PHIG PARTNERS

Sustainable DM insights from a state, county, and FAS: visualizing data, strengthening interoperability through FHIR, and enhancing communication to expand services

Thursday, August 21
11 am – 12:15 pm

SHAPING TOMORROW'S PUBLIC HEALTH TODAY.

Purpose and Background

- Identify, document and analyze data visualization tools used across KDPH

- Establish next steps for data viz tools at KDPH
  - Consistency
  - Training
  - Sustainability

https://boostlabs.com/wp-content/uploads/2023/02/10-types-of-data-visualization-1-1024x614.jpg

Methodology

Identified KDPH Program and points of contact

Created standardized questions on tool use, data, audience, and challenges

Conducted and recorded interviews with staff for deeper insights

Data gathered using Excel

Completed qualitative analysis (patterns and gaps)

Methodology – Sample Questions

- General
  - What were the key criteria used to select this tool?
  - What challenges has the tool addressed and were there any unexpected benefits?
- Training
  - Did the tool require any form of training to bring your team up to speed?
  - Where are team members receiving training to use the tool?
  - Are available trainings sufficient to meet the team's needs?
- Governance
  - Is there a written policy or guidance for use of this system?
  - How are policies communicated and enforced?
- Funding and Sustainability
  - How is the system currently funded?
  - Are there plans or strategies in place to secure sustainable funding?

Results

- Each interview lasted between 45 minutes and 1 hour

- 16 interviews were completed across all KDPH Divisions (7)

- Unequal representation of KDPH Divisions
  - Willingness to participate?
  - More data systems/programs?

https://www.marketconnectionsinc.com/qualitative-research-in-depth-interviews-or-focus-groups-which-method-is-best-for-your-needs/

Results

Program Name	Primary Viz Tool	Other Viz Tools	Funding Source
Division of Laboratory Services	MicroTrace	R	No cost
Division of Maternal and Child Health	SAS	Tableau	Grant
Division of Prevention and Quality Improvement	R Shiny	Tableau, Python, R, ArcGIS, SAS	No cost, Grant
Division of Public Health Protection and Safety	ReadyOP	Excel	Grant
Childhood Lead Poisoning Prevention Program (CLPPP)[1]	Tableau	ArcGIS	Grant
Environmental Public Health Tracking Program (EPHT)[2]	Tableau	ArcGIS, R, SAS	Grant
Healthcare Associated Infections/Antibiotic Resistance (HAI/AR) Program[2]	Tableau	SAS, Python, Excel	Grant
Informatics[2]	Tableau	R, ArcGIS, REDCap	Grant
Quality Assurance[3]	R	REDCap, Excel	No cost, Grant
Syndromic Surveillance[2]	Essence	R	Grant
Tuberculosis[2]	Excel	Power BI	No cost
Viral Hepatitis[2]	Tableau	SAS	Grant
Vital Statistics[2]	SAS	Tableau, ArcGIS	Grant
Wastewater Surveillance[2]	R	-	No cost

[1] Division of Maternal and Child Health
[2] Division of Epidemiology and Health Planning
[3] Division of Public Health Protection and Safety

Results

Programs Reporting Usage of Different Data Viz Tools
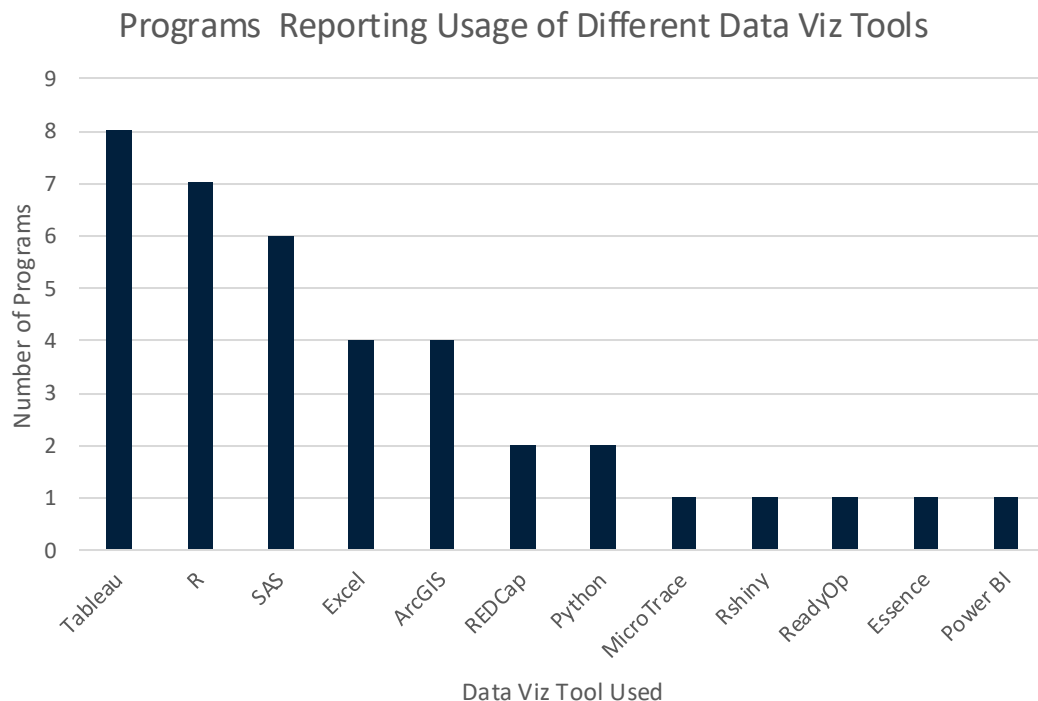
- Primary purpose of each tool – data collection vs. viz
  - Repurposing tools
- Why are staff choosing the tools?
  - User friendly (53%)
  - Staff preference (20%)
  - Speed and data cleaning/transformation features (13%)

