Tribal Engagement
in the
Indian Health Service's
HIT Modernization Project

Stewart Ferguson
Chief Information Officer (CIO)
TSGAC Representative to the IHS Information Systems Advisory Committee (ISAC)

ALASKA NATIVE
TRIBAL HEALTH
CONSORTIUM

Questions …

- Is replacing RPMS with a single COTS EHR a good decision?
- What systems will be impacted?
- Is the $3B-$6B price tag credible?
- How should this investment be governed?
- How will this system be designed?
- What services should remain centralized at IHS?
- Why should sites with COTS EHRs participate?
- How long does it take to change EHRs?
- What can Tribes be doing now to prepare?
- How can we participate in this process?
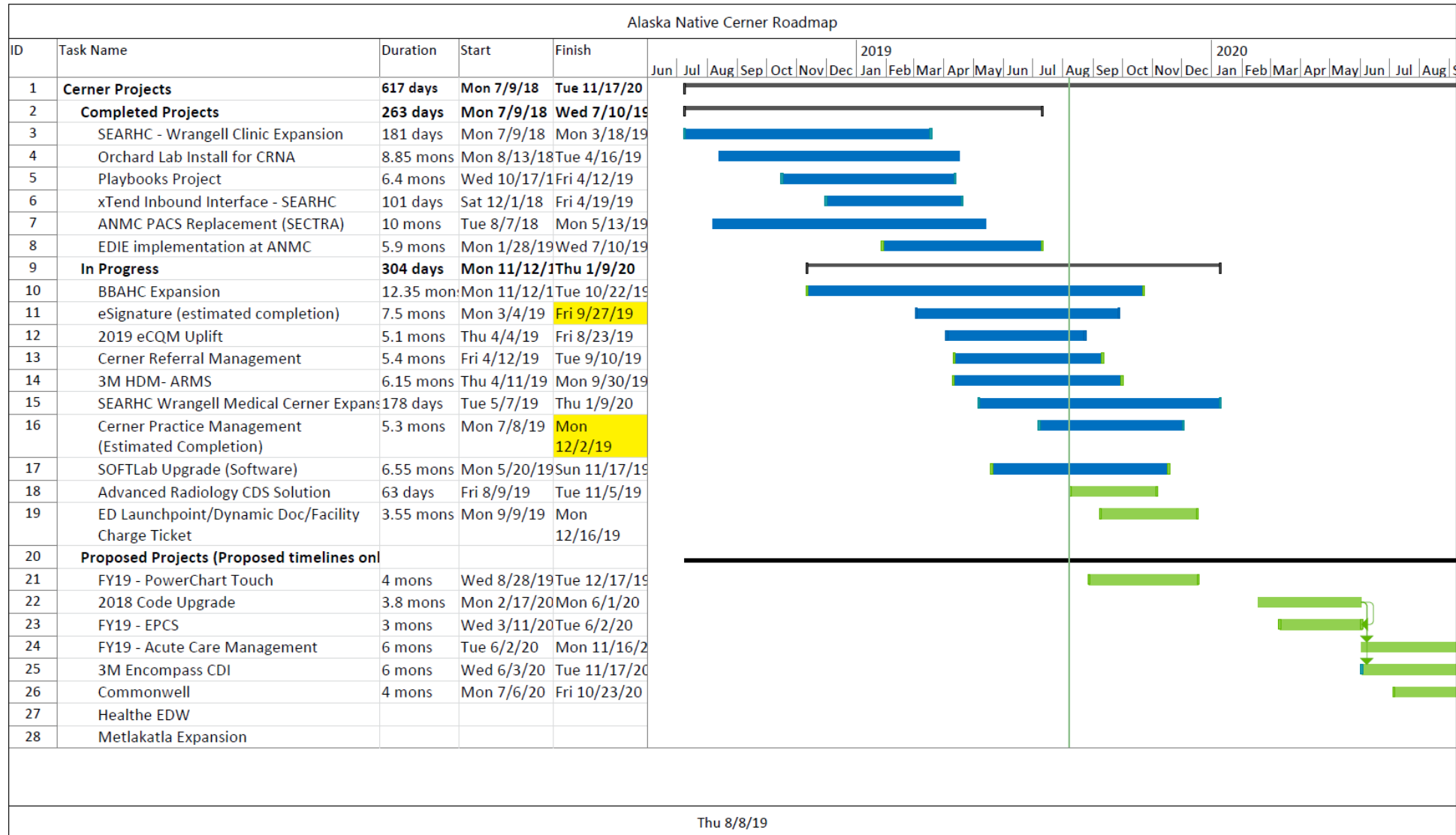
Certified EHR Technology (CEHRT)

Interoperability Capability

Can't be a data blocker. Support for Patient apps.
Future: Open portals with all notes

CMS focusing on "the patient's data". Medicare app.
Patients get to control their data.

