



PATHS-UP
Precise Advanced Technologies and
Health Systems for Underserved Populations

Case Study: FDA & PATHS-UP



Chris Finberg
Innovation Director

POC Devices for CVD & Diabetes in Underserved Populations



Two Engineering Systems

Lab-in-your-Palm



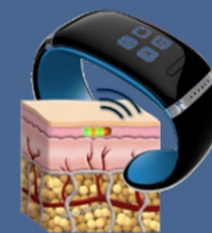
Emergency & Intervening Monitoring

Heart Attack or Myocardial Infarction (MI)

Heart Failure (HF)

Gestational Diabetes Mellitus (GDM)

Lab-on-a-Wrist



Continuous & Periodic Monitoring

Type 1 Diabetes - Insulin Dependent

Type 2 Diabetes - Insulin Resistance

Hypertension, PAD



Digital Healthcare Sociotechnical Systems View

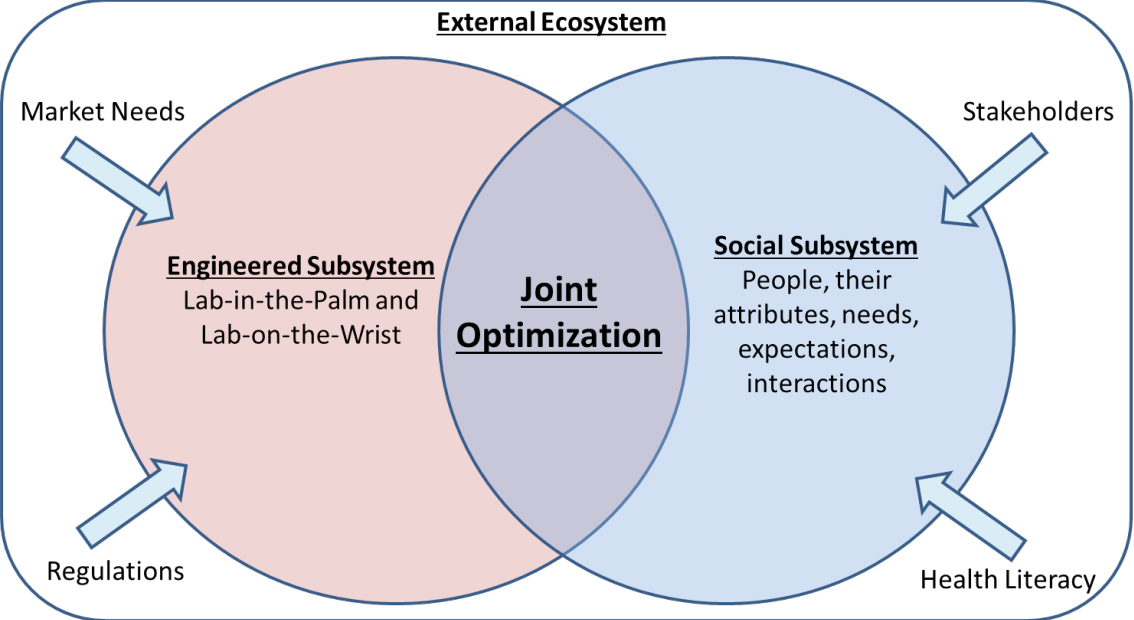
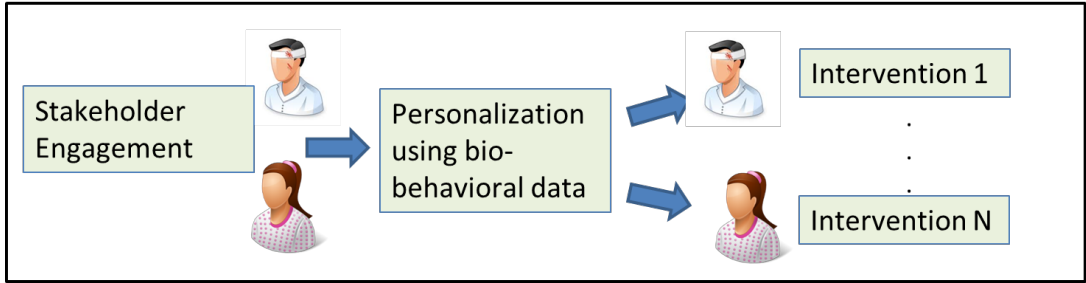


Design Goals

- Reduced patient load
- Reduced costs and provider burden
- Improved outcomes

Design Principles

- Personalization w/ bio-behavioral data
- Novel bio-behavioral interventions
- Workflow optimizations