Key Findings

- Strengths
  - Informal networks identified
  - Diverse skill-sets identified
  - Many low or no cost tools used
- Opportunities for Improvement
  - Training deficiencies and gaps
  - Lack of unified strategy
  - Data integration and automation
  - Sustainability and awareness of funding
- Desired enhancements
  - Interactive dashboards
  - Real-time data feeds

0%
Reported sufficient training on tools

https://www.ifuturetechnologies.in/wp-content/uploads/2023/12/Computer-Learning-Ifuture-Technologies-1.png

Key Findings

- Most reported being self taught via
  - YouTube
  - Google / Online Search
  - Informal internal user groups
- Formal trainings
  - Graduate coursework
  - Coursera
  - KDPH-sponsored training

Assessment to Action at KDPH

- Training and education
  - Partner with Center for Foundational Health and university partners
  - Promote current tools and resources (Coursera, KY TRAIN)
  - Develop training on data visualization tools that are widely used
  - Develop and promote internal user groups
  - Connect with internal and external subject matter experts
- Identify preferred tools for KDPH
  - One recommended tool (dashboards, general visualizations, mapping)
    - » Allow for program flexibility
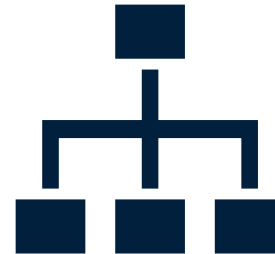 - Focus on sustainable options

A Replicable Process

Engage programs through structured interviews and surveys

Systematically document tool usage and user feedback

Identify organizational needs and limitations

Align results with agency priorities and initiatives

.

Thank you.

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Acknowledgements

Godwin Bennard
Courtney Marshall, MPH
David Vick, PMP

Acknowledgements

This project was made possible under the leadership of Christine Steward, Deputy Health Director, Sedgwick County Health Department (SCHD)

Project Team:

Sedgwick County Health Department
- Christine Steward
- Blake Strahl
- Greg Gann
- Laura Hadley
- Matthew Hair
- Jaymar Frace

HLN Consulting
- Aasa Dahlberg Schmit
- Tony Diiorio
- Mike Berry
- Kenneth Hughes

Sedgwick County

- Sedgwick County is the second most populous county in Kansas with a population of 523,824 (2020 Census)
- Wichita is the county seat and largest city, with 80% of the county population residing in the metro area.

Sedgwick County Health Department (SCHD)

- SCHD's mission is *"To improve the health of Sedgwick County residents by preventing disease, promoting wellness, and protecting the public from health threats."*

- SCHD provides a variety of services to county residents:
  - Epidemiology/Disease Investigation
  - Family Planning
  - Immunizations
  - Sexually Transmitted Infection (STI) Testing and Treatment
  - Tuberculosis Control
  - And more

Project Objectives

- Identify opportunities for improved interoperability using FHIR at SCHD
- Reduce manual processes and duplicate data entry
- Create a 5-year interoperability plan
- Implement a pilot project to give SCHD staff hands-on experience

SEDGWICK COUNTY
Health Department

HLN
CONSULTING

Project Methodology

| INITIATION	PLANNING	IMPLEMENTATION
SCHD	**SCHD & HLN**	**SCHD & HLN**
● Contract with HLN to add FHIR and interoperability expertise to project team	● Assess existing systems in use in the county ● Create a 5-year Interoperability Plan (IOP) using the Public Health FHIR Playbook as a guide ● Create a training plan for use by SCHD	● Pilot implementation of two projects 　○ Adoption of eCR Now for use with Athena 　○ Improve vaccine inventory tracking ● Implementation of an MPI

