

# Health Care, HealthShare, and the Future

Don Woodlock  
VP HealthShare



# The World as We See It

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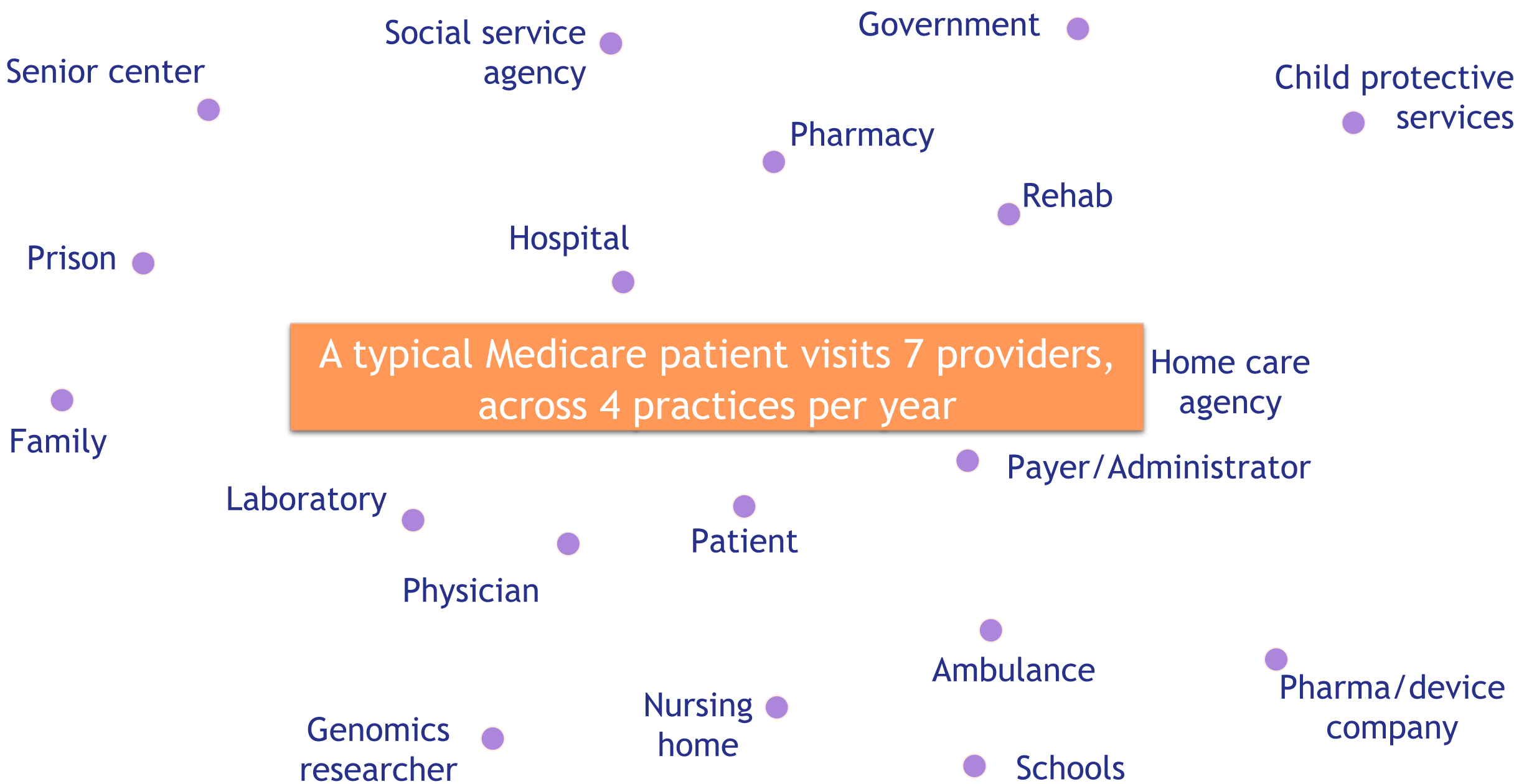
# What does healthcare look like going forward?