Focus on quality and improvement activities
Telehealth counts as a clinical improvement activity

Must "own" SMART on FHIR

Secure messaging communication. Once with a patient.

Send education to patient portal for patient. Patients did not have to look at it.

Print a visit summary and give to patient

Interoperability
Value-Base Care
Costing Analysis

2011	2014	2016	2018	2018	2020	21st Century Cures Act
MU Stage 1	MU Stage 2	MU Stage 3	MIPS	Promoting Interoperability		

SMART = Substitutable Medical Applications, Reusable Technologies   FHIR = Fast Healthcare Interoperability Resources

The speed of "buying" versus the speed of "development"

Alaska Native Cerner Roadmap

ID	Task Name	Duration	Start	Finish
1	**Cerner Projects**	617 days	Mon 7/9/18	Tue 11/17/20
2	**Completed Projects**	263 days	Mon 7/9/18	Wed 7/10/19
3	SEARHC - Wrangell Clinic Expansion	181 days	Mon 7/9/18	Mon 3/18/19
4	Orchard Lab Install for CRNA	8.85 mons	Mon 8/13/18	Tue 4/16/19
5	Playbooks Project	6.4 mons	Wed 10/17/1	Fri 4/12/19
6	xTend Inbound Interface - SEARHC	101 days	Sat 12/1/18	Fri 4/19/19
7	ANMC PACS Replacement (SECTRA)	10 mons	Tue 8/7/18	Mon 5/13/19
8	EDIE implementation at ANMC	5.9 mons	Mon 1/28/19	Wed 7/10/19
9	**In Progress**	304 days	Mon 11/12/1	Thu 1/9/20
10	BBAHC Expansion	12.35 mons	Mon 11/12/1	Tue 10/22/19
11	eSignature (estimated completion)	7.5 mons	Mon 3/4/19	Fri 9/27/19
12	2019 eCQM Uplift	5.1 mons	Thu 4/4/19	Fri 8/23/19
13	Cerner Referral Management	5.4 mons	Fri 4/12/19	Tue 9/10/19
14	3M HDM- ARMS	6.15 mons	Thu 4/11/19	Mon 9/30/19
15	SEARHC Wrangell Medical Cerner Expans	178 days	Tue 5/7/19	Thu 1/9/20
16	Cerner Practice Management (Estimated Completion)	5.3 mons	Mon 7/8/19	Mon 12/2/19
17	SOFTLab Upgrade (Software)	6.55 mons	Mon 5/20/19	Sun 11/17/19
18	Advanced Radiology CDS Solution	63 days	Fri 8/9/19	Tue 11/5/19
19	ED Launchpoint/Dynamic Doc/Facility Charge Ticket	3.55 mons	Mon 9/9/19	Mon 12/16/19
20	**Proposed Projects (Proposed timelines onl**			
21	FY19 - PowerChart Touch	4 mons	Wed 8/28/19	Tue 12/17/19
22	2018 Code Upgrade	3.8 mons	Mon 2/17/20	Mon 6/1/20
23	FY19 - EPCS	3 mons	Wed 3/11/20	Tue 6/2/20
24	FY19 - Acute Care Management	6 mons	Tue 6/2/20	Mon 11/16/2
25	3M Encompass CDI	6 mons	Wed 6/3/20	Tue 11/17/20
26	Commonwell	4 mons	Mon 7/6/20	Fri 10/23/20
27	Healthe EDW			
28	Metlakatla Expansion			

Thu 8/8/19

EHR Solutions

Core Clinical

- Physician Documentation
- Clinical Decision Support
- CPOE
- ePrescribe
- Nursing Documentation
- MAR
- Bar Coded Meds Admin
- Plans of Care
- Nursing Patient Navigation
- Semantic Search Engine
- Embedded Training - Learning Live
- Clinical Data Repository
- Patient Portal (Note 2)
- Sepsis Prevention Algorithm
- Acute Care Content Package
- Patient Education
- CPT Codes, CMT, IMO
- Core (Quality) measures (Note 1)

Departmental

- Emergency
- ICU
- Surgery
- Anesthesia
- Radiology
- Mammography
- Inpatient Pharmacy
- Outpatient Pharmacy
- Maternity
- Fetal Monitoring
- Apache for ICU
- Monitor Integration (iBus)

Ambulatory

- Ambulatory EMR
- Ambulatory Content Package
- Registration
- Scheduling
- Patient Accounts
- Eligible Provider Quality Reporting
- ePrescribe
- Patient Education
- CPT Codes, CMT, IMO
- Health Maintenance

EHR Solutions/Services

Revenue Cycle

- Registration
- Scheduling
- Eligibility Checking
- HIM
- Patient Accounting
- Revenue Cycle Analytics
- Enhanced Medical Necessity
- Encoder/Grouper (Note 1)
- Care Management / Utilization Review
- MedAssets Xclaim
- Transaction Services ***
- Craneware (Note 1)