SEDGWICK COUNTY
Health Department

HLN
CONSULTING

Assessment

Work Performed:
- Assessed 62 systems in use by SCHD
- Determined datasets' alignment with FHIR resources
- Investigated readiness for implementing FHIR and technologies to support FHIR transactions

Key Findings:
- Numerous data entry redundancy identified
- Unrealized capability for interoperability and FHIR capability and/or feasibility
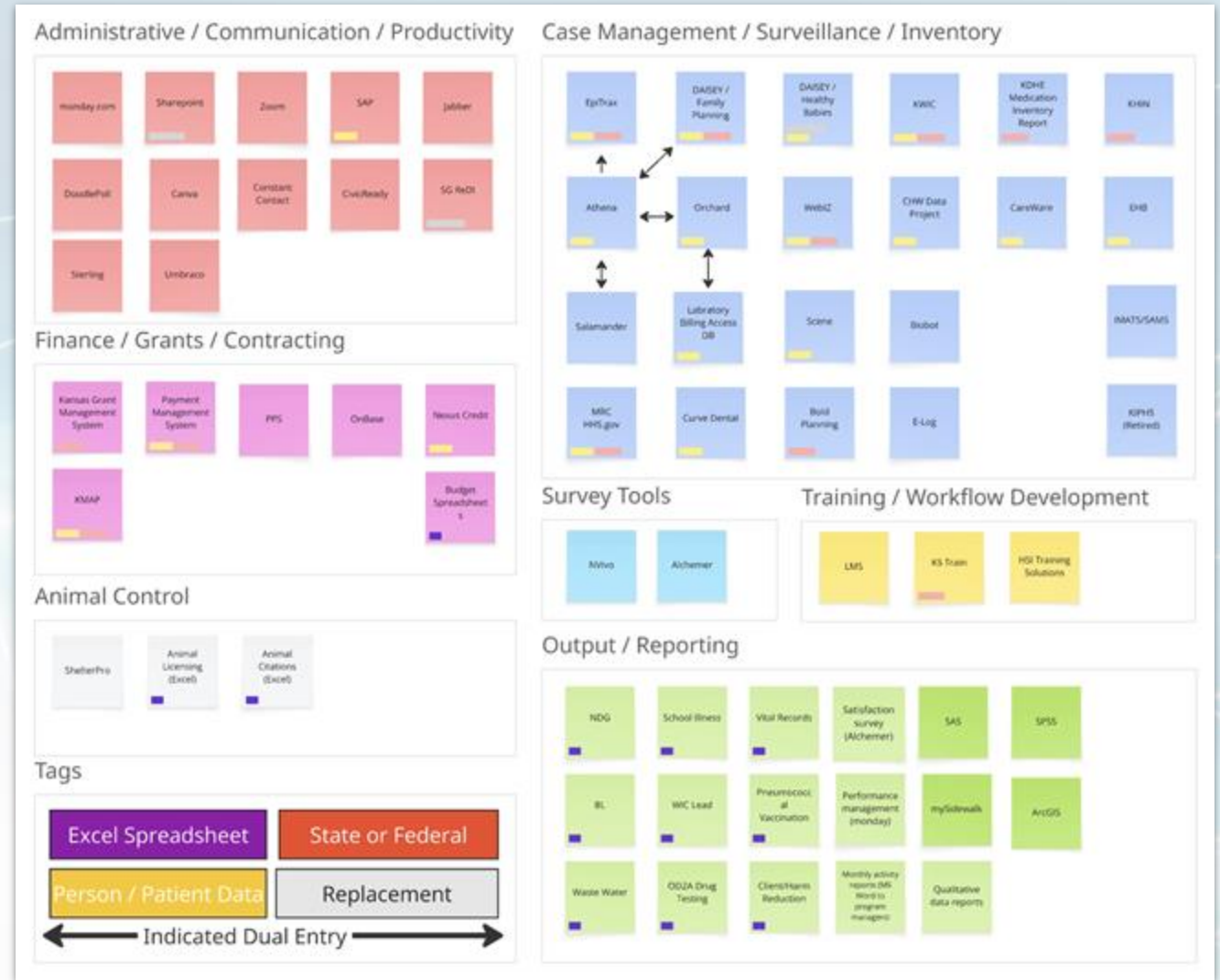
Plans, Plans, Plans