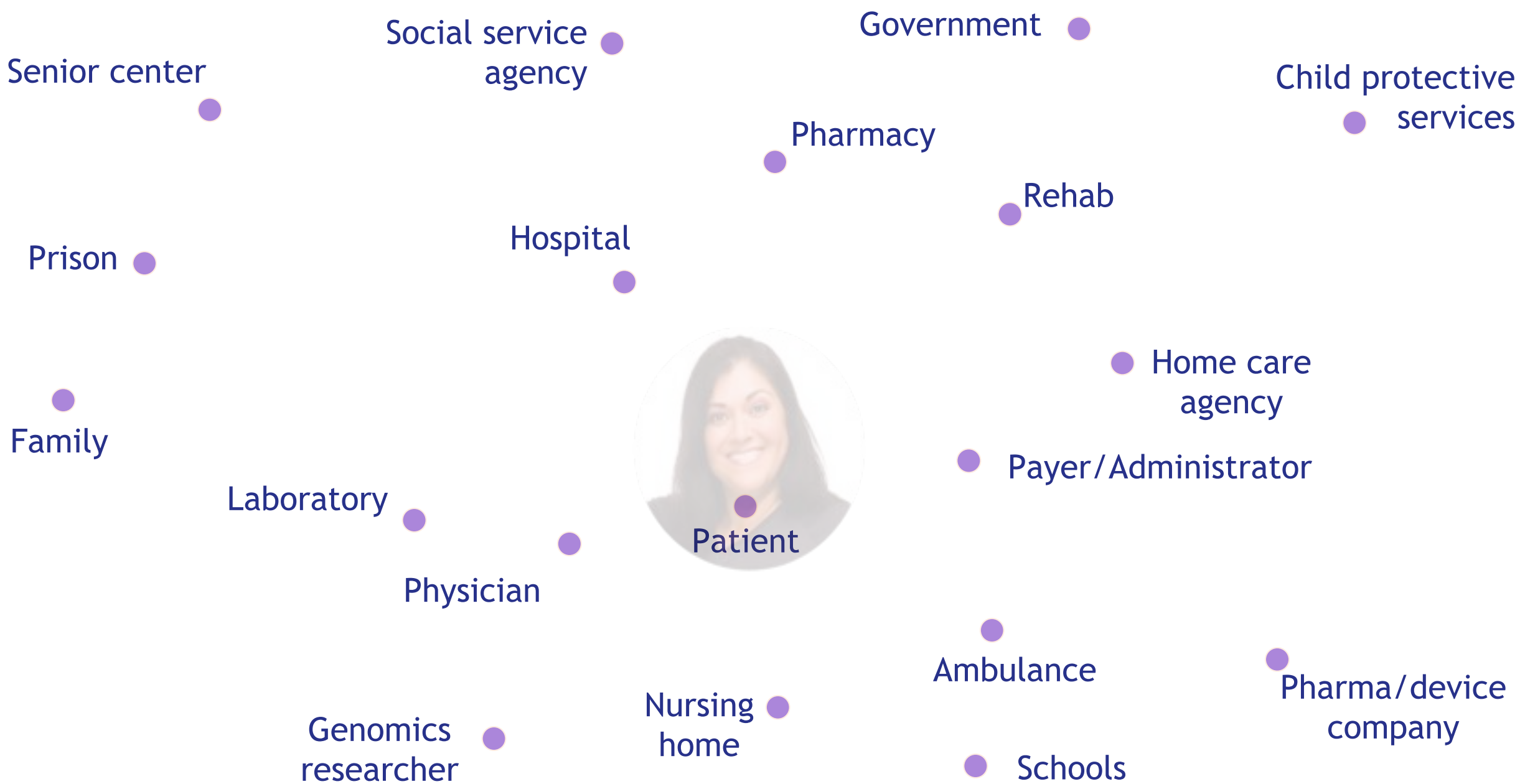


# Distributed

A typical Medicare patient visits 7 providers,  
