UCSF – Cisco
Connected Health Interoperability Platform

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Center for Digital Health Innovation: Catalyzing Innovation

What We’re About
Improving health worldwide, by envisioning and realizing new technologies and evaluating them in clinical settings. Guided by science, we’re catalyzing the new era of precision medicine.

Innovate
We provide UCSF faculty, students, and staff with the essential support and resources to create transformative technologies.

Validate
We leverage UCSF’s clinical trial resources to test, validate, and iterate on novel technologies.

Integrate
We focus on the integration of new technologies in real clinical environments to ensure that technologies can be used by patients and providers.

Educate
We design digital health education for the next generation of digital health leaders. We bring together leaders across healthcare and digital health, to create an ecosystem for learning.
The Digital Health Environment
What EHR’s Were Built to Support

- Episodic, fee for service care
- Billing and documentation
- Care provided within a single institution
What EHR’s Were Not Built to Support

• Population health and chronic disease management
  • Require cleaner, more comprehensive data and better analytics
• Collaborative patient-centered care across institutions
• Consumer experience
• Patient engagement
• Data from consumer apps and sensors
Innovation Is Not Scaling
#1: Resources Spent

- SELF-ACTUALIZATION
- ESTEEM
- LOVE/BELONGING
- SAFETY
- PHYSIOLOGICAL

- INNOVATION
- CLINICAL
- REGULATORY
- PRIVACY
- FINANCIAL
- SECURITY
Goal #1

Make it easier for all healthcare delivery systems to benefit from innovations supporting new care models
#2: Too Customized

Innovations developed by Academic Medical Centers are frequently “one-offs”
Goal #2

Make it easier for innovative health systems to commercialize and distribute their technologies
Digital Health Companies

“We will not build functionality and APIs to health systems and EHRs until they are willing to pay for our products and make it easier for us to connect”

Health Systems

“We will not set up infrastructure and governance for external access to data when there is no EHR connectivity and no proven apps that utilize that data”
Goal #3

Create a marketplace big enough so that health systems and digital health companies each gain immediate value from connecting
#4: Integrating Patient-Generated Data

- Health systems are not yet sure how to successfully use consumer and mobile health data in daily care delivery.
Consumer Health Technology

WEARABLES

APPS

IOT

DEVICES
Goal #4

Enable mobile and consumer health data to be used within the clinical workflow in a contextualized, actionable fashion
Technology
CDHI Experience

Our inaugural projects span a breadth of issues in health, from diabetes and heart disease, to team-based communication, to the use of sensors and apps.

- Team-based collaborative care platform
- A new generation of smart diabetes management apps
- A clinical trials platform aimed to end heart disease
Interoperability Today

Interoperability Today

Usability

FUNCTIONAL

STRUCTURAL

SEMANTIC

HL7

CDA

Clinical Document Architecture

HL7® FHIR®

ARGONAUT PROJECT

HL7® FHIR®
Healthcare Needs a Platform to Scale Innovation

- Support semantic interoperability
- Multi-tenant, cloud-based platform with support & maintenance
- Create an app marketplace
- Combine consumer health data with patient data
- Open access for digital health innovators
The Connected Health Interoperability Platform
Healthcare Platform Services

- Healthcare Coding Standardization
- Enhanced FHIR Services
- Master Patient Index
- Provider Registry
- Customer (Patient) Portal
- Workflow Engine
Healthcare Apps Marketplace

Referral Management  Care Collaboration  Population Health
Developer Community

• Sandbox environment for application developers
• Experiment with our healthcare API’s and services
• Work with test patient data and consumer health data
• Access to developer toolkits and frameworks
• Sample code libraries
CHIP: A Digital Platform for Healthcare

- Application Marketplace
- Referral Management
- Care Collaboration
- Population Health
- Chronic Disease Management
- Developer Community Applications

Healthcare Platform Services
- Provider Registry
- Customer Portal
- FHIR Server
- Healthcare Coding Standardization
- Global Master Patient Index

Developer Tools
Experience Services
Application & Integration Services
Data Services

Source System Specific Connectors

- EHR
- Health Information Exchange
- Health & Fitness Device Aggregator
- Medical Device Aggregator
- Devices
- Claims
The Partnership

- Global market reach
- 5th largest software company in the world
- Internet-of-Things leader
- Cloud analytics for hyper-distributed data
- History of partnership and collaboration

- Health interoperability is a global challenge
- Distribution channel for innovative technology
- Care delivery innovations w/ sensors, devices
- Exponential growth in health data
- Building a digital health ecosystem
Partnership Accomplishments

- UCSF and Cisco team co-located in San Francisco
- Initial application partners identified
- Product requirements developed
- UCSF Health agreed as the first installation in CY Q1 2017 (Referral Management)
- CHIP 1.0 Limited Availability CY Q3 2017
- CHIP GA 2018
CDHI Leadership – CHIP Initiative

- Michael Blum, MD
  Cardiologist
  Chief Digital Transformation Officer
  Vice Chancellor of Informatics

- Aaron Neinstein, MD
  Endocrinologist
  Director of Clinical Informatics

- Pam Hudson, RN
  Chief Operating Officer, CDHI

- Ed Martin
  Technology Director
  Director, SOM ISU
For More Information

www.digitalhealthplatform.org