General and Connectivity

- Implementation
- Remote Hosting
- Application Management Services
- Updates & Upgrades [+]
- Document Imaging – Single Document Scanning
- Business Objects, PowerInsight Explorer
- Mobility Extension (iPad app)
- Auditing (P2 Sentinel)
- Supply Chain (Pharmacy and SurgiNet)
- External Prescription History

General and Connectivity

- Immunizations and interface to VakTrak
- Lab Reportables / Syndromic Surveillance
- Population Health Registries
- Direct Messaging
- NDW Extract
- GPRA reporting
- 724 Access Downtime Viewer
- Meaningful Use Reports, Dashboard, Validation
- Health Information Exchange (AeHN SOA)
- Interface to SEARHC Orchard Lab System
- Reporting (i2i, Dashboards, EDW) (Notes 1)

HIT Ecosystem

USERS
Providers
Nurses
Pharmacists
Lab techs
Rad Techs …

SERVICES
Design
Build
Testing
Training
Support …

PATIENT ENGAGEMENT
Portal
Apps …

SYSTEMS
Lab (LIS)
Pharmacy
Robots
Dispensing
Units
PACS
Nutrition
PDMP
EDIE
HIE …

REGULATORY
Quality
Meaningful Use
Joint Commission …

DEVICES
PCs
Laptops
Smart
Phones
Printers
Scanners …

EHR
Patient Chart
Revenue Cycle
ED, Surgical …

MANAGEMENT
Optimization
Governance
Change Mgmt
Roadmapping
Strategy
Process
Improvement …

TECHNOLOGIES
Dragon / Dictation
WiFi
LAN/WAN
Telehealth …

PATIENTS
Bedside
Medical Devices
Fetal Monitors
…

DATA
Reporting
Security
Analytics
Cloud Computing
…

PROCESSES
Revenue Cycle
Supply Chain
Legal
Compliance
Contracting
Quality
HIT …

INTEROPERABILITY
DSM / CCDA
CommonWell
Syndromic
Surveillance …

Estimating the "Cost" of Modernization

VA has a 10 year spend of $16B-$20B, for 9.6M Patients

IHS has 1.7M - 2.6M active patients, suggesting a 10 year price tag of $3B-$5B

10 Year Spend is about $2,000 - $4,000/patient

Based on IHS Data call, Alaska costs for past 10 years are likely in line with these estimates.

ANTHC analysis … 50% of total cost is staff time.

Shared EHR Domain Growth

Organizations, Sites, Users, Patients

- ClairVia Nurse Scheduling
- IQ Health
- Downtime Viewer
- SmartCall IVR
- PowerInsight EDW
- Single Sign On

  - Address Validation
  - Dragon Medical
  - Clinical Document Generator (CCDA)

KIC

AISU

WMC

BBAHC

Man.

AICS

SMC

Yak

SEARHC

Eyak

Chu.

KIT

MSTC

APIA

EAT

NVE

NSHC

KANA

CRNA

ANTHC SCF

6 Hospitals
21 Organizations
118 Sites
3,000 Concurr. Users

75% of all ATHS encounters in shared EHR

- ePrescribing
- Supply Chain INFOR Interface
- CareAware Vitals Link
- Discern Analytics 2.0

- eSignature Solution
- Dragon Medical One
- Playbooks
- PACS Replacement
- EDIE

| 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |

Functionality

- Informatica ETL
- HealthSentry
- Surginet & Anesthesia
- Homeworks
- CareAware Infusion Suite
- eQuality Check with Core Measures
- Lexicomp Pediatric Dose Range Check

- Exitcare
- Cerner Direct HISP
- Healthe Registries

- Long Term Care
- Endoscopy and Surgical image upload
- MU3 Solutions
- Additional eCQM measures

- Referral Management
- 3M HDM ARMS
- Cerner Practice Management
- Advanced Radiology CDS
- ED Launchpoint
- Powerchart Touch

