchange requires patient consent.

- Patient demographics will be discoverable regardless of patient consent election.

- Emergency access to patient information will be granted with justification.

- Patient Consent User interface will allow staff to assign permissions according to policy.

4DH Patient Consent

Consent Requirements

- Patient consent is required to share Substance Use Disorder information both internally through 4DH and externally through state Health Information Exchanges as well as National eHealth Exchange.

- Due to our integrated care setting, we cannot easily identify SUD information in RPMS. Patient consent does not apply within the I/T/U enterprise – 4DH is part of the IHS system of records, accessible to all authorized users.

- Patient consent is required to share PHI externally with state exchanges or the National eHealth Exchange.

  - Patients must **opt-in** to share any information through the external health information exchange.

Workflow #1 -4DH- Internal

- I/T/U Clinical user logs in via web-based portal

- Clinical user searches/selects patient of interest in the Clinical Viewer

- Clinical user can see all data contributed from all I/T/U sites - problems, meds, allergies, lab results, imaging reports, immunizations, discharge summaries, etc. – whatever is contained in the CCDA

- Clinical Viewer can **filter** by **location** or by **encounter** to find specific information
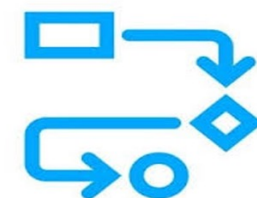
Workflow #2 - External Query via eHEx

- I/T/U Clinical user's patient query may discover information available at other locations through the eHEx

- eHEx returns available sources/encounters for matching patient, clinician selects

- 4DH retrieves the CCDA summary document from the external source, e.g. the VA/DoD exchange hub

- 4DH displays that data to the user

- 4DH will *not* store any data retrieved through eHEx

- Enable download of external CCDA to RPMS to permit Clinical Information Reconciliation (problems, medications, allergies)

Workflow #3-Incoming Query via eHEx

- Patient is receiving care at external locations that are connected to eHEx either directly (VA/DoD) or through a State HIE

- Clinical user from outside of IHS initiates query to eHEx through their connection

- If eHEx finds a matching patient in IHS Patient Index, external user can select to view data available from 4DH
  - Dependent on patient consent election to Show or Block external access

- 4DH creates a Consolidated Clinical Document Architecture (CCDA) summary document consolidated from all available data in the 4DH (all contributing I/T/U sites)

- This summary CCDA is sent to the external querying entity

Care Coordination

Clinical Workflow Considerations

- User access is via a separate web portal not EHR
- Updates are batched as per RPMS job configuration
- 4DH data was loaded from 7/1/2020
- Success with external partners is dependent on their connection to state HIE and the functionality of that connection
- No live external connections exist as of yet

Patient Index

Patient Index (PI) Module

- Uses advanced matching algorithms to assess the likelihood that patient records from multiple healthcare systems represent the same individual

- Assigns Unique Patient ID

- Allows for validating or invalidating potential patient matches

- I/T/U facility supervisors shall designate PI Users (Patient Registrar, HIM personnel) to review patient information and provide decisions on potential patient matches

	D	A
Summary	SAMPLESON,BENN (SCHURZ/5310)	SAMPSON,BENJAMIN (ZUNI/5310)
MPIID	100000013	100000036
Work Category		Overlap
Link Weight		40.974
Link Status		Overlap
Link Reason		Threshold
ID	39	16
Facility	SCHURZ	ZUNI
MRN	5310	5310
Name.Given	BENN	BENJAMIN
Name.Family	SAMPLESON	SAMPSON

PI Module **Functions**

- **Search** for patient records
  - Ability to search in a variety of ways
  - Upon Search, the results will be returned and ordered by a Weight Calculation.

