

# Digitizing health care through population health management



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# What is population health?

- The proactive application of strategies and interventions
  - To defined groups of individuals (e.g., diabetics, cancer patients with tumor re-growth, the elderly with multiple comorbidities)
  - To improve the health of individuals within the group at the lowest cost
- Requires the management of a range of factors:
  - Medical
  - Public health
  - Social determinants
  - Physical environment

# Chronic disease status in Canada

- Three out of five Canadians over 20 have a chronic disease
- Rates are expected to increase by 14% annually
- Today, 14% of the population is over 65 years. By 2036, this number will increase to almost 25%, or 10 million people
- Treatment of chronic disease consumes 67% of all direct health care costs, and cost to the Canadian economy \$190 billion annually – \$68 billion is attributed to treatment and the remainder to lost productivity
- Health expenditures to treat chronic diseases are rising faster than Canada's economic growth

# Population health processes

- Identifying, assessing, stratifying and selecting target populations
- Providing high-quality care and care management interventions across the continuum
- Managing contracts and financial performance
- Measuring, predicting and improving performance

# HealthIntent platform

## Aggregate and normalize

## Create and apply intelligence

## Act and measure



# Aggregate and normalize



## Create organized, meaningful concepts

LOINC ICD-10  
Medi-Span CPT  
NDC ICD-9  
MEDCIN

Allergies	Medications
Conditions	Procedures
Immunizations	Visits
Lab results	Vitals

Medication	Most recent Date	Source
aspirin 300 mg oral delayed release tablet	3/24/2014	Westwatch Bay
Aspirin (Multum d00170)	10/17/2013	Baseline East
ASA 500 MG Oral Tablet [Bayer Aspirin]	9/23/2013	Westwatch Bay
Aspirin	4/23/2013	Get Well Now
aspirin	2/18/2013	Westwatch Bay
Aspirin	5/14/2012	Baseline East
aspirin 300 mg oral tablet	6/20/2011	Get Well Now

## Match persons

John Doe	A		
SSN	Jon Doe	B	
Add Len	SSN	Jane Doe	C
Hos	Add Len	SSN 111-22-2345	
	Clini	Address:100 main, Lenexa, KS 66215	
		Hospital B	

Identify like-reference records

SSN First name Phone  
DOB Last name  
Address Race Alias  
Gender Ethnicity

No link | Manual | Auto link

Determine similarity score to confirm records match

EID 2468	
Record ID A	Record ID B
John Doe	Jon Doe
SN 111-22-1234	SN 111-22-1234
DOB 11/30/75	11/30/75
100 Main, Lenexa, KS	100 Main, Lenexa, KS

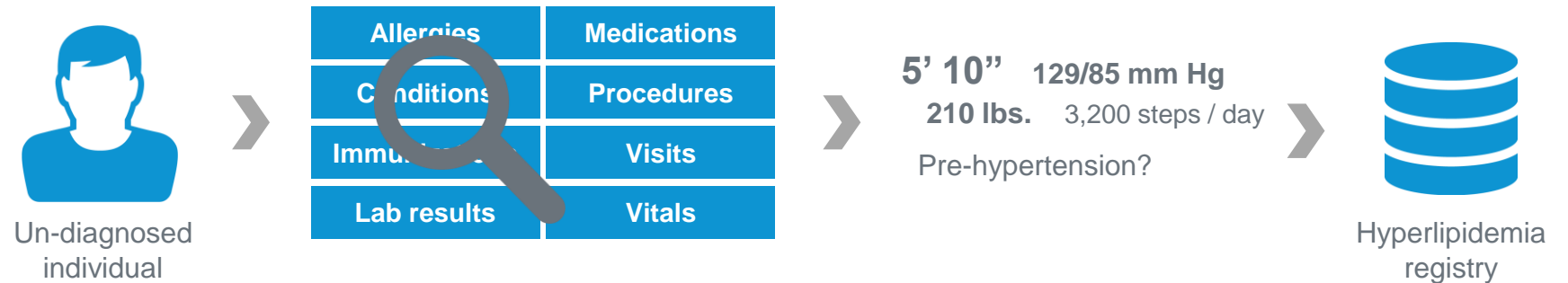
Assign unique EID number to linked records