- Code Upgrade
- EPCS
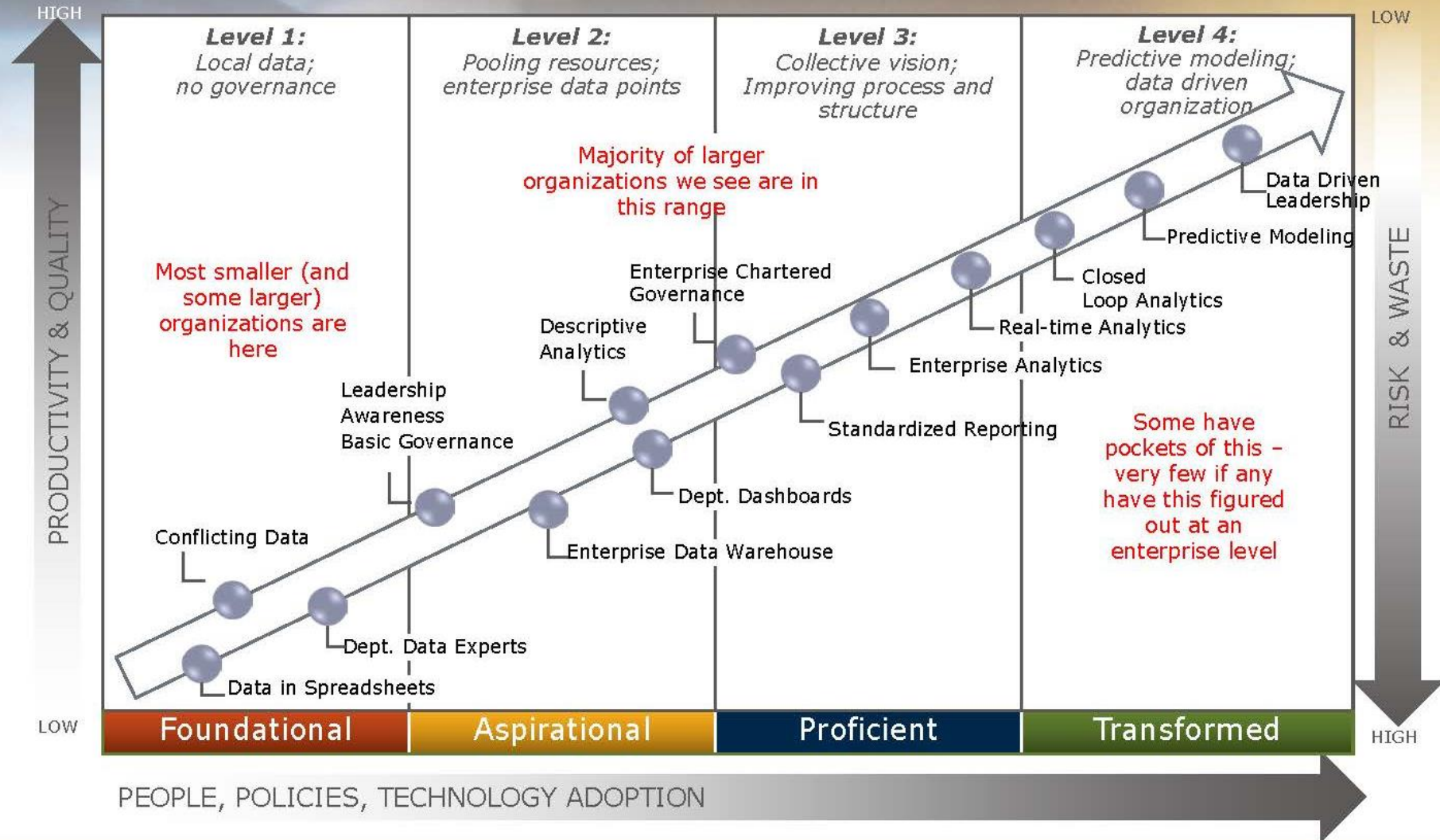- Commonwell
- Health EDW

Vision for a Shared EHR

We provide the best possible EHR for Tribal Health Organizations

Driving for best in class performance in:

- Patient care
- Patient experience
- User experience
- Governance and Planning
- Change Management
- Revenue capture/recovery
- Regulatory compliance
- Interoperability
- Analytics
- Support
- Sustainability
- Reliability
- Security
- Standardization
- Quality

State of the Healthcare Provider Industry

PRODUCTIVITY & QUALITY (HIGH → LOW)

RISK & WASTE (LOW → HIGH)

Level 1:
Local data; no governance

Level 2:
Pooling resources; enterprise data points

Level 3:
Collective vision; Improving process and structure

Level 4:
Predictive modeling; data driven organization

Most smaller (and some larger) organizations are here

Majority of larger organizations we see are in this range

Some have pockets of this – very few if any have this figured out at an enterprise level

- Conflicting Data
- Data in Spreadsheets
- Dept. Data Experts
- Leadership Awareness Basic Governance
- Enterprise Data Warehouse
- Dept. Dashboards
- Descriptive Analytics
- Enterprise Chartered Governance
- Standardized Reporting
- Enterprise Analytics
- Real-time Analytics
- Closed Loop Analytics
- Predictive Modeling
- Data Driven Leadership

| Foundational | Aspirational | Proficient | Transformed |

PEOPLE, POLICIES, TECHNOLOGY ADOPTION

April 2018

| ID	Task Name	Duration	Start	Finish					2020		
					Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3
1	**Cerner Projects**	887 days	Mon 6/26/17	Tue 11/17/20							
2	**Completed Projects**	472 days	Mon 6/26/17	Tue 4/16/19							
3	Long Term Care - NSHC	9.25 mons	Wed 2/14/18	Tue 10/30/18							
4	Registration Rules Engine Upgrade	4.55 mons	Mon 8/13/18	Mon 12/17/1							
5	MU3 Solution Implementation	18.9 mons	Mon 6/26/17	Wed 12/5/18							
6	Pyxis Station at KANA	12.8 mons	Mon 1/22/18	Mon 1/14/19							
7	SEARHC - Wrangell Clinic Expansion	181 days	Mon 7/9/18	Mon 3/18/19							
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14	EDIE	5 mons	Mon 1/28/19	Fri 6/14/19							
15	eSignature (estimated completion)	7.05 mons	Mon 3/4/19	Mon 9/16/19							
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31	Healthe EDW										