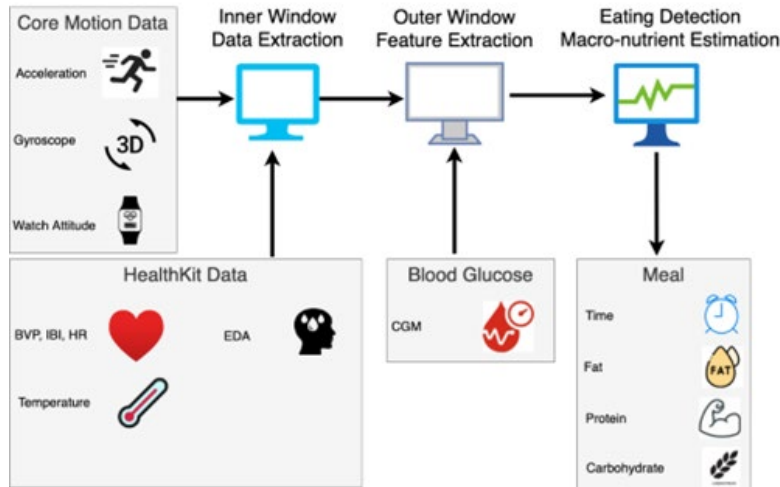


Center's Key Digital Health Projects

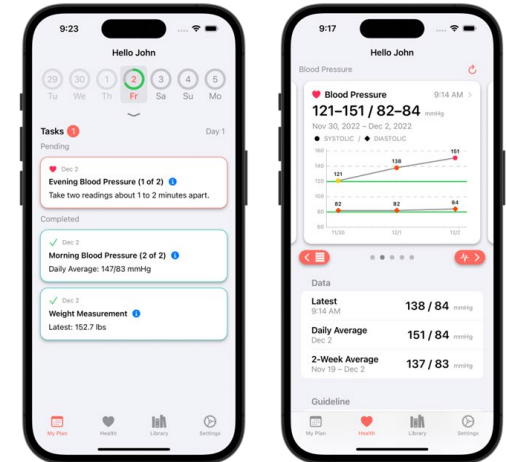
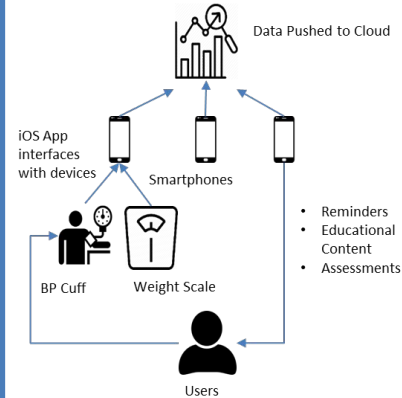


DIGITAL TOOLS FOR DIABETES MANGEMENT

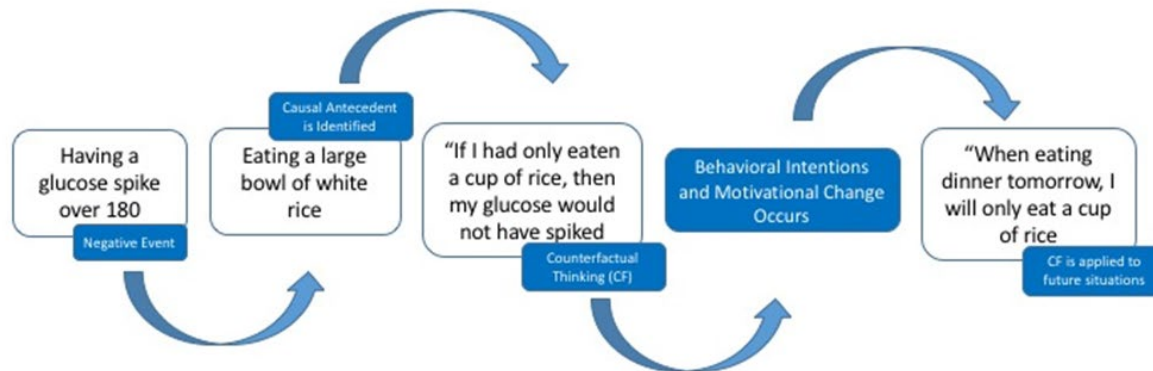
Eating Detection & Macro-nutrient Estimation Model



DIGITAL COACHING FOR HYPERTENSION – ENDORSED BY AMERICAN HEART ASSOCIATION



COUNTERFACTUAL INTERVENTIONS – BEHAVIORAL MODIFICATIONS



PATHS -UP – Members' Position in Value Chain

PATHS-UP ERC

Suppliers



Raw Mat'l | Software | Photo-Sensors | Semi-conductors
Communication | Contract Mfg | Biologics