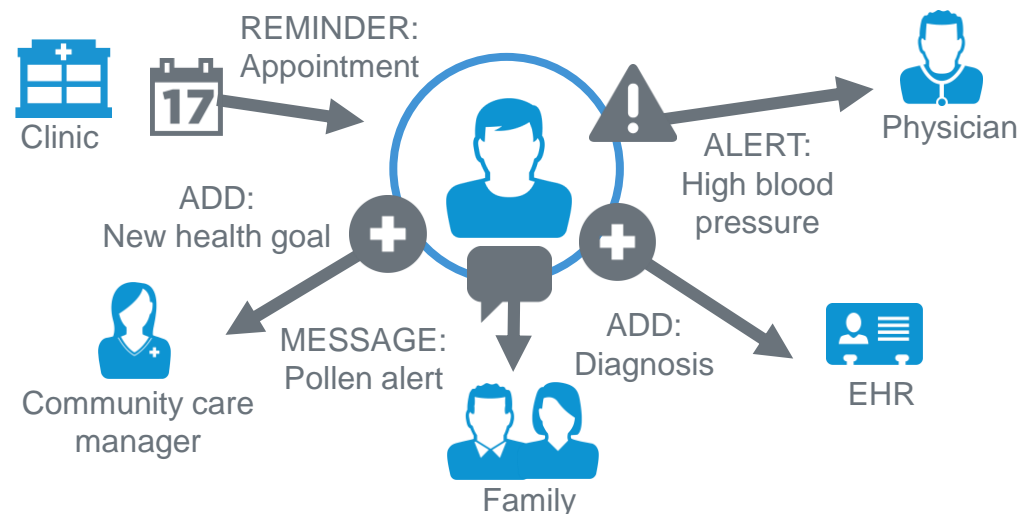
# Create and apply intelligence



## Infer new knowledge



## Predict and monitor health statuses and events



# Act and measure

## Access record and plan anywhere, anytime



Longitudinal record

Registries and scorecards

Community care management

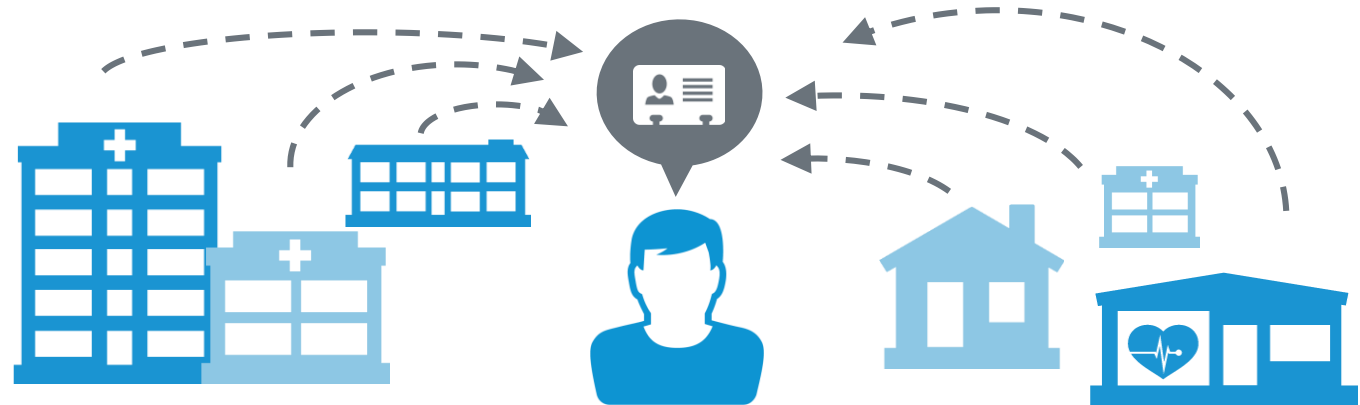
Enterprise data warehouse

Referral and network management\*

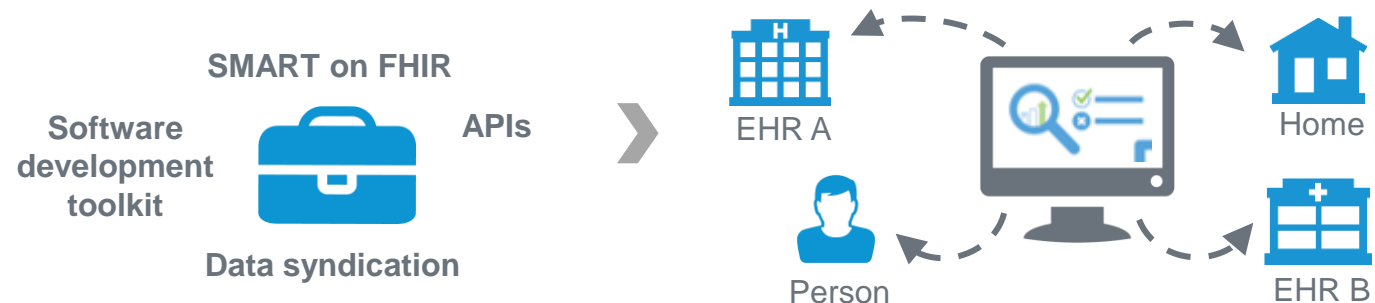
Contract management\*

Consumer relationship management\*

*\*Future planned solutions.*



## Create ecosystem of innovation



# Knowledge discovery

## Create data marts



## Perform cohort discovery



How many are getting follow-up LDL screenings?