across 4 practices per year

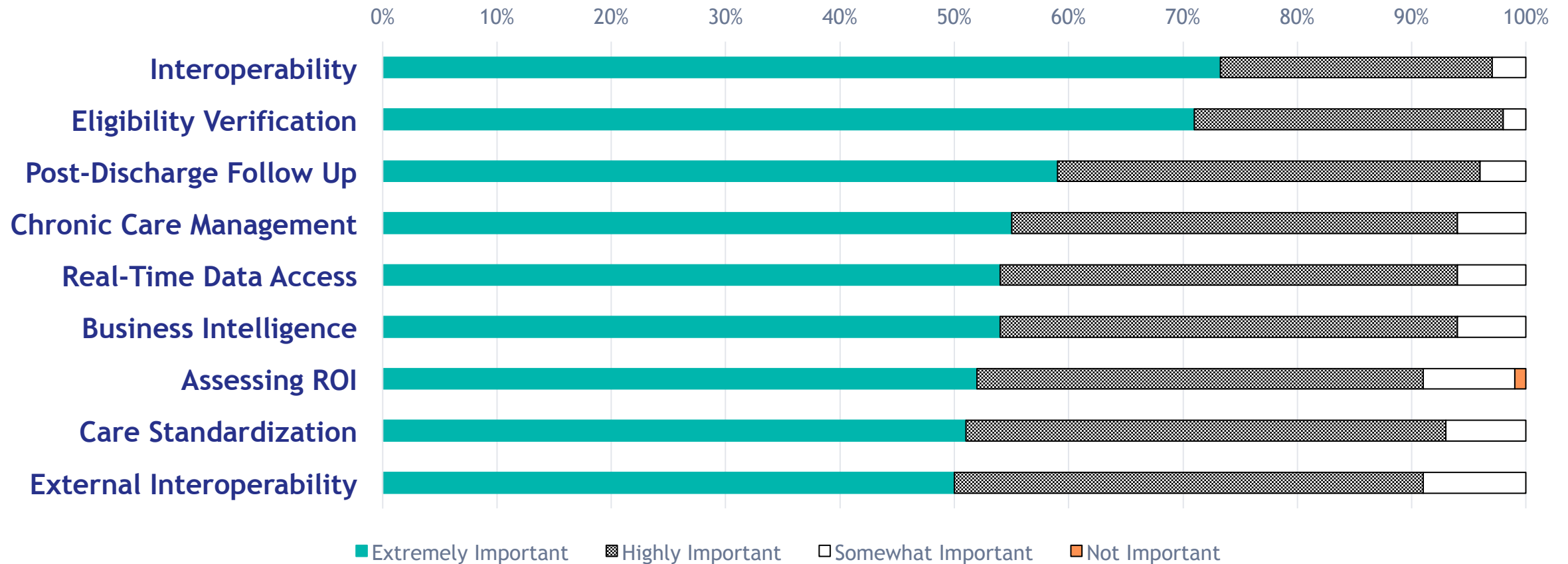




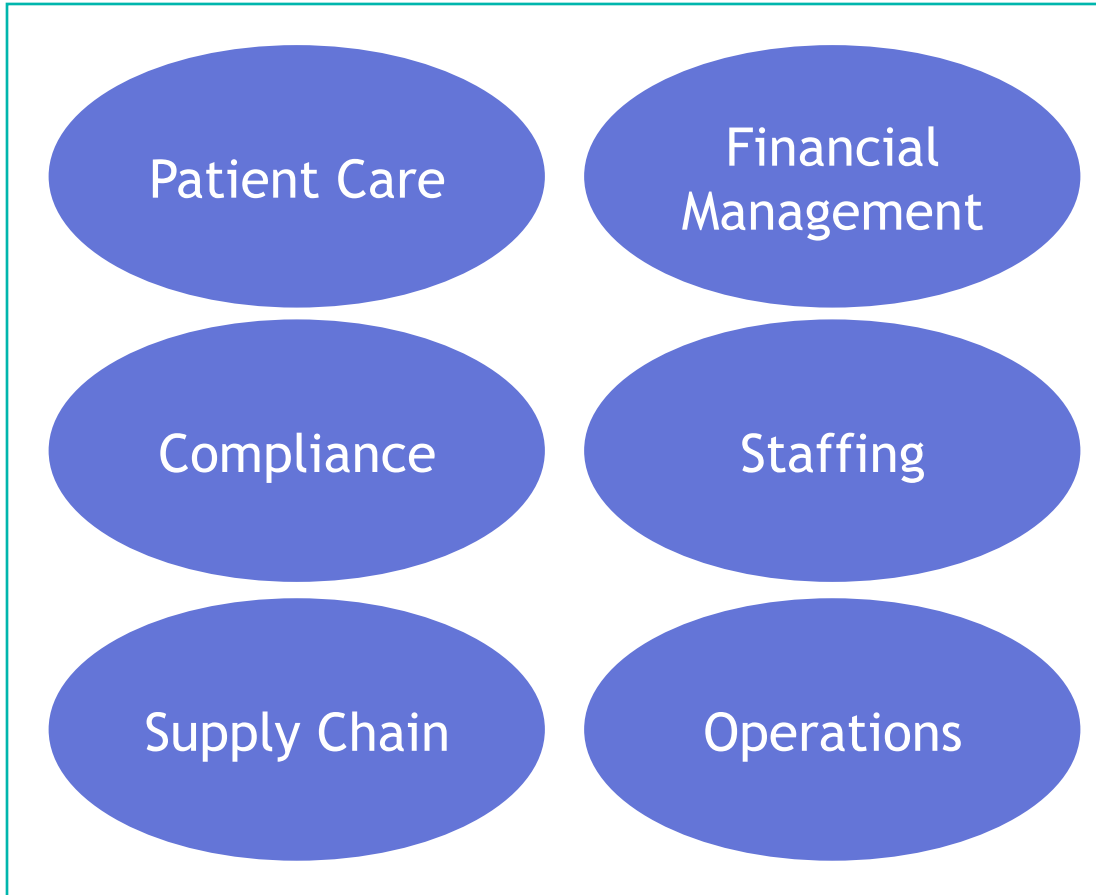


