

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.

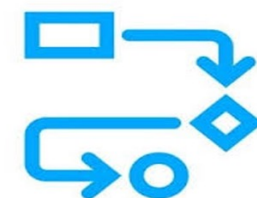
4DH Patient Consent

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



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

The screenshot displays a comparison interface for two patient records, labeled 'D' and 'A'. At the top right, there is an 'Update' button and a 'More...' dropdown menu. Below the dropdown are navigation icons: a left arrow, a list icon, a refresh icon, a right arrow, and a double arrow icon. The main content is a table comparing various fields for the two records.

	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

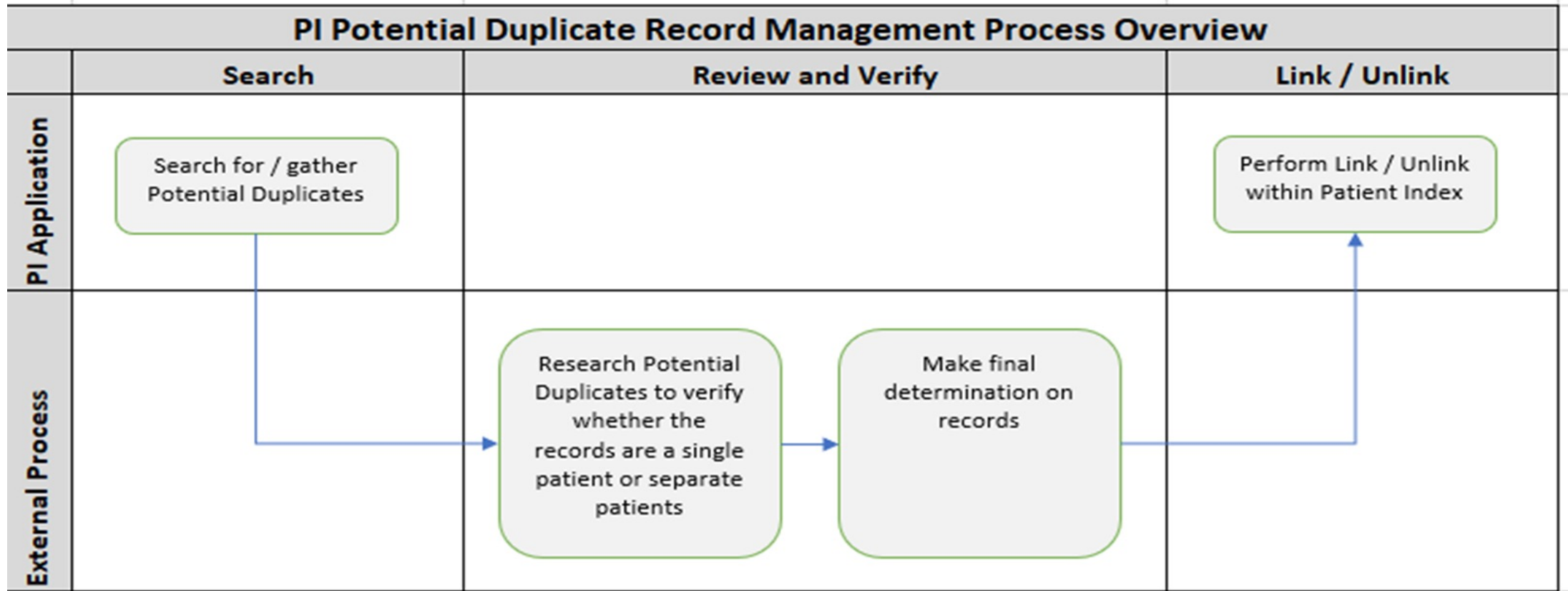
PI Module Functions

- **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

The screenshot displays a software interface for patient search and comparison. At the top, there are navigation buttons: 'Open', 'History', 'Colors', 'MPID' (with input '100000013'), 'Go', and 'Search'. A 'Composite View' tab is active on the right. The main area is divided into four vertical panels. The first panel on the left is a 'Summary' for a patient with MPID 100000013. The other three panels show detailed demographic and identifier information for three different patients, each with their own MPID and name.