- **View** patient records
  - Ability to view the full demographic information at the consolidated level and from each individual facility

PI Potential Duplicate Record Management Process
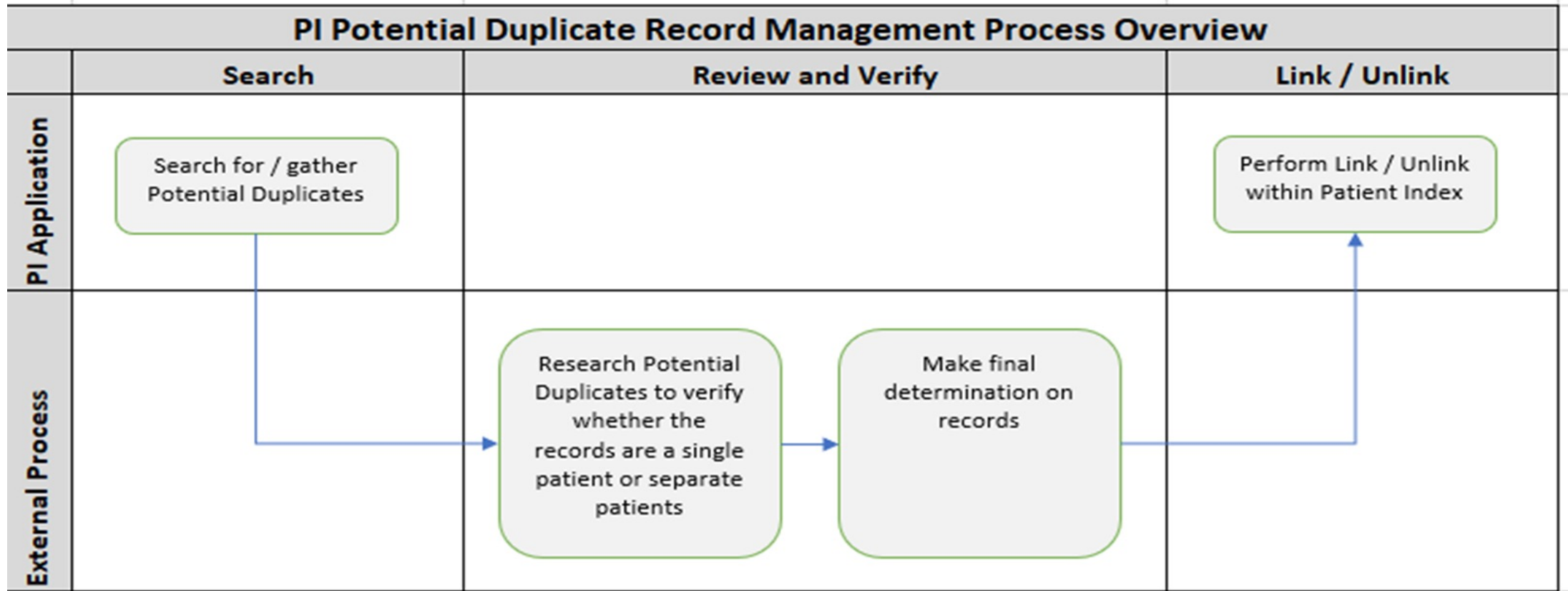
PI Module – Duplicates

- **View potential duplicate** records

- **Compare** multiple records

- Manage duplicate records *
  - **Link**
  - **Unlink**
  - **Remove Link**

*Duplicates are specific to Patient Index, this process does not link duplicate health records for one patient at the facility.

PI Module Worklist

- **Create** a Worklist

  - A worklist allows for a site-specific listing of all potential duplicate matches from a particular site or facility

  - This allows the user to determine whether these potential matches within their facility is the same patient or two separate patients

Clinical Viewer

Clinical Viewer Sign In

Clinical Viewer Search

Search for patient information by:

- Identifier type (i.e. HRN, SSN)
- Demographic Information (i.e. First Name, Last name)
- MRN and facility

Multiple Site Display

View the sites that contribute to the patient record:

Clinical Viewer Chartbook

Utilize Patient Chartbook to view health information within the IHS Hub and across external healthcare providers via the Exchange.