Interoperability Plan

- Developed a comprehensive Interoperability Plan
- Identified project phases, and established timelines for pilot projects
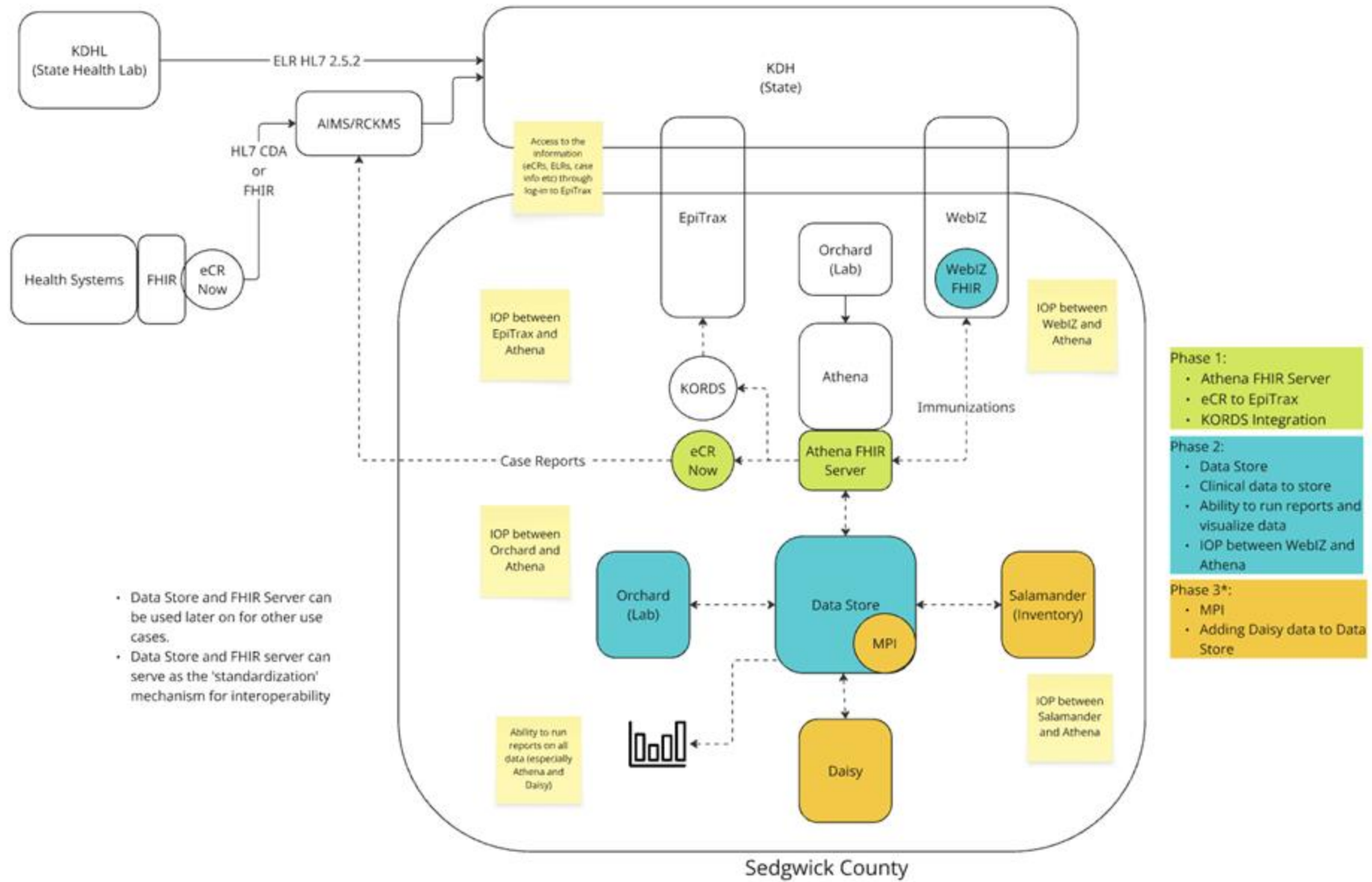
Training Plan

- Created a training plan, organized by level and role, with focus of FHIR for SCHD.

Data Governance Plan

- Drafted a data governance roadmap
- Established yearly milestones and goals for improving governance

IOP Plan

Progress to Date

2024

- Interoperability plan completed
- Training plan completed
- Governance plan drafted and ready for SCHD to tailor

2025

- Two main pilot projects in progress (eCR and vaccine inventory)
  - Focus on data exchanges between Athena and other systems
- SCHD staff has access to Athena FHIR server

Thank You!

