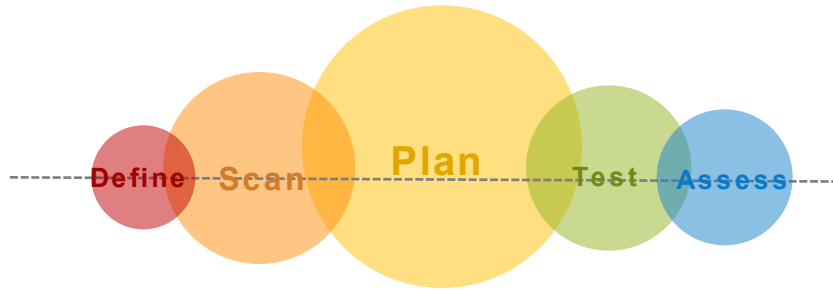


Legacy Innovation Hubs Journey 1.0

Innovation Hub **Framework 1.0**

*Grow the safety –net into a leader that embraces and demonstrates change by **piloting** new innovations that transform care for underserved populations...*

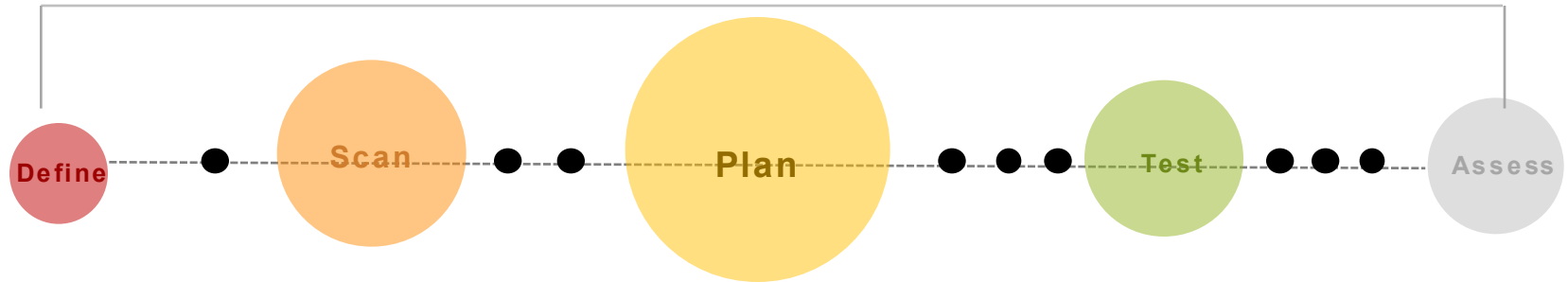


Goals

- 1** *Identify individuals willing to effect change*
- 2** *Invite organizations receptive to new ideas*
- 3** *Prove that trying new stuff can be done in live environments*
- 4** *Form dedicated innovation Teams (in addition to real jobs)*
- 5** *Set up 3-4 testing sites; find sister sites and spread to them*
- 6** *Try out 4-6 technology innovations per site*
- 6** *Develop unique plan for each hub*
- 7** *Prove this model is replicable*

Innovation Hubs Journey 1.0 | Current State

2.5 years



1A: Define Hub Priorities (based on self-identified organizational needs)

1B: Identify Team + Resources (clinical lead + pm)

2A: Scan Technology (qualified, safety-net entrepreneurial companies)

2B: Screen Tech. Companies (get smart validation)

2C: Demos. w/ Hubs

2D: Flash Survey feedback to Select who moves to planning

3A: Hubs Develop Project Plan, Team, Metrics (timeline, coaching, evaluation)

3B: Leadership Review + Approval

3C: Id + Prepare Documents / Contract (vendor + internal)

3E: Negotiate deal w/ vendor

3F: Finalize Deal

4A: Early validation w/ project team (concept, solution)

4B: Pilot Launch (test, metrics)

5A: Conduct testing + evaluation (what is the plan for conducting, measuring and tracking?)