Summary	MPID: 100000013	MPID: 100000013	MPID: 100000013	MPID: 100000013
patient	SAMPLESON,BEN (WINSLOW/5310)	SAMPLESON,BENN (SCHURZ/5310)	SAMPLESON,BERNIE (SALTRIVER/5310)	
Time Updated	2020-11-19 20:47:15.000	2020-11-19 20:47:15.000	2020-11-19 20:47:15.000	
Data Source	WINSLOW	SCHURZ	SALTRIVER	
MPID	100000013	100000013	100000013	100000013
Name	Given Name BEN Middle Name Family Name SAMPLESON	BEN SAMPLESON	BENN SAMPLESON	BERNIE SAMPLESON
Gender	M	M	M	M
SSN	999211221	999211221	999211212	999211212
Date of Birth				
Aliases	Given BUZZ Family SAMPLESON Given BENN Family SAMPLESON Given BERNIE Family SAMPLESON	BUZZ SAMPLESON	BUZZ SAMPLESON	BUZZ SAMPLESON
Identifiers	Extension 5310 AssigningAuthorityName WINSLOW Use MR Extension 999211221 AssigningAuthorityName USSSA Use SS Extension 6000008846 AssigningAuthorityName SHIPROCK-08 Use HRN Extension 5310 AssigningAuthorityName SCHURZ Use	999211221 USSSA SS 6000008846 SHIPROCK-08 HRN	999211212 USSSA SS 6000008846 SCHURZ-01 HRN	999211212 USSSA SS 0400008846 SALTRIVER-31 HRN

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.

	A	B	C	D	E
Summary	SAMPSON,BENJAMIN (ZUNI/5310)	SAMPLESON,BENNIE (CHINLE/5310)	SAMPLESON,BEN (WINSLOW/5310)	SAMPLESON,BENN (SCHURZ/5310)	SAMPLESON,BERNIE (SALTRIVER/5310)
MPIID	100000036	100000034	100000013	100000013	100000013
Work Category			Review Open Chaining	Overlap	Review Open Chaining
Link Weight		27.868	36.864	40.974	30.52
Link Status		Non-Link	Potential Link	Overlap	Potential Link
Link Reason		Unclassified	Rule	Threshold	Rule
ID	16	37	38	39	40
Facility	ZUNI	CHINLE	WINSLOW	SCHURZ	SALTRIVER
MRN	5310	5310	5310	5310	5310
Name.Given	BENJAMIN	BENNIE	BEN	BENN	BERNIE
Name.Family	SAMPSON	SAMPLESON	SAMPLESON	SAMPLESON	SAMPLESON
Names	Given BUZZSAW Family SAMPSON	BUSTER SAMPLESON	BUZZ SAMPLESON	BUZZ SAMPLESON	BUZZ SAMPLESON
SSN	999211212	999211212	999211221	999211212	999211212
Gender	M	M	M	M	M
BirthDateTime	1970-08-07	1970-07-08	1971-08-07	1970-08-07	1979-08-07
Identifiers	Extension 999211212 AssigningAuthorityName USSSA Use SS	999211212 USSSA SS	999211221 USSSA SS	999211212 USSSA SS	999211212 USSSA SS
	Extension 7000008846 AssigningAuthorityName WINSLOW-01 Use HRN	8000008846 ZUNI-01 HRN	6000008846 SHIPROCK-08 HRN	5000008846 SCHURZ-01 HRN	0400008846 SALTRIVER-31 HRN
Addresses	StreetLine 123 WEAPING WILLOW City ZUNI State NM PostalCode 87300	123 WEEPING WILLOW ZUNI NM 87300	123 WEPIN WILLOW ZUNI NM 87300	123 WEEPIN WILLOW ZUNI NM 87300	123 WEEPY WILLOW ZUNI NM 87300
Telecoms	PhoneNumberFull (999)534-2221 Use H	(999)534-2221 H	(999)534-2221 H	(999)534-2222 H	(999)534-2221 H
	PhoneNumberFull (999)799-4433	(999)799-4433	(999)799-4434	(999)799-4433	(999)799-4434