Christine Steward (Christine.Steward@sedgwick.gov)
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SEDGWICK COUNTY
Health Department

HLN
CONSULTING

ACKNOWLEDGEMENT

Meet Some of Our Team

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Deputy Secretary, Public Health

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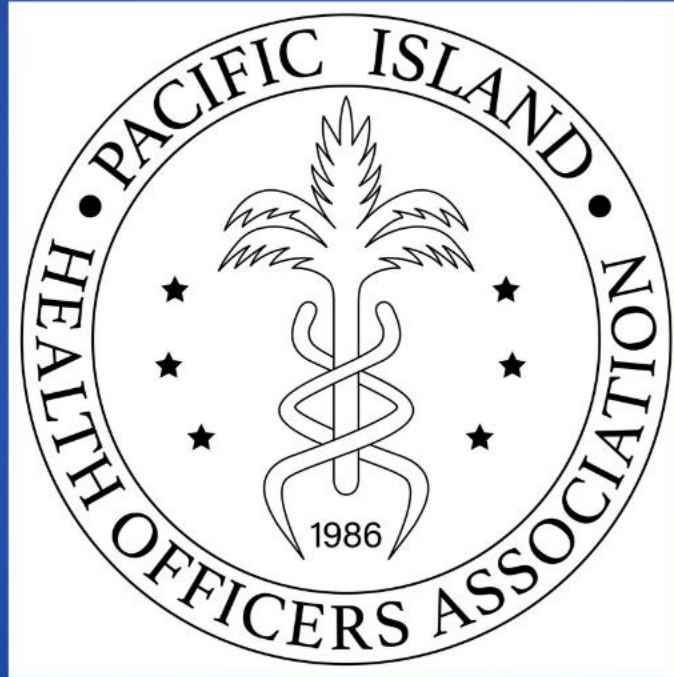**Helen Lemule, Dip. Comm. Health, BSPH, CHEW**
Data/Surveillance Officer

Melimar Delis
Project Management Support Specialist

Bonafide Agent

PRESENTATION OVERVIEW

WHAT?

- Operation HealthWaves' a MoHHS initiative to enhance Primary Health Care services developed in the RMI.
- Leverage Starlinks based technologies

- Improved access to care
- Improved Data for Decision making
- Modernize data
- Lower healthcare cost

WHY?

HOW?

1. ONE TEAM – Collaborative Partnerships
2. Service Readiness focus – Simplified SARA
3. Unified Framework – Heath–IT Systems Development
4. Iterative Waterfall Model
5. Equity based resourcing
6. Smartness for Performance Tracking

doxy.me
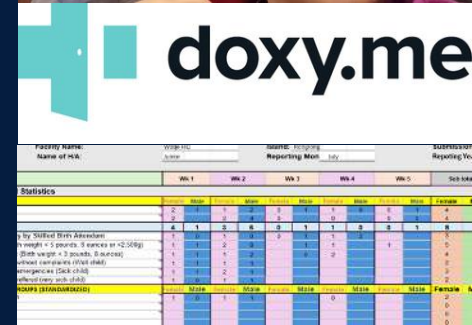
BACKGROUND-RMI SETTING & LANDSCAPE

- Geographically Isolated

- Vulnerable to climate changes

- Country with the largest proportion of territorial waters

97% **Ocean Waters**

3% **Small Total Land Mass**
(same as Washington, DC)

29 Atolls,1200 Islands/Islets
(75–1,400 people per Neighboring Island)

Total Population: 42,029

75% Majuro: 22,027
Ebeye: 9,703

25% Neighboring Islands: 10,299

MOHHS MISSION:

"To strengthen the commitment on healthy islands concept in implementing health promotion to protect and promote healthy lifestyles to improve the lives of the people through primary health, …"

"Equitable access to health care requires that **all citizens be able to secure an adequate level of care without excessive burdens**" (President's Commission for the Study of Ethical Problems in Medicine and Biomedicine and Behavioral Science Research, 1983, p. 4).

CHALLENGES

01 ISOLATION

02 LOW DATA QUALITY

03 INEFFECTIVE COMUNICATION

04 GRANT DRIVEN SILOS

RELATING CHALLENGES TO SOLUTIONS

CHALLENGES	INTEGRATED SOLUTIONS	PRODUCTS	OUTCOMES
ISOLATION	Starlinks +/- Solar Units	Telehealth	Better clinical care & PH services
LOW DATA QUALITY	Data Management Optimization	Excel Reporting	Improved data quality
INEFFECTIVE COMMUNICATION	Adapted Doxy.me platform	Automated User Interface	Improved support for isolated staff
GRANT DRIVEN SILOS	Adapted SARA	Integrated Assessments Usage statistics	Less admin burden Reduced costs Enhanced data driven decisions
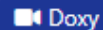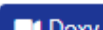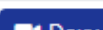
Republic of the Marshall Islands
Ministry of Health and Human Services
Lerooj Atama Zedkaia Memorial Hospital

Operation Healthwaves – Telehealth Request Manager
Wednesday, Aug 13, 2025, 1:49:55 PM

👤 Welcome, Dr. Olayinka Ajayi

🔴 Logout

Search by name or MRN...