Governance

DESIGN

Equal voice to all participating organizations

Timely processes to involve SMEs, executives, leaders, and Board members

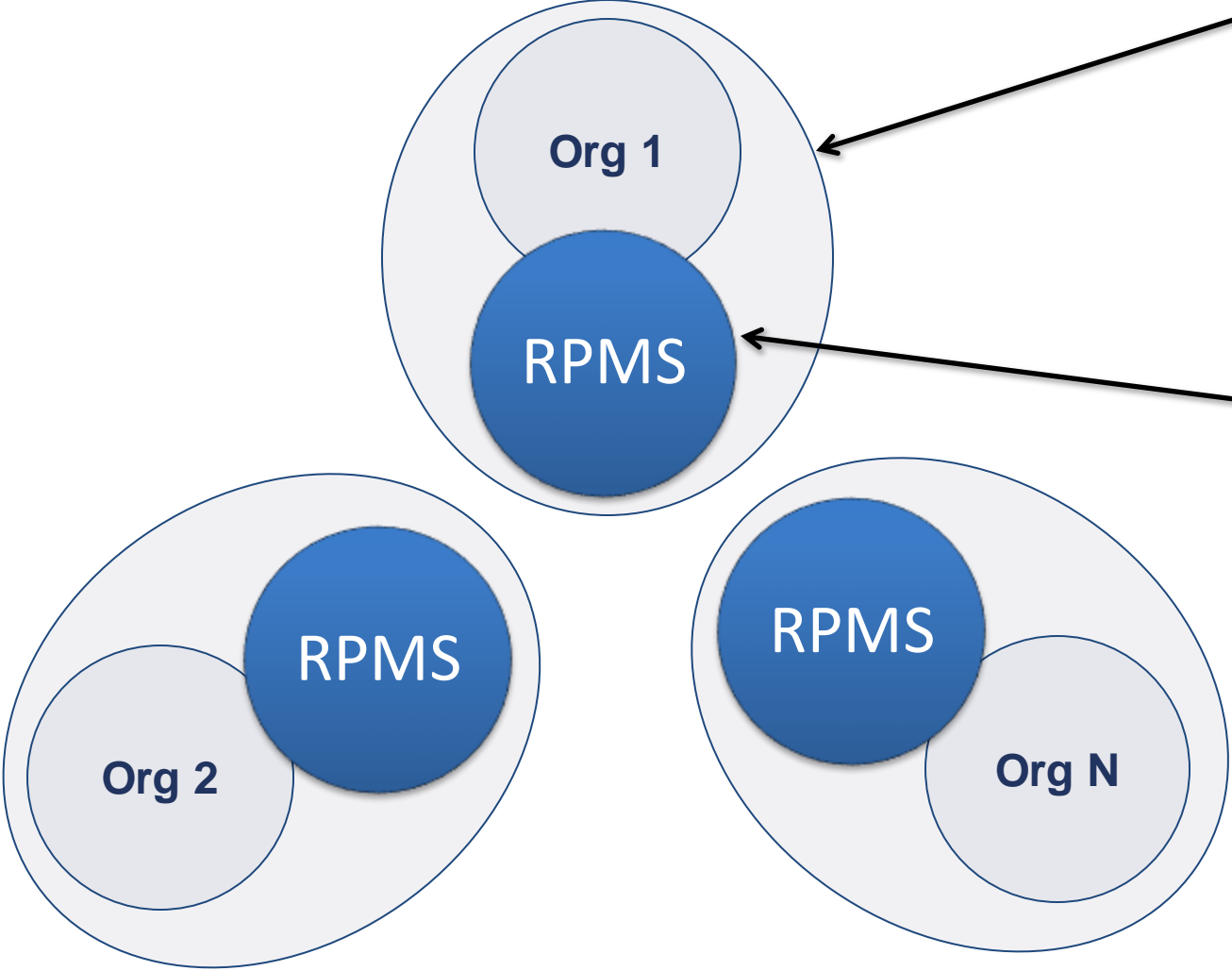Well defined rules, cost sharing, change management, roadmapping
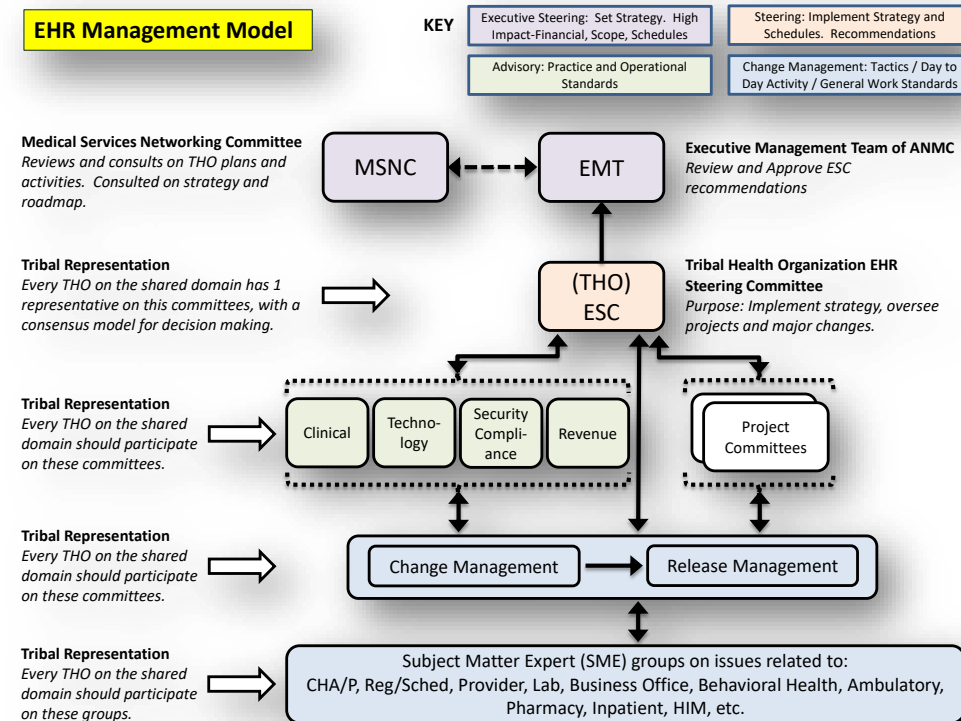
CHALLENGES