PI Module Worklist

The screenshot displays the PI Module Worklist interface. At the top, there are buttons for 'Refresh the Worklist', 'Columns', 'Colors', 'Reset Filters', 'Last Search Filters', 'Refresh for Printing', and 'Help'. Below these is a 'Search Panel' with a 'Show Empty' option. The search panel includes a 'Categories' section with checkboxes for Review, Validate, Duplicate, Overlay, Open-Cloning, and Deterministic. The 'Link Reason' section has checkboxes for Threshold, Transubity, Domain Conflict, Deterministic, Rule, Manual, and All. There are also input fields for 'ID', 'User', and 'Rows per Page' (set to 25), and a dropdown for 'Order By' (set to None). A 'Comment' field and a 'Clear Comment' button are also present. The main table has columns for Category, Link Status, Link Reason, Secondary Reason, Link Weight, Pattern, Time Created, Time Updated, Alternate Views, Record ID, Unique Identifier, Summary, and Data Type. The table contains several rows of data, including entries for 'Review Open Cloning', 'Validate', and 'Review' with various link reasons like 'Rule', 'Threshold', and 'Transubity'.

Category	Link Status	Link Reason	Secondary Reason	Link Weight	Pattern	Time Created	Time Updated	Alternate Views	Record ID	Unique Identifier	Summary	Data Type
Review Open Cloning	Potential Link	Rule	SIBLING	30.529	HRHLHHH	2020-11-19 20:47:15.962	2020-11-19 20:47:15.962		A 18	ZUNI 5310	SAMPSON,BENJAMIN (ZUNI/5310)	ZUNI
									B 40	SALTRIVER 5310	SAMPLESON,BERNE (SALTRIVER/5310)	SALTRIVE
Review	Potential Link	Threshold		31.854	HRHLHHH	2020-11-19 20:47:15.784	2020-11-19 20:47:15.784		A 37	CHINLE 5310	SAMPLESON,BENNE (CHINLE/5310)	CHINLE
									B 39	SCHURZ 5310	SAMPLESON,BENN (SCHURZ/5310)	SCHURZ
Review Open Cloning	Potential Link	Rule	SIBLING	36.864	HRHSHHH	2020-11-19 20:47:15.784	2020-11-19 20:47:15.784		A 18	ZUNI 5310	SAMPSON,BENJAMIN (ZUNI/5310)	ZUNI
									B 38	WINSLOW 5310	SAMPLESON,BEN (WINSLOW/5310)	WINSLOW
Validate	Link	Transubity		31.559	HRHLHHH	2020-11-19 20:47:15.962	2020-11-19 20:47:15.962		A 39	SCHURZ 5310	SAMPLESON,BENN (SCHURZ/5310)	SCHURZ
									B 40	SALTRIVER 5310	SAMPLESON,BERNE (SALTRIVER/5310)	SALTRIVE
Validate	Link	Threshold		33.476	HRHLHHH	2020-11-19 20:47:15.962	2020-11-19 20:47:15.962		A 38	WINSLOW 5310	SAMPLESON,BEN (WINSLOW/5310)	WINSLOW
									B 40	SALTRIVER 5310	SAMPLESON,BERNE (SALTRIVER/5310)	SALTRIVE
Validate	Link	Threshold		37.615	HRHSHHH	2020-11-19 20:47:15.784	2020-11-19 20:47:15.784		A 38	WINSLOW 5310	SAMPLESON,BEN (WINSLOW/5310)	WINSLOW
									B 39	SCHURZ 5310	SAMPLESON,BENN (SCHURZ/5310)	SCHURZ

- **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

Users of the Indian Health Service Four Directions HUB (4DH) must agree to the following Terms and Conditions for participation:

You are accessing the Indian Health Service (IHS) Health Information Exchange (HIE) 4DH, a U.S. Government information system that contains sensitive patient health related information. This system includes (1) this computer, (2) related hardware, (3) software, (4) all computers connected to this network, (5) network services (including Internet access), and (6) all devices and storage media attached to this network or to a computer on this network. This information system is provided for the use of authorized IHS 4DH users only.