## Establish collaborative data network



# Population health applications



*Population health analytics & data warehouse*



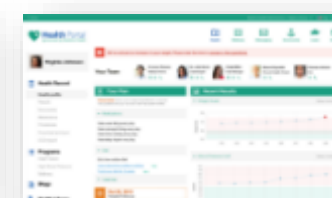
*Longitudinal record*



*Registries & performance scorecards*



*Care management*



*Patient / member engagement*



*EHR integration*



*Population health programs*



*Longitudinal plan*



*Program builders & editors*



*Contract, network, & referral management*



*CRM*

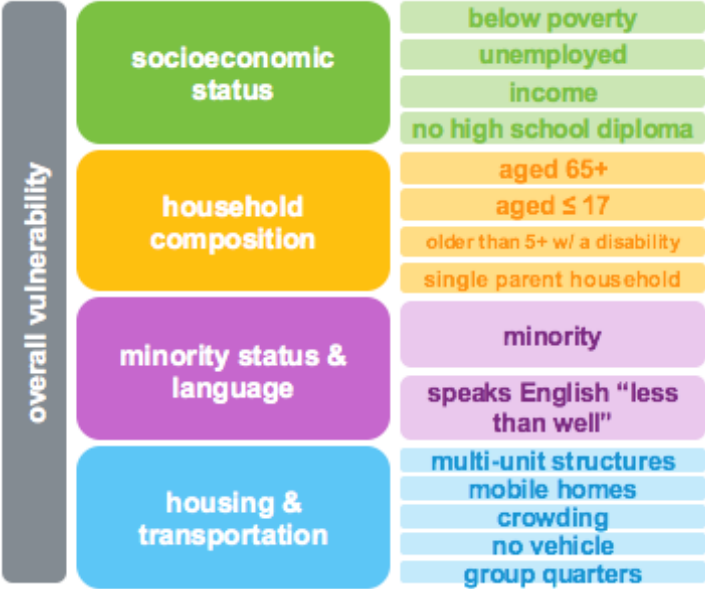


*Innovation ecosystem*

**Unified enterprise platform** (*source agnostic, programmable, near real-time, extensible ecosystem*)

# Expanding data sets

## Environment, Economic and Social Determinants



## Behaviors Personal Devices

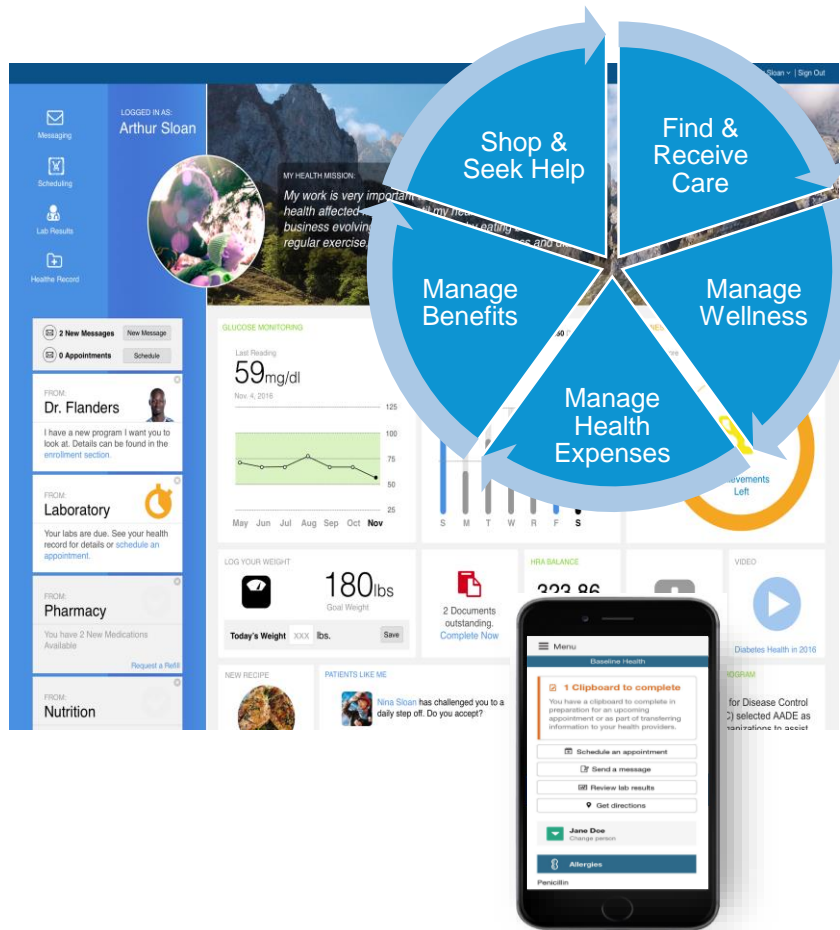