All Status ▾

Request No.	Full Name	MRN	Facility	Type	Urgency	Status	Doxy.me	Actions
TLH-20250626-0005		7	Majuro Hospital – Majuro Atoll	Follow-up Visit	Normal	Follow-up Needed	📹 Doxy	👁 View
TLH-20250626-0003		95	Laura Health Center – Majuro	New Consultation	Urgent	Assigned	📹 Doxy	👁 View
TLH-20250626-0001		)89	Delap Public Health Clinic – Majuro	New Consultation	Normal	Completed	📹 Doxy	👁 View
TLH-20250625-0004	F		Majuro Hospital	New Consultation	Normal	Assigned	📹 Doxy	👁 View
TLH-20250625-0008			Majuro Hospital	New Consultation	Normal	Assigned	📹 Doxy	👁 View

« Prev   Next »

Page 1 of 2 (6 total)

Republic of the Marshall Islands
Ministry of Health and Human Services
Lerooj Atama Zedkaia Memorial Hospital

👤 Welcome, Dr. Virgillio Villaroya

📋 Total Requests	⏳ Pending
31	**5**

✉ **Requests**   👥 **Doctors**   👥 **Users**   ◔ **Dashboard**

Search by patient name or MRN...

Request No.	Name	MRN	Facility					
	Ann		Majuro Hospital – Majuro Atoll					
B			Ebeye Hospital – Kwajalein Atoll	Follow-up Visit	Normal	Assigned	Dr. Leo Nakamura	➕ Assign
B			Ebeye Hospital – Kwajalein Atoll	Follow-up Visit	Normal	Assigned	Dr. Edgardo Borja Padlan	➕ Assign
M			Delap Public Health Clinic – Majuro	New Consultation	Normal	Completed	Dr. Olayinka Ajayi	➕ Assign
S			Laura Health Center – Majuro	New Consultation	Urgent	Assigned	Dr. Leo Nakamura	➕ Assign
S			Laura Health Center – Majuro	New Consultation	Urgent	Assigned	Dr. Edgardo Borja Padlan	➕ Assign

ENHANCING SUPPORT FOR ISOLATED HEALTH WORKERS

Tele-health Costs: Operation HealthWaves vs Vendors

Computer Package Cost: $3,500

$175,000 for 50 Health Centers

Starlinks + Optimized Computer Package + Doxy.me

Vendor Package Cost: $18,000 + $25,000 annually + Starlinks

$2,150,000 for 50 Health Centers

ENHANCING SUPPORT FOR ISOLATED HEALTH WORKERS

Tele-health Costs: Operation HealthWaves vs Vendors

Computer Package Cost: $3,500

$175,000 for 50 Health Centers

Vendor Package Cost: $18,000 +
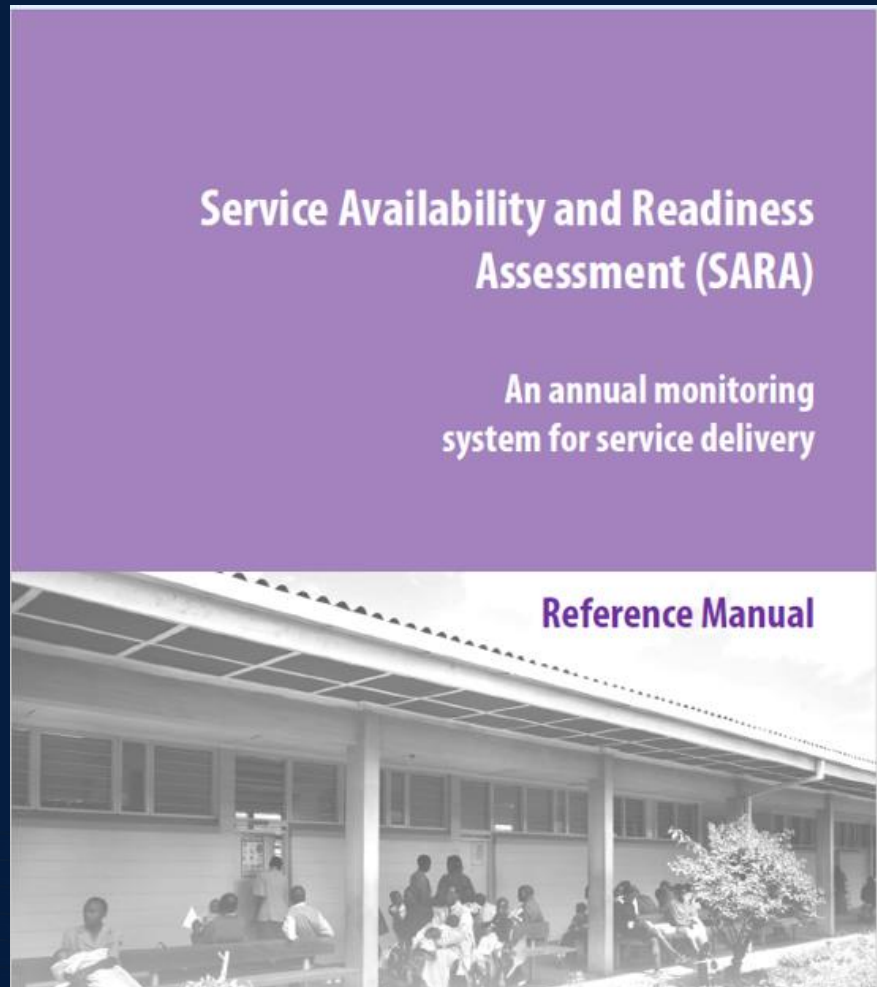**$25,000 annually**
$2,150,000 for 50 Health Centers