# In Transition

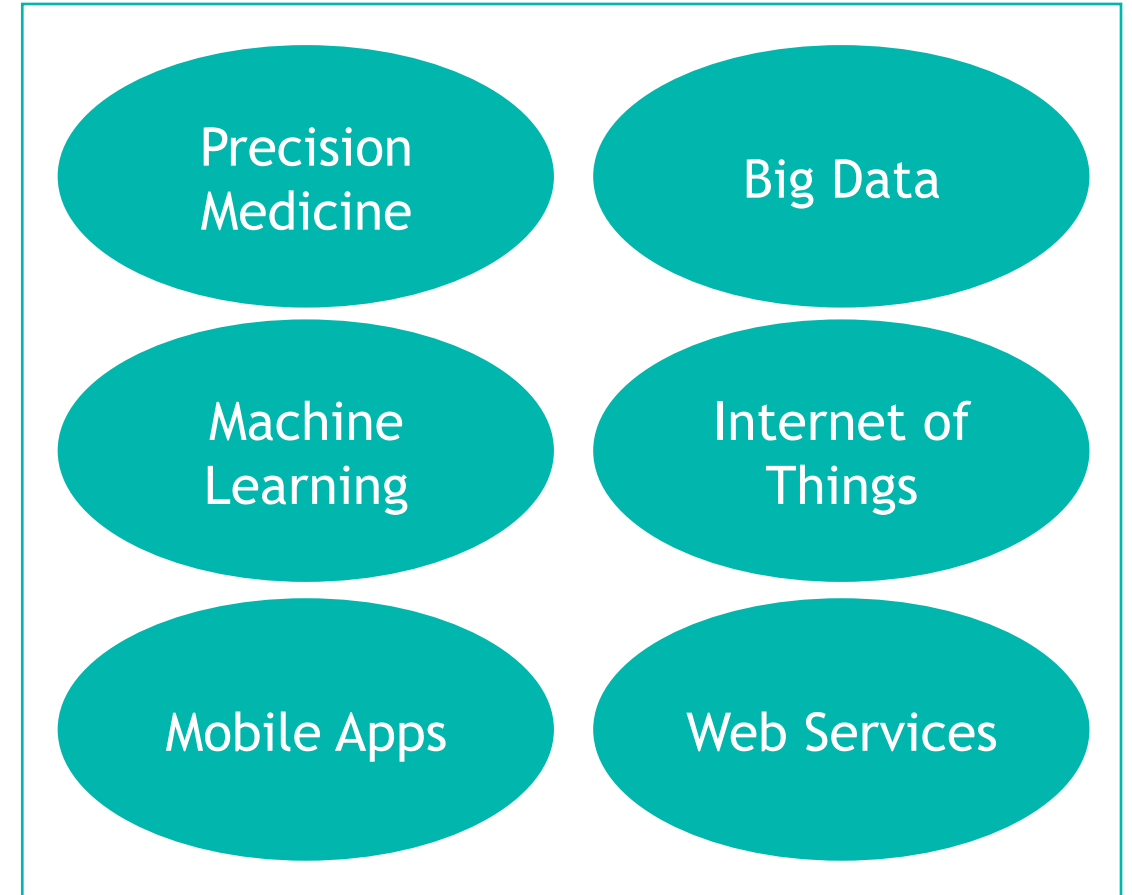
## Most Important Capabilities for Value-Based Care in 3 Years