## Genetics



# Engage and empower the consumer and patient

## Single Branded Experience



## Longitudinal Plan



### Personalized Plan for Health Tammy Butler

Age: 42 yrs  
Gender: Female  
Race: Caucasian

209 SE Somerset  
Lees Summit, MO 64058  
Phone: (816) 555-1234



Provider plan: Action steps



Care mgr plan: Care plan



Individual plan: Care plan

- Blood Glucose 3x/day
- Blood screening, counseling
- Prescribe: increased activity, diet counseling, exercise program

#### Schedule appointment for:

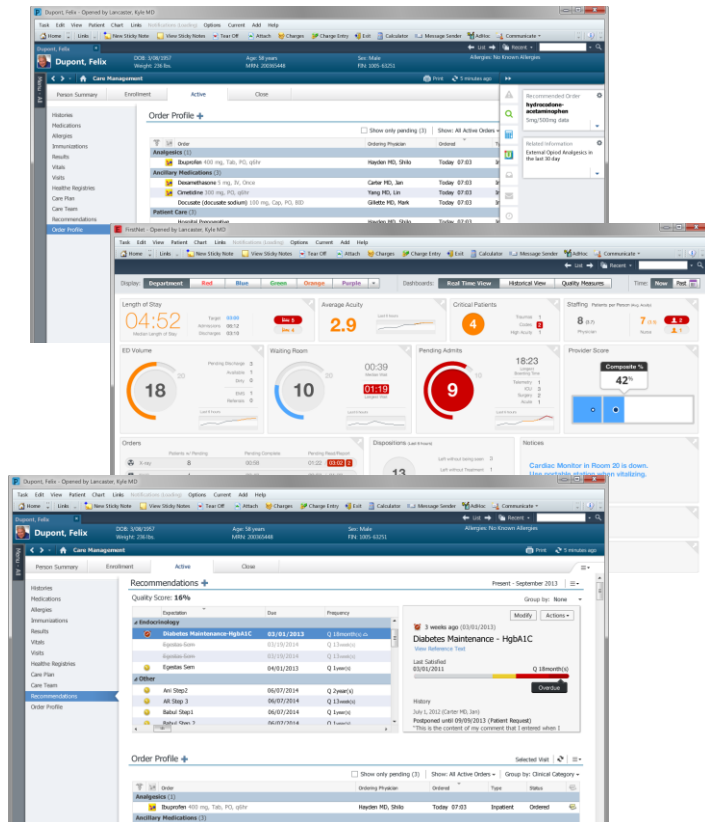
- Glucose monitoring, consultation
- Perform eye/foot exam