Modernizing NIHCs Weekly/Monthly Reporting

Before

After

Adapted SARA for Integrated Assessments

Standard Version 123 Pages

Service Availability and Readiness Assessment (SARA)

An annual monitoring system for service delivery

Reference Manual

Adapted Simplified Version 6–8 pages

RMI MoHHS Modified Simplified SASA Assessment Worksheet – Roles and Responsibilities: RONGRONG Health Center NIHSE SCOPING, July 2025 (Adapted from the Standard WHO Service Availability and Readiness Assessment Reference Manual Version 2.2 by Dr Ola Ajayi, PHIG PMTS Team Lead)

#	Assessment Component	Responsible(s)	Observations and Comments	Recommendations
	Section 1: Cover page & Introduction			
1.	Interviewer visits and focal points	Dr Ola		
2.	Facility identification	Lincoln		
3.	Geographic coordinates	Dr Ola		
4.	General information	Lincoln		
	1.1: Community Engagements			
5.	Guegegue High School Principal	Lincoln		
6.	Guegegue High School Nurse / Nurse station	Helen		
	Section 2: Staffing			
7.	Lead Clinician and credentials	Lincoln		
8.	Associate clinician and credentials	Lincoln		
9.	Supporting temporary health staff/surge arrangements	Lincoln		
	Section 3: Inpatient and observation beds			
10.	Observation, OPD and waiting areas	Helen		
11.	Wards Bed capacity against bed actuals	Helen		
12.	Intensive Care Unit and/or Special Wards	Helen		
13.	Delivery Unit	Helen		
	Section 4: Infrastructure			

1. Harmonizing Approaches Unified Health System Development Framework

2. System Development Life Cycle Iterative Waterfall Model (Applied to process)

AIM	SWOT	PDCA	SDLC	
ASSESS	Strengths		1. Planning	FRS
(Simplified SARA)	Weaknesses	PLAN		Non-FRS
	Opportunities		2. Analysis	Use Case
	Threats		3. Design	
Dialogue on Approved Recommendations & Costed Implementation Plan				
IMPLIMENT		DO	4.Development	
		CHECK	5. Testing	
			6. Deployment	
MANAGE		ACT	7. Maintenance	
Monitoring & Evaluation				
Performance Tracking based on SMART INDICATORS				