# Bimodal



A need for stability, reliability, & gradual change



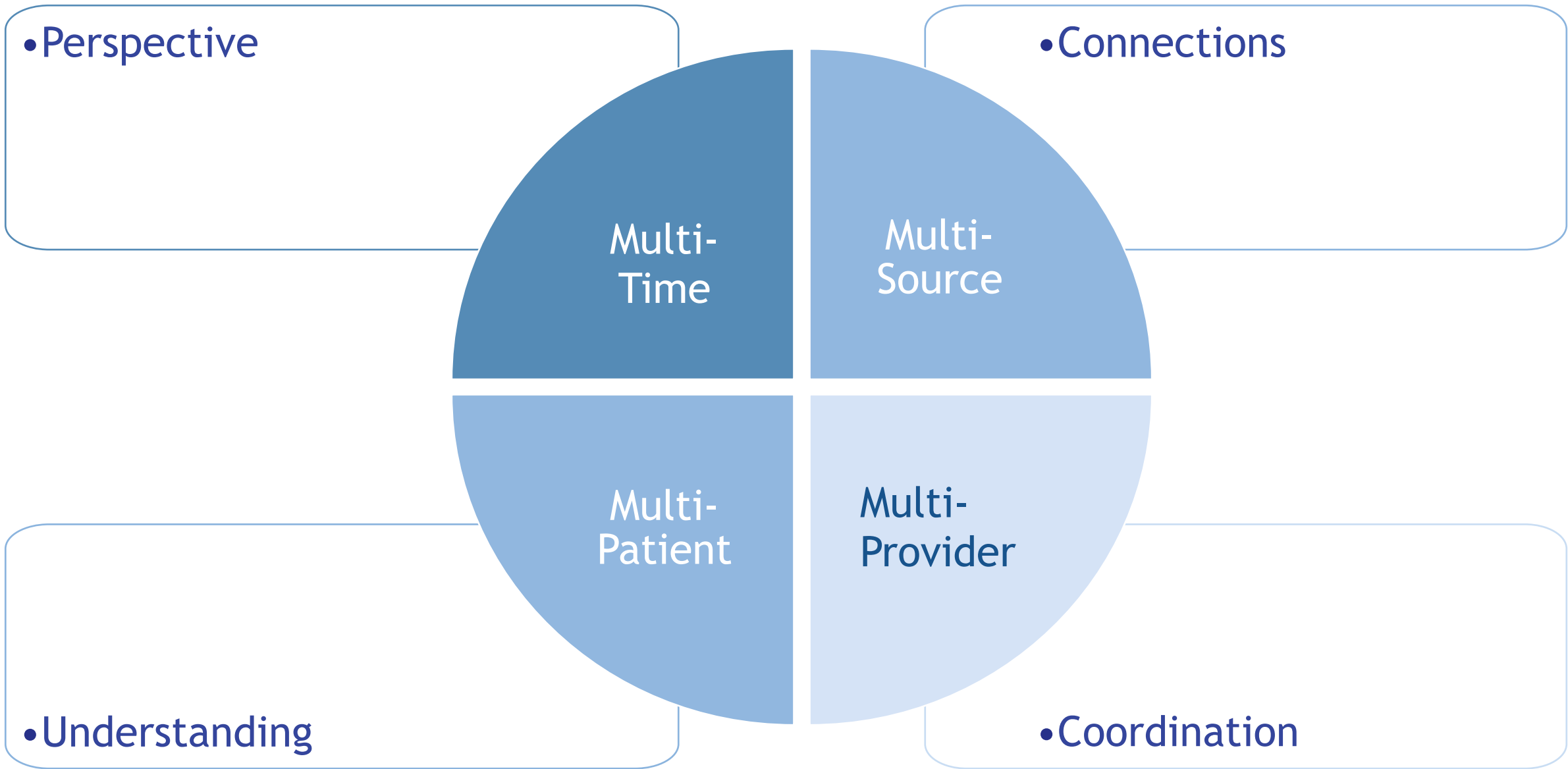
A need for continuous, rapid innovation