5B: Analyze evaluation data + publish results

● Bi-weekly Team Knowledge Jams (virtual)

Hubs 1.0 Priority Areas

1: Patient Experience

2: Access

3: Complex Patients

4: Care Coordination

Hub Spotlight 1 | West County

Federally Qualified Community Health Center headquartered in Guerneville, CA serving Sonoma County; Guerneville, Occidental, Sebastopol, and Forestville in Western Sonoma County.

Services Provided

Primary care, dental care, mental health services, wellness services, teen services, HIV services, and homeless healthcare services.



Priority Areas + Solutions Tested

Patient Access

App Medicine: Platform designed for asynchronous urgent care visits, WCHC tested as method for collecting patient information in waiting room – i.e. questionnaires, patient history, etc.

Video Visits: Using video technology for internal collaboration and remote visits.

Patient Engagement

TickIT: Enhanced patient survey tool administered through a tablet, patient portal, text, and direct email.

Waiting Room Concierge: Redesign of waiting room experience with EcW tools and 'live' person to add value to patient wait time, improve flow and experience.

WellFX: HIPAA secure social media platform with a focus on wellness and chronic disease prevention/management for patients and staff.

TickIT: address elimination of paper based data collection process, reduce labor collection /analysis costs of patient survey data, near real time results reporting, etc.

EcW Kiosk: EclinicalWorks platform to optimize patient arrival / check in process.

Complex Care

Purple Binder: Co-development of platform addressing gap of direct connection to current, updated social services with fulfillment data available to provider community.

Data

Tableau/UNIFI/Alpine: Co-development of data definition / visualization across legacy and distributed repositories to better understand patient population management risks, provider panel management risks, and develop provider performance reports cards. Putting liberated data into the hands of frontline staff.



Team

Luke Entrup / Dir. of Programs + Innovation

Jason Cunningham / Agency Medical Director

Kathleen Grenham / Innovation Project Coordinator



Lessons Learned

Human Centric

- Mandating time spent piloting new use cases and dedicating staff for innovation accelerates pilots and produces a higher volume of unique ideas.

Work process flow

- Using volunteers to navigate patient facing technologies helps to introduce new technologies.

Technical

- - Legacy system vendors are reluctant to cooperate
- - Contracts always take longer than they should
- - Technology solutions surface unanticipated problems and challenges



Notable Success to Date

- Build out of dedicated innovation space
- Insights to management of high risk patients through use of data visualization
- Development of large scale collaborative to pilot Purple Binder



Notable Failure to Date

- Inability to develop a manageable and replicable interface process to access legacy platform data
- WellFX dissolved while platform was still live in our organization.



Advice to a New Hub

- Invest in dedicated innovation project manager
- Initially focus on tech solutions that do not require heavy EHR integration

Hub Spotlight 2 | Petaluma

Federally Qualified Community Health Center headquartered in Petaluma serving communities in and around Petaluma and Rohnert Park.

Services Provided Primary care, dental care, mental health services, and wellness services

Priority Areas + Solutions Tested

Patient Access

E-Visits: electronic patient visit platform built by PHC to give patients to access care from their home or other convenient settings.

Health Finch: a platform to better manage the patient medication refill process

Patient Engagement

Polyglot: platform addressing medication information not available in patient's native language, appropriate health literacy level, timely patient education, etc.

EcW Kiosk: EclinicalWorks platform to optimize patient arrival / check in process.

Complex Care

Purple Binder: Co-development of platform addressing gap of direct connection to current, updated social services with fulfillment data available to provider community.

Omada Health: platform that provides health coaching to patients with chronic conditions; cost effective, efficient and improve patient engagement /satisfaction.

Data

Tableau/Unifi: Co-development of data definition / visualization across legacy and distributed repositories to better understand patient population management risks, provider panel management risks, and develop provider performance reports cards.