3. Resourcing Approach: Health Equality vs EQUITY!

One ~~Size Fits~~ All

EQUALITY   EQUITY
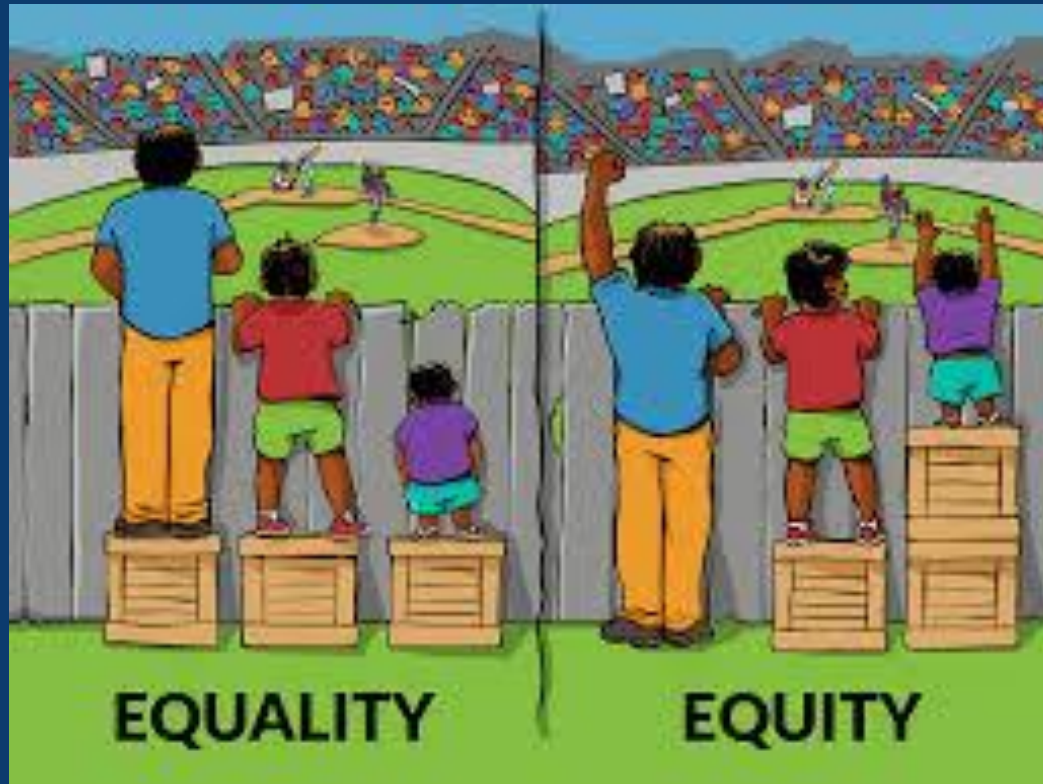
Different sizes fitted to context

RMI MOHHS MISSION: "To strengthen the commitment on healthy islands...

• Re-categorize Organizational Units
• Package of Services and Products by categories

DOCUMENTATION & KNOWLEDGE MANAGEMENT

Operation HealthWaves User Interface FRS

Key Functions

1. **Admin View:** Platform administrator sees all requests and outcomes
2. **Requesting Provider View**: NIHC HAs & NPs will be able to make & manage requests
3. **Responding Provider View**: Doctors only see telehealth requests assigned to them
4. **View Details Modal: P**atient information, request type, urgency level, and schedule
5. **Doxy.me Link:** Direct access button to the assigned virtual consultation room
6. **Consultation Records:** Doctors can input clinical notes after consultation.
7. **History Review:** Displays previous consultation history if available
8. **Privacy & Confidentiality: S**ystem will prevent unauthorized access
9. **Storage option**: System can securely store, retrieve, and manage patient consultation notes and related data
10. **M&E View**: System has built in reporting & analytics capabilities

Workflow

a) **Request Submission** – Submitted by staff or patient.

b) **Admin Review & Assignment** – Admin assigns to a doctor.

c) **Doctor Login** – Doctor views assigned cases only

d) **Consultation via Doxy.me** – Accessed through the request details.

e) **Clinical Notes Entry** – Doctor enters notes after session.

f) **Completion Tagging** – Admin or doctor marks the case as completed.

g) **Automated Analytics** - Data aggregation, synthesis and interpretation including graphs and dashboards

Ensuring SMARTness – M&E Framework

Objective (& Milestone)	PHIG BP3 Target	Means of Verification	Indicators (& calculation as of 04/01/2025)	Performance Dashboard
By July 2025 (the end of), High Performance Starlinks (Starlinks+) deployed and fully operational (with subscription assured) in all the 3 medical ocean transport vessels and/or operational entities (premise on protocols in place to safeguard their loss and/or abuse)	100%	Starlinks Deployment Update to MLY	Proportion of High Performance Starlinks (Starlinks+) that are fully operational (x/4)	66%
By Dec 2025 the remaining 18 in the first batch of 25 Starlinks devices controlled by MoHHS are deployed and fully operational in prioritized targeted NIHCs and operational entities	80%	Starlinks Deployment Update to MLT	Proportion of Regular Starlinks that are fully operational, disaggregated by Atolls (x/25)	In Progress
By Dec 2025, prioritized NIHCs regardless of location are connected to their oversight hospitals and/or administrative entities	80%	Operation Health waves Usage Statistics	Proportion of targeted NIHCs actively connected to associated oversight entities, disaggregated by hospitals and administrative entities) (x/25)	In progress
....				
By November 15, 2027, all PHIG supported Starlinks devices, and their subscriptions are successfully transferred to MoHHS without disruption in Starlinks driven connectivity	November 30, 2025	Endorsed Transfer Document in place	Documentary evidence that all Starlinks devices and subscriptions and associated matters successfully transferred by PHIG to MoHHS	Not Started

LET'S GET INNOVATIVE!

CREATIVITY:
"If life gives you no money for hats, make a fro-hat"

Kommol Tata!