All patient information viewed through the IHS 4DH is strictly confidential and is subject to the protection of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and is subject to the Privacy Act of 1974, as amended (5 U.S.C. § 552a) and the security regulations promulgated pursuant to HIPAA. You may choose to print, save, or download information from your IHS 4DH account to upload to the patient's medical record. You are advised to take actions to protect your patient's health information. When downloading and/or saving Protected Health Information/Personally Identifiable Information (PHI/PII) make sure the action is performed on work computers only where the environment is secure and its hard-drive or other storage media is encrypted to HIPAA standards. Storage of the data must comply with applicable Federal law, Federal regulations, including HIPAA, and organizational security, privacy and Health Information Management (HIM) policies. Any computer used to access IHS 4DH must have hard drive and other storage media encrypted to HIPAA standards. Make sure IHS 4DH is accessed on work computers only where the environment is secure and its hard-drive is encrypted to HIPAA standards. Downloading and/or saving a Clinical Consolidated Document Architecture (CCDA) creates a file on this computer that other people may be able to see. Use caution if you are using a shared computer. THERE IS NO RIGHT OF PRIVACY IN THIS SYSTEM. Activities performed within the IHS 4DH may be monitored, recorded, captured, and disclosed in any manner, by authorized personnel to facilitate protection against unauthorized access and to verify security procedures and operational security. Any unauthorized or improper use of the system and contained information is prohibited and subject to criminal and civil penalties, and revocation of IHS HIE access.

By accessing the IHS 4DH, you consent to the IHS 4DH Terms and Conditions defined herein and in all applicable IHS 4DH policies and procedures, and verify that you are authorized to access the IHS 4DH using the unique user ID assigned to you.



If you are using a Web browser with a pop-up blocker, you must allow pop-ups from <https://ihs.gov>. Read your browser's Help information for details.

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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

The screenshot shows the HealthShare Clinical Viewer Search interface. At the top, there is a navigation bar with a home icon, the text "HEALTHSHARE", and a user profile icon labeled "rodavis". Below this is a "Patient Find" section with a dropdown menu for "Filter by Patient Record Information". This section contains several search criteria: "Identifier Type" (with a search icon), "Assigned By", "ID Number", "Cohort", "Relationship", and "Restrict Facility" (each with a search icon). Below this is a "Search by Demographics" section with fields for "Last Name", "First Name", "Middle Name", "Gender" (with a search icon), "Date of Birth" (with a calendar icon), "SSN", "Street", "City", "State", "Zip", and "Phone". Below this is a "Search by MRN" section with "Assigned By" (with a search icon) and "MRN" (with a search icon). At the bottom is an "Override Consent Policy" section with an "Override" checkbox. At the very bottom right, there are "Clear" and "Search" buttons.



Multiple Site Display



View the sites that contribute to the patient record:


Identifier	Name	Gender	DOB	Address	Rank
100020957...4345	WATERS, SUSAN MARIE	F	1955-05-05	3877 North 7th Street, PHOENIX AZ 85014	13.3
SHIPROCK:26786	WATERS, SUSAN MARIE	F	1955-05-05	3877 North 7th Street, PHOENIX AZ 85014	
CHINLE:26900	WATERS, SUSAN MARIE	F	1955-05-05	3877 North 7th Street, PHOENIX AZ 85014	
DEMO4TRIBAL:26900	WATERS, SUSAN MARIE	F	1955-05-05	3877 North 7th Street, PHOENIX AZ 85014	