Gaining input from smaller sites at all levels of the process

Making participants aware of the issues, complexities, and risk to empower them to make the right decisions

Developing a shared Investment Strategy

EHR Management Model

KEY

| Executive Steering: Set Strategy. High Impact-Financial, Scope, Schedules | Steering: Implement Strategy and Schedules. Recommendations |
| Advisory: Practice and Operational Standards | Change Management: Tactics / Day to Day Activity / General Work Standards |

Medical Services Networking Committee
Reviews and consults on THO plans and activities. Consulted on strategy and roadmap.

MSNC ←→ EMT

Executive Management Team of ANMC
Review and Approve ESC recommendations

Tribal Representation
Every THO on the shared domain has 1 representative on this committees, with a consensus model for decision making.

(THO) ESC

Tribal Health Organization EHR Steering Committee
Purpose: Implement strategy, oversee projects and major changes.

Tribal Representation
Every THO on the shared domain should participate on these committees.

Clinical | Techno-logy | Security Compli-ance | Revenue

Project Committees

Tribal Representation
Every THO on the shared domain should participate on these committees.

Change Management → Release Management

Tribal Representation
Every THO on the shared domain should participate on these groups.

Subject Matter Expert (SME) groups on issues related to: CHA/P, Reg/Sched, Provider, Lab, Business Office, Behavioral Health, Ambulatory, Pharmacy, Inpatient, HIM, etc.

RPMS Model

Independent RPMS systems. Locally patched, customized.