## Know Me "CRM"

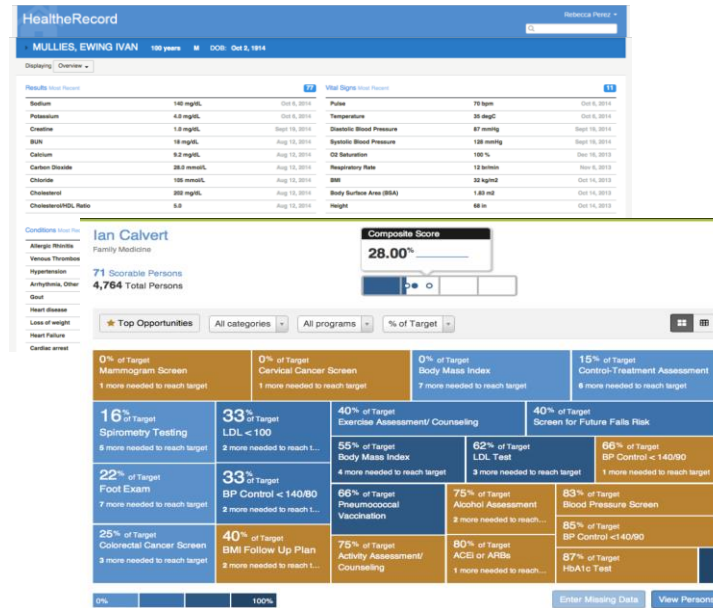


# Tighter integration into provider workflow

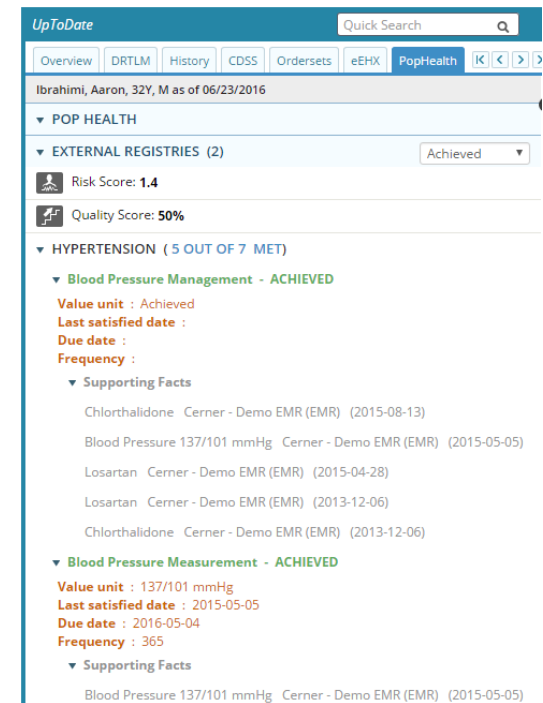
## Millennium Integration



## Pluggable Applications (SMART on FHIR)



## “Deep” Integration

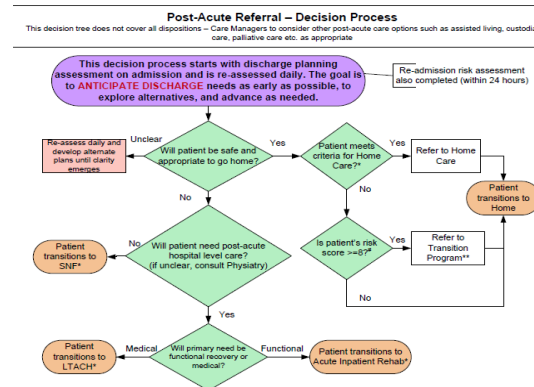


# Enable the innovators

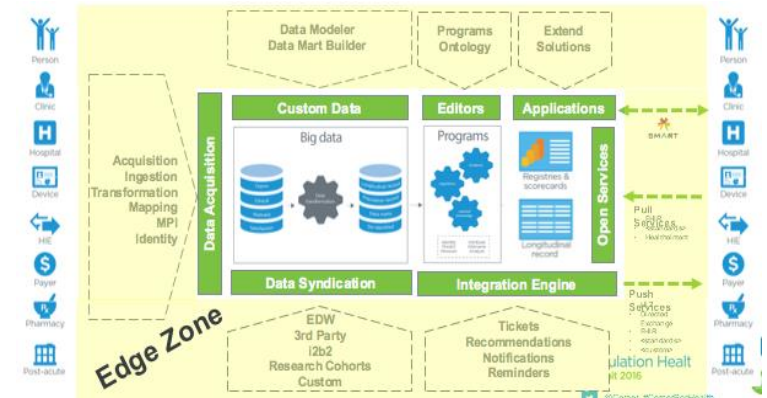
## Client & 3rd Party Content



## Facilitate Knowledge Creation



# Open Platform Ecosystem



Questions?