Manufactures – OEM's



Pharmaceutical
Diagnostic | Medical Device | Wearable | Small
Business

Providers | Payers



Hospitals | Clinics | Retail Care | Private
Insurance | Foundation | Regulatory

Wasatch) Photonics

Rockley
PHOTONICS

VELENTIUM

incube
labs

SANTA BARBARA ACTUARIES
DYNAMIC ACTUARIAL HEALTHCARE CONSULTING

Medtronic

Lilly

BABSON
DIAGNOSTICS



SANOFI

coordiNation
centric

PEPSICO

MICRO SYSTEMS
ENGINEERING
an MST company
BIOTRONIK
excellence for life



Abbott

peak nano
b69k U9UO

TMC | INNOVATION

FDA U.S. FOOD & DRUG
ADMINISTRATION

Texas Children's
Hospital

GLOBAL
HEAL+H
LABS

American
Heart
Association

Northwestern
Medicine

KAISER PERMANENTE

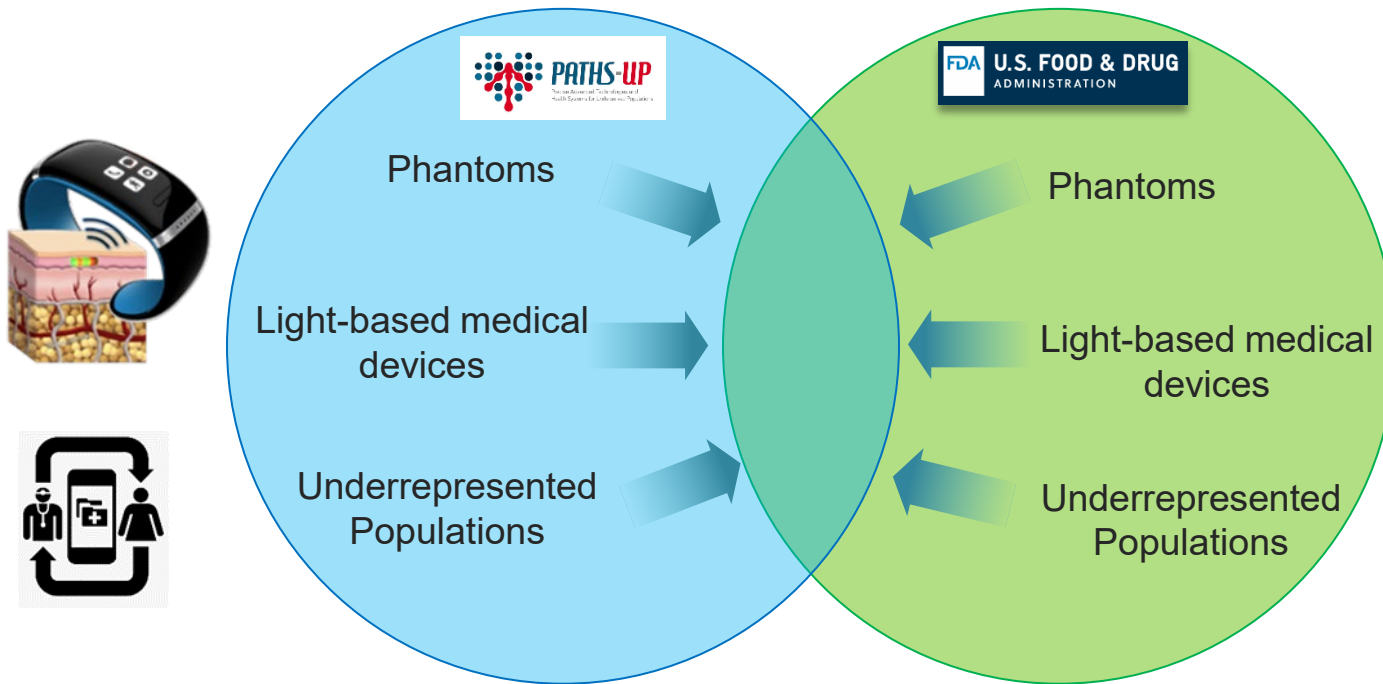
A-R-C
AUSTIN
REGIONAL
CLINIC

HERHealthED
Equipment for Equity

KALEIDOSCOPE
Health Ventures

Common Overlap with FDA & PATHS-UP

Pre-Competitive Research Space



Stakeholder | Problems, Needs, Gaps | Societal



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