Team

Barb Spangler / Project Manager

Danielle Oryn / Chief Medical Informatics Officer



Lessons Learned

Human Centric

- Ability to change staff behaviors is critical to project success
- Determining whether the right solution is technology or a 'human interface' is critical and requires bringing in the patient voice / experience

Work process flow

- Impact of changing provider / staff work flow is underestimated
- Cost/time savings are often not realized as anticipated

Technical

- Legacy system vendors are reluctant to cooperate



Notable Success to Date

- Effective implementation of E-visits
- Omada Health platform pilot improved pre-diabetes management among PHC staff that participated. **5 of 6 achieved 5% weight loss target**



Notable Failure to Date

- Inability to develop a manageable and replicable interface process to access legacy platform data
- Discontinuation of Health Finch solution due to inability to interface with legacy system



Advice to a New Hub

- Match level of technology to the problem you're trying to solve
- Find internal champions at the delivery level to get the best feedback
- Start small and learn, then expand

Pipeline Dashboard | Petaluma

Hub	Priority Area	Solutions	Define	Scan	Plan	Try/ Do	Impact	Measures / Metrics to Date
Petaluma	Patient access	E-visits					●	Implemented
	Patient access	Health Finch						Phased out-no longer a viable solution
	Patient Engagement	Polyglot			●			Interface issues
	Patient Engagement	EcW Kiosk				●		# of check-ins, MH data quality metrics
	Complex Care	Purple Binder					●	
	Complex Care	Omada Health				●		13 patients in it now; 90% finishing all sessions
	Complex Care/ Pt. Engagement	Twine			●			No plans to integrate – looking at another company
	Data	Tableau / Unifi				●		

Ongoing Activity ▶

- Reconstitute and revitalize the innovation project staff.
- Formalize innovation staff assignments and expectations.
- Establish and document EcW sandbox configuration pertinent to Petaluma to relieve the need to use internal resources for platform demonstration, evaluation and testing.
- Assess and document organizational capacity for innovation activity.
- Routinize and document the process of onboarding innovation opportunities and the evaluation process.
- Develop a process to broadly share innovation results, perhaps using the CCI communication strategy.

Hub Spotlight 3 | San Mateo

San Mateo County Medical Center is a public hospital and clinic system fully accredited by The Joint Commission serving all residents of San Mateo County.

Services Provided The Medical Center operates outpatient clinics throughout San Mateo County and an acute-care hospital in San Mateo with an emphasis on education and prevention.

Priority Areas + Solutions Tested or To Be Tested

Patient Access	22 Otters: platform that addresses colonoscopy appointments that result in cancellations, rescheduling, high no show rates.
Patient Engagement	Polyglot: platform addressing medication information not available in patient's native language, appropriate health literacy level, timely patient education, etc.
Operational Efficiency	Dynosense: all in one device that is placed in the mouth for 30 seconds and measures multiple biometrics including traditional vital signs, plus many other physiologic parameters such as alcohol level and ECG.
Operational Analytics	AnalyticsMD: 'early stage' platform that addresses the difficulty of, predicting clinical resource requirements to meet patient need, detecting unusual clinical resource requirements, inability to understand meaningful clinical resource utilization data patterns, unplanned resource bottlenecks.
Clinical Analytics	Lumiata: early stage platform that will evaluate; evidence based clinical pathways not being followed, diagnoses being missed at point of care, data being missed at point of care that materially affects care plan, provider report cards that are not the best that they can be.



Team

Syed Khan / Project Manager
Thomas Cho / Project Manager
Mike Aratow / Chief Medical Informatics Officer



Lessons Learned

Human Centric

- Ability to change staff behaviors is critical to project success
- Valuable to understand patient perception/ experience of solution early

Work process flow

- Impact of changing provider / staff work flow is often underestimated

Technical

- Interfaces are difficult / complicated to develop and disrupt work flow
- Technology solutions surface unanticipated problems and challenges



Notable Success to Date

- Restructuring County processes / procedures to be responsive to innovation needs
- Pilot of Lumiata at point of care, pivoted to Provider Report Card for Joint Commission required report



Notable Failure to Date

- While in queue, Welkin revoked participation during final contract stages due to prolonged wait and their decision to pivot to a different customer base
- Challenge with having patients adopt / use the solution in pilot (22 Otters)



Advice to a New Hub

- Anticipate administrative processes required by a County Health System are not organized to support innovation
- Allow ample time and effort to incorporate external organizations in project and to project plan and contract with vendor/suppliers.
- Need pre-pilot metrics to measure success