Clinical Viewer Conditions

Clinical Viewer Medications

Clinical Viewer Immunizations

Chartbook				
∨	**Immunizations**		Search 🔍	☰ Status, Date

Status ☰	Immunization	Dose	Facility	**Date**	Details
Due	Tdap		CHINLE		⋮
Due	HEP B, NOS		SHIPROCK		⋮
Due	SARS-COV-2 (COVID-19) vaccine, UNSPECIFIED		CHINLE	10/30/2022	⋮
Due	INFLUENZA, NOS		CHINLE	07/01/2022	⋮
Due	SARS-COV-2 (COVID-19) vaccine, UNSPECIFIED		SHIPROCK	11/02/2021	⋮
Completed	PNEUMOCOCCAL	0.5	CHINLE	10/15/2021	⋮
Due	ZOSTER RECOMBINANT		SHIPROCK	10/10/2021	⋮
Completed	ZOSTER,NOS		SHIPROCK	08/15/2021	⋮
Due	INFLUENZA, NOS		SHIPROCK	07/01/2021	⋮
Due	PNEUMOCOCCAL		SHIPROCK	05/05/2020	⋮
Completed	HEP B,ADULT		SHIPROCK	10/01/2017	⋮
Due	ZOSTER RECOMBINANT		CHINLE	05/05/2005	⋮
Declined/Not Given	DTAP, 5 PERTUSSIS ANTIGENS		SHIPROCK	10/15/2021	⋮
Declined/Not Given	INFLUENZA, intradermal, quadrivalent, preservative free		CHINLE	07/01/2021	⋮

Chartbook side menu:
- ∨ Chartbook
- › Clinical Summary
- › Conditions
- Allergies
- › Medications
- Documents
- Immunizations
- Vital Signs
- › Lab Results
- Diagnostic Studies
- Procedures
- Medical Devices
- › Histories
- Encounters
- › Appointments

Clinical Viewer Vital Signs

Chartbook	Vital Signs		
> Clinical Summary	Vital	10/15/2021 11:42	07/01/2021 13:47
> Conditions	Respiratory Rate	20	18
Allergies	Heart Rate	90	80
> Medications	BP Systolic	150	120
Documents	BP Diastolic	90	90
Immunizations	Body Temperature	102	98.6
Vital Signs	Height	63.78	64.17
> Lab Results	Body Weight	187.39	185.19
Diagnostic Studies	Body Mass Index	32.1	31.8
Procedures	O2 % Pulse Oximetry	97	98
Medical Devices	Inhaled Oxygen Concentration	32	36
	Inhaled Oxygen Flow Rate		

Clinical Viewer Lab Results

Expectations of Participating Sites

- Facility Leadership knowledge and support of CIS including delegating a Facility Liaison

- Promote the CIS applications and provide education to patients and staff

- 4DH User training in Patient Index, Clinical Viewer, and Patient Consent

- Allocate time for staff to develop competencies in Patient Index

- Identify Staff that will be responsible for Patient Index and allocate time for staff to complete Patient Index work list

- Incorporation of Clinical Viewer by users into patient care workflows

Keys to Success

Building trust
- ◦ Educate patients on the purposes for the use and disclosure of their health information

Establishing responsibility of duties
- ◦ Training staff and Competencies

Monitoring and managing operations for compliance
- ◦ Auditing Role

Enforcing privacy and security protections
- ◦ A patient must feel his or her information is safeguarded from misuse and disclosed only when appropriate.

Future Considerations

HIPAA is currently under a Notice Of Proposed Rule Making to address a patient's reproductive information. Once in receipt of the final rule, an additional process may have to be identified to segregate reproductive information from sharing based on patient consent.

Once a policy has been established that complies with confidentiality regulations, we can deploy 4DH to I/T/U facilities.

QUESTIONS