Org 1

RPMS

Non-Shared Patient Records

RPMS

Org 2

RPMS

Org N

Most "configurable" to local needs

Many/Most are locally hosted

Independent Systems

"Community" Model

CORE TENANT

Electronic Medical Record

Electronic Medical Record

Electronic Medical Record

Partner Site

Future Site

Independent Medical Record
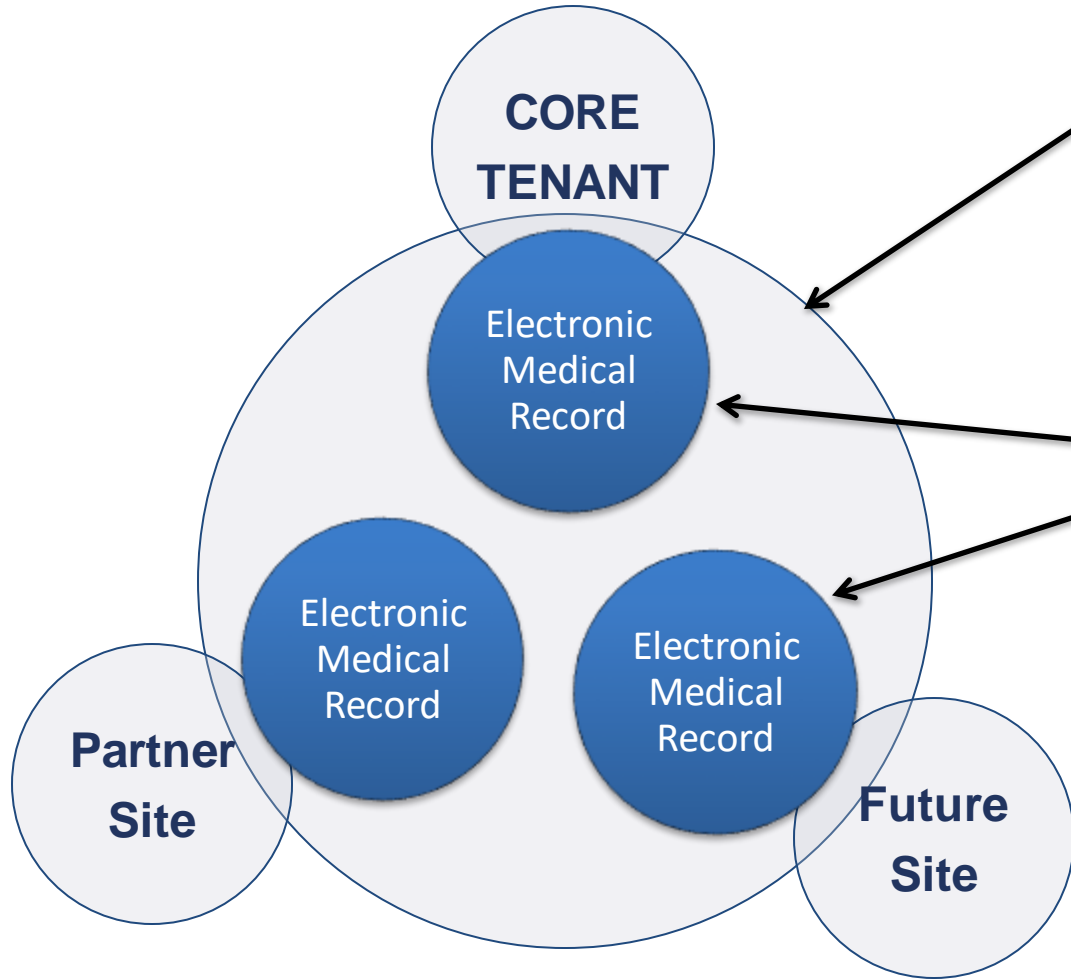
Single SOFTWARE system
- EHR system upgrades
- Global configuration settings
- Standardized Interfaces

Non-Shared Patient Records

Less cost
Less flexible

More complex to build and govern.

MOST LIKELY MODEL
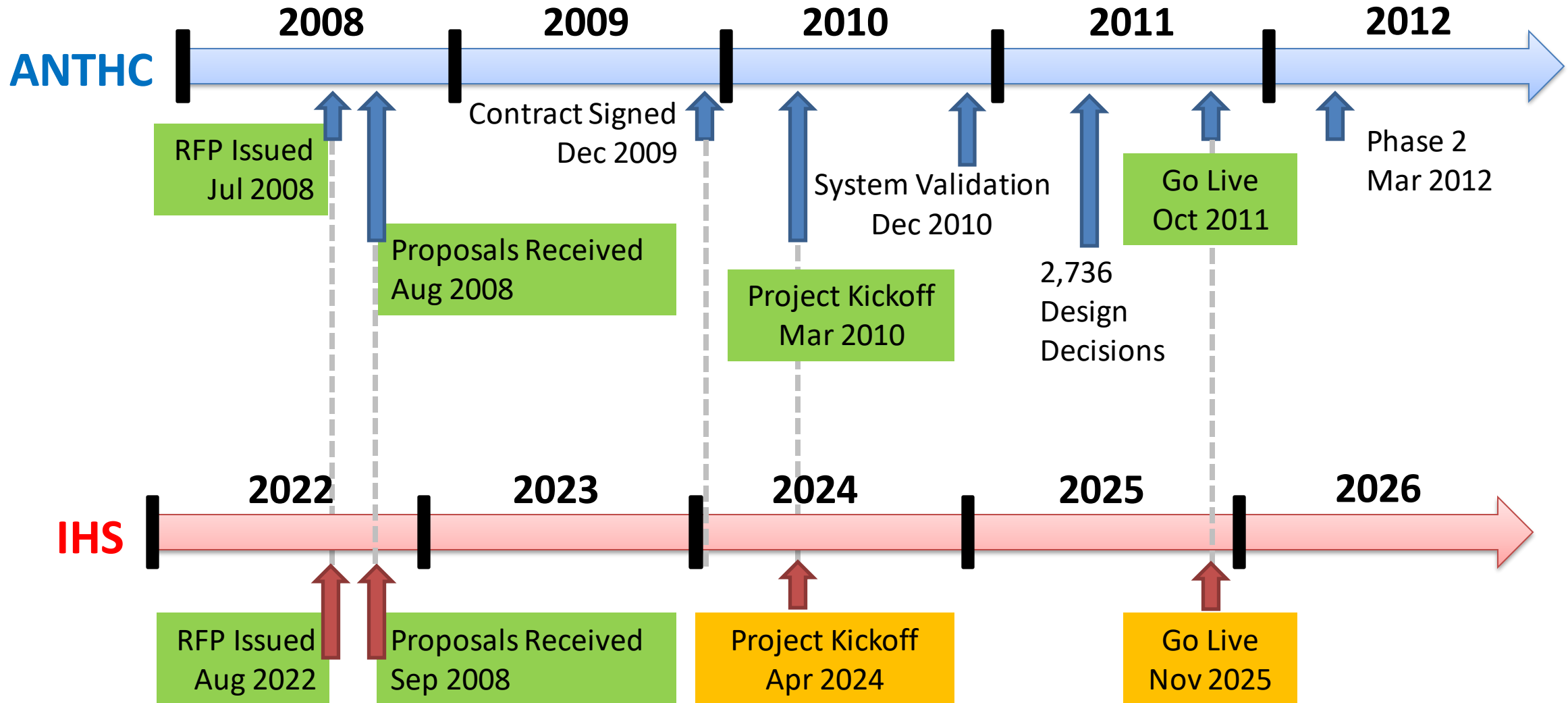
Our Timelines and Centralized Processes