Pipeline Dashboard | San Mateo

Hub	Priority Area	Solutions	Define	Scan	Plan	Try/ Do	Impact	Measures / Metrics to Date
San Mateo Medical Center	Operational Analytics	AnalyticsMD				●		
	Patient access	22 Otters					●	# App. downloads, IVR calls and responses
	Patient Engagement	Polyglot				●		
	Operational Efficiency	Dynosense			●			
	Clinical Analytics	Lumiata				●		

Ongoing Activity ▶

- Define and document the innovation staff roles and responsibilities.
- Assess and document the organizational capacity for innovation.
- Continue to refine the process and timeline for boarding innovation opportunities.
- Establish and document the eCW sandbox configuration pertinent to San Mateo to relieve the need to use internal resources for platform demonstration, evaluation and testing.
- Routinize and document the process of onboarding innovation opportunities and the evaluation process
- Develop a process to broadly share innovation results, perhaps using the CCI communication strategy.
- Develop a business plan to create a sustainable Innovation Center at SMMC

Hub Spotlight 4 | San Francisco Dept. of Public Health

San Francisco Department of Public Health is comprised of two Divisions - the San Francisco Health Network (SFHN) and the Population Health Division (PHD) serving communities throughout the city of San Francisco.

Services Provided

San Francisco General Hospital Medical Center, Laguna Honda Hospital & Rehabilitation Center, over 25 primary care health centers, Community Health and Safety Branch, Community Health Promotion and Prevention Branch, and the Community Health Services Branch.



Priority Areas + Solutions Tested

22 Otters: a co-development platform for appointment slot management (with IVR and automated wait list) for diagnostic testing services (target: pulmonary function testing laboratory)

Patient Access

iRhythm Zio Patch: (started prior to HUB, but fully-adopted year I and current ongoing implementation study/data analysis) 2-lead ECG “patch” replacement for Holter monitor

Resmed ApneaLink Air (also, Novason, Inc): (started prior to HUB, but fully-adopted with new vendor HUB year II, and current ongoing implementation study/data analysis) home sleep testing (HST) for SFHN

Patient Engagement

Polyplot: platform that applies universal medication schedule (UMS), tailored reports, and external access to simplified prescription information and support

PrepMate: (de novo application development) mHealth suite with SMS to improve adherence to pre-exposure prophylaxis (PrEP) adherence among at risk men for contracting HIV

ResMed Airview: realtime adherence and effectiveness monitoring for patients on positive airway pressure (PAP) therapy for obstructive sleep apnea (OSA)

Texting for Better Care: eCM texting appointment reminders with goal of decreasing no-show rates, messages sent 24 hours before appointment

TickIT: pictogram-based survey tool, with data capture, utilized to provide CG-CAHPS survey direct to patients at the point of service, new “exam room” workflow



Team

George Su, MD / Pulm/CC Faculty UCSF, Medical Director of Telehealth;
Lisa Golden, MD / Chief Quality Officer, SFDPH
Lisa Johnson, MD / Health Care Consultant, (former) Director of Community-Oriented Primary Care (COPC) Clinics, SFDPH
Jonathan Fuchs, MD / Director of the Center for Learning and Innovation
Hee Jae Choi / Project Manager



Lessons Learned

External

- Administrative agencies in City of San Francisco not organized to support innovation, nor to they necessarily have staff expertise
- Structure to support public/private (vendor) partnerships is limited
- Projects can get done, but often require high-effort (from project champion(s) and “stealth” mode to avoid being “triaged” or “killed in committee”
- Highly-detailed and comprehensive “sell” is often required in a “you tell-us-what-we-need-to-know” fashion

Technical

- Legacy system vendors are reluctant(!) to cooperate
- Integration is difficult/complicated
- Technology solutions HAVE to be coupled with extensive workflow re-design



Notable Success to Date (solutions identified by HUBs)

- Effective implementation of TickIT



Notable Failure to Date

- Inability to adopt streamlined City innovation process (contracting/procurement, privacy/security, IT)