Clinical Viewer Chartbook

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

WATERS, SUSAN MARIE
05/05/1955 - 66 Yrs - Female



Chartbook

- ▼ Clinical Summary
- Encounter Diagnoses
- Allergies
- Medications
- Lab Results
- Diagnostics
- Documents
- > Conditions
- > Allergies
- > Medications
- Documents
- Immunizations
- Vital Signs
- > Lab Results
- Diagnostic Studies
- Procedures
- Medical Devices
- > Histories

Encounter Diagnoses ≡ Date Identified

Diagnosis	Type	Date Identified	Details
Acute myocardial infarction	Discharge	10/15/2021	⋮
[I48.91] Unspecified atrial fibrillation	Discharge	10/15/2021	⋮

Allergies ≡ Status, Onset

Status	Allergen	Reaction	Onset
Active	AMPICILLIN	ANXIETY	10/15/2021
Active	PENICILLIN	HIVES	10/15/2021
Active	NONSTEROIDAL ANTI-INFLAMMATORY	NAUSEA,VOMITING	10/15/2021
Inactive	BENADRYL	ANXIETY	11/02/2021
Inactive	TELAVANCIN	NAUSEA,VOMITING	10/29/2021

Medications ≡ Date, Medication

Medication	Dose	Date	Details
AMLODIPINE 10MG TAB	10 mg	10/29/2021	⋮
ACETAMINOPHEN 325MG TAB (TYLENOL)	325 mg	10/15/2021	⋮
AMIODARONE 200MG TAB	200 mg	10/15/2021	⋮
DICLOFENAC SODIUM 100MG ER 24HR	100 mg	10/15/2021	⋮
NAPROXEN 500MG TAB PREPACK	500 mg	10/15/2021	⋮

Lab Results ≡ Result Date

Order	Result	Result Date
CBC W/Auto DIFF (OIT)	Result	10/15/2021
URINE MACROSCOPIC (C)	Result	10/15/2021

Diagnostics ≡ Result Date

Order	Result	Result Date
X-RAY EXAM CHEST 1 VIEW	Result	10/15/2021
Knee XR 3V	Result	10/15/2021

Documents ≡ Date, Time

Document	Date	Details
Continuity of Care Document from SHIPROCK	11/02/2021 16:21	⋮
Continuity of Care Document from CHINLE	11/02/2021 16:01	⋮
Continuity of Care Document from NORTHERN NAVAJO MEDICAL CENTER	10/15/2021 20:47	⋮
Continuity of Care Document from CHINLE HOSPITAL	10/15/2021 20:33	⋮



Clinical Viewer Conditions

- ▼ Chartbook
- Clinical Summary
- ▼ Conditions
- Encounter Diagnoses
- Current Problems
- Historical Problems
- Allergies
- Medications
- Documents
- Immunizations
- Vital Signs
- Lab Results

▼ **Encounter Diagnoses** Search Date Identified

Diagnosis	Facility	Status	Type	Encounter Number	Date Identified
Acute myocardial infarction	SHIPROCK	Active	Discharge	2118470	10/15/2021
[148.91] Unspecified atrial fibrillation	SHIPROCK	Active	Discharge	2118470	10/15/2021

▼ **Current Problems** Search Onset, Problem

Problem	Onset	End	Source	Facility	Status	Date
Acute myocardial infarction	11/02/2021			SHIPROCK	Active	
Swelling [65124004]; 10/29/2021	10/29/2021			CHINLE	Active	
Abscess of bursa of right knee [301521000119103]; 10/15/2021	10/15/2021			CHINLE	Active	
Atrial Fibrillation	10/15/2021			SHIPROCK	Active	

▼ **Historical Problems** Search Date, Problem

Problem	Onset	End	Source	Facility	Status	Date
Overweight [238131007]; 12/03/2000	12/03/2000	10/29/2021		CHINLE	Inactive	



Clinical Viewer Medications

- ▼ Chartbook
- > Clinical Summary
- > Conditions
- Allergies
- ▼ Medications
 - Current Medications
 - Historical Medications
 - Documents
 - Immunizations