Clinic-based Organizations:

- Minimum 3 months
- 5-6 months with Lab and/or Pharmacy
- Up to 3 simultaneous deployments

Hospital-based Organizations:

- Minimum 10-12 months
- No more than 1 at a time

- *No deployments or new projects during Code Upgrades*
- *Readiness is determined through Discovery process.*
- *Organizations are accepted on a first come, first served basis after signing MOA.*

Centralized Processes

Role Changes are managed through Informatics staff only

Change Management must be centralized with strong commitment to process

Issue Management must be centralized with strong relationships and clear expectations

Centralized chart merges provided by ANMC medical records department manages all MRN merging

2017 EHR Systems (By Site)

	Federal	Urban	Tribal
RPMS	117	35	253
COTS/Other	7 (**6%**)	14 (**28%**)	229 (**47%**)

Alaska Area   **71%**

All Other Areas   **31%**

Why Should COTS Sites Participate?

- Contract negotiations and preferential pricing
- Non-existing/New solutions
- Reporting/Data/Analytics
- Support & Training
- Data Management – e.g. RPMS Legacy archiving

- Interfaces (State, Local, Systems)
- Health Information Exchange
- Migration to new COTS EHR
- Funding

General Observations

1. Highly involved and consistent staff/leadership are the greatest indicators for success.

2. This will be expensive in terms of your local resources.

3. The most common areas of struggle were revenue cycle and reporting/analytics.

4. Standardizing on (& changing) other systems is critical (e.g. LIS, PACS, RevCycle tools)

5. Develop governance early.

6. Be prepared to adopt (and resource) new solutions and functionality.

7. Begin working now on processes and revenue cycle.

Participation Opportunities

- Virtual Tribal Consultation and Urban Confer sessions (e.g. Nov 1, 2022)

- WRAP – Workflow Research and Alignment Plan

- Focus groups (after acquisition)

- "Potential future users" may participate in the product demonstrations to "inform" the selection process.

- We need Tribal planning meetings

Purpose of ISAC

The Information Systems Advisory Committee (ISAC) is established to guide the development of a co-owned and co-managed Indian health information infrastructure and information systems.

ISAC Members (27)
- One at-large member from each IHS Area (12)
- Tribal Self-Governance Advisory Committee (TSGAC) Member
- Direct Service Tribal Advisory Committee (DSTAC) Member
- National Indian Health Board (NIHB) Member

- IHS Chief Information Officer
- National Council of Chief Medical Officers (NCCMO) Member
- National Council of Executive Officers (NCEO) Member
- National Council of Informatics Member
- National Nurse Leadership Council (NNLC) Member
- National Council of Chief Clinical Consultants Member
- IHS Information Systems Coordinator Committee Member
- IHS Area Director Representative
- IHS Chief Information Security Officer
- IHS Chief Health Informatics Officer
- IHS Deputy Director for Quality Health Care
- Office of Environmental Health and Engineering Representative

Modernization and The Path to Tribal Health Equity

PATIENT CARE The best possible EHR

REVENUE Paid for services provided

STRATEGY Analytics to make decisions

CHOICE Functionality you choose

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