Advice to a New Hub

- Developing comprehensive value proposition (to ALL stakeholders) requires significant intel to generate (design-thinking techniques help tremendously)
- Goal for innovation efforts to be assumed into overall department strategy (“innovator portfolio” management)
- In meantime, “leveraging external portfolio” is key (risk, value proposition)

Pipeline Dashboard | San Francisco Dept. of Health

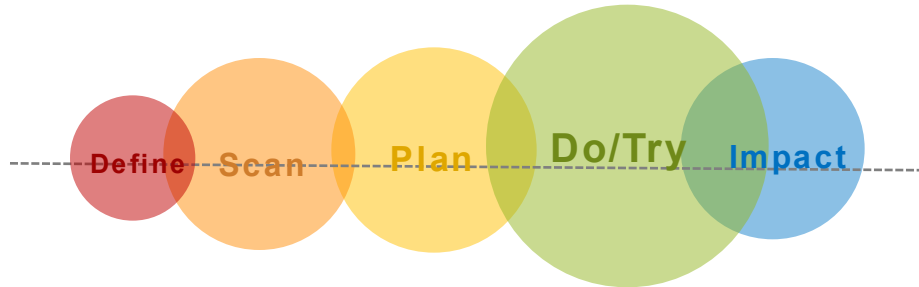
Hub	Priority Area	Solutions	Define	Scan	Plan	Try/ Do	Impact	Measures / Metrics to Date
SFDPH	Patient access	22 Otters			●			
	Patient Engagement	Polyglot			●			Decrease in hospital readmission rates (8% vs. 26%) (n=70)
	Patient Engagement	PrepMate					●	Application designed and built. Ongoing RCT (Enhancing PrEP in Community Settings (EPIC)
	Patient Access	ResMed: ApneaLink home sleep testing					●	934 studies since 7/2015, wait times for testing 10 months to 2 months within 3 months)
	Patient Engagement	Tickit					●	SAFHC 39 responses (3/16), 2 months >30 surveys, CPHC adopting "exam room" workflow
	Patient engagement	Texting for Better Care (cCM)					●	Implemented in 20 PC (3,347 patients) and specialty clinics (1,859 patients), trend to decreasing no-shows in many
	Patient access	iRhythm Zio Patch					●	Has replaced the Holter monitor. Referral-to-report times 8 months to 1.5 months. High pt and provider satisfaction.
	Patient engagement	ResMed: Airview adherence monitoring					●	43% increase in adherence rates with RT-driven "effector arm" using monitoring dashboard
	Patient experience	BAAHI: Breast CA Screening experience				●		Design-thinking to improve patient experience around breast cancer screening and care

Ongoing Activity

- Partnership with Mayor's Office of Innovation (Start-up in Residence (STIR) Program)
- Establish private/public partnerships structure with Mayor's Office of Innvation
- Gain endorsement of SF Health Director) for the innovation "structure" and dedicated effort from critical City agencies.
- Routinize and document the process of boarding innovation opportunities and the evaluation process (CCI, Health 2.0, STIR)
- Develop a streamlined innovation boarding process for evaluation and testing.
- Establish a cost center within the SFDPH/SFHN hierarchy; begin the development of a budget to be proposed for inclusion in next budget cycle.
- Establish and document (eCW) sandbox configuration pertinent to SFDPH to relieve the need to use internal resources for platform demonstration, evaluation and testing, and mitigate privacy/security, and live platform risk.
- Develop a process (augmenting ongoing implementation evaluation (manuscripts) to dissemination, and leveraging CCI communication strategy.

Innovation Hubs **Framework 2.0**

*Grow the safety –net into a leader that embraces and demonstrates change by **rapidly experimenting, assessing and implementing** new innovations that transform care for underserved populations...*



Goals

- 1 Identify individuals willing to make disruptive change
- 2 **Select and** invite organizations receptive to new ideas
- 3 **Rapidly try 'new things' safely in live environments to learn quickly**
- 4 Form dedicated innovation teams (in addition to real jobs)
- 5 **Continue to grow a community of testing sites with spread potential**
- 6 Try out **1-3 innovations** per site
- 6 Enable tailored plans for each hub
- 7 Prove this model is replicable