▼ **Current Medications** Search Date, Medication

Medication	Dose	Frequency	Status	Facility	Date <input type="button" value="≡"/>	Details
AMIODARONE 200MG TAB	200 mg	QD	Active	SHIPROCK	10/15/2021	⋮

▼ **Historical Medications** Search Date, Medication

Medication	Dose	Frequency	Status	Facility	Date <input type="button" value="≡"/>	Details
AMLODIPINE 10MG TAB	10 mg	QD	Executed	NEIGHBORHOOD PHYSICIANS PRACTICE	10/29/2021	⋮
ACETAMINOPHEN 325MG TAB (TYLENOL)	325 mg		Executed	SHIPROCK	10/15/2021	⋮
DICLOFENAC SODIUM 100MG ER 24HR	100 mg	QD	Executed	NEIGHBORHOOD PHYSICIANS PRACTICE	10/15/2021	⋮
NAPROXEN 500MG TAB PREPACK	500 mg	BID	Executed	NEIGHBORHOOD PHYSICIANS PRACTICE	10/15/2021	⋮



Clinical Viewer Immunizations

Chartbook	Immunizations					
	Status	Immunization	Dose	Facility	Date	Details
Clinical Summary	Due	Tdap		CHINLE		
Conditions	Due	HEP B, NOS		SHIPROCK		
Allergies	Due	SARS-COV-2 (COVID-19) vaccine, UNSPECIFIED		CHINLE	10/30/2022	
Medications	Due	INFLUENZA, NOS		CHINLE	07/01/2022	
Documents	Due	SARS-COV-2 (COVID-19) vaccine, UNSPECIFIED		SHIPROCK	11/02/2021	
Immunizations	Completed	PNEUMOCOCCAL	0.5	CHINLE	10/15/2021	
Vital Signs	Due	ZOSTER RECOMBINANT		SHIPROCK	10/10/2021	
Lab Results	Completed	ZOSTER,NOS		SHIPROCK	08/15/2021	
Diagnostic Studies	Due	INFLUENZA, NOS		SHIPROCK	07/01/2021	
Procedures	Due	PNEUMOCOCCAL		SHIPROCK	05/05/2020	
Medical Devices	Completed	HEP B,ADULT		SHIPROCK	10/01/2017	
Histories	Due	ZOSTER RECOMBINANT		CHINLE	05/05/2005	
Encounters	Declined/Not Given	DTAP, 5 PERTUSSIS ANTIGENS		SHIPROCK	10/15/2021	
Appointments	Declined/Not Given	INFLUENZA, intradermal, quadrivalent, preservative free		CHINLE	07/01/2021	



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

Lab Test	Result	Units	Flag	Reference Range	Status	Trend	Order	Facility	Collection Date	Collection Time	Details
Albumin	3.6	g/dL	Normal	3.4 - 5.0	Entered	C	Comprehensive Chem Profile		06/26/2013	06:32	⋮
Alkaline Phosphatase	70	U/L	Normal	38 - 136	Entered	C	Comprehensive Chem Profile		06/26/2013	06:32	⋮
Allen's Test	YES				Entered	C	Blood Gas		06/26/2013	06:32	⋮
Base Excess	1.5	meq/L	Normal	-2.0 - 2.0	Entered	C	Blood Gas		06/26/2013	06:32	⋮
Basophils %	0.6	%	Normal	0 - 1	Entered	C	CBC W/Differential		06/26/2013	06:32	⋮
Bicarbonate	26.6	meq/L	High	22 - 26	Entered	C	Blood Gas		06/26/2013	06:32	⋮
Blood Urea Nitrogen	42	mg/dL	High	7 - 19	Entered	C	Comprehensive Chem Profile		06/26/2013	06:32	⋮
Calcium	9.1	mg/dL	Normal	8.4 - 10.4	Entered	C	Comprehensive Chem Profile		06/26/2013	06:32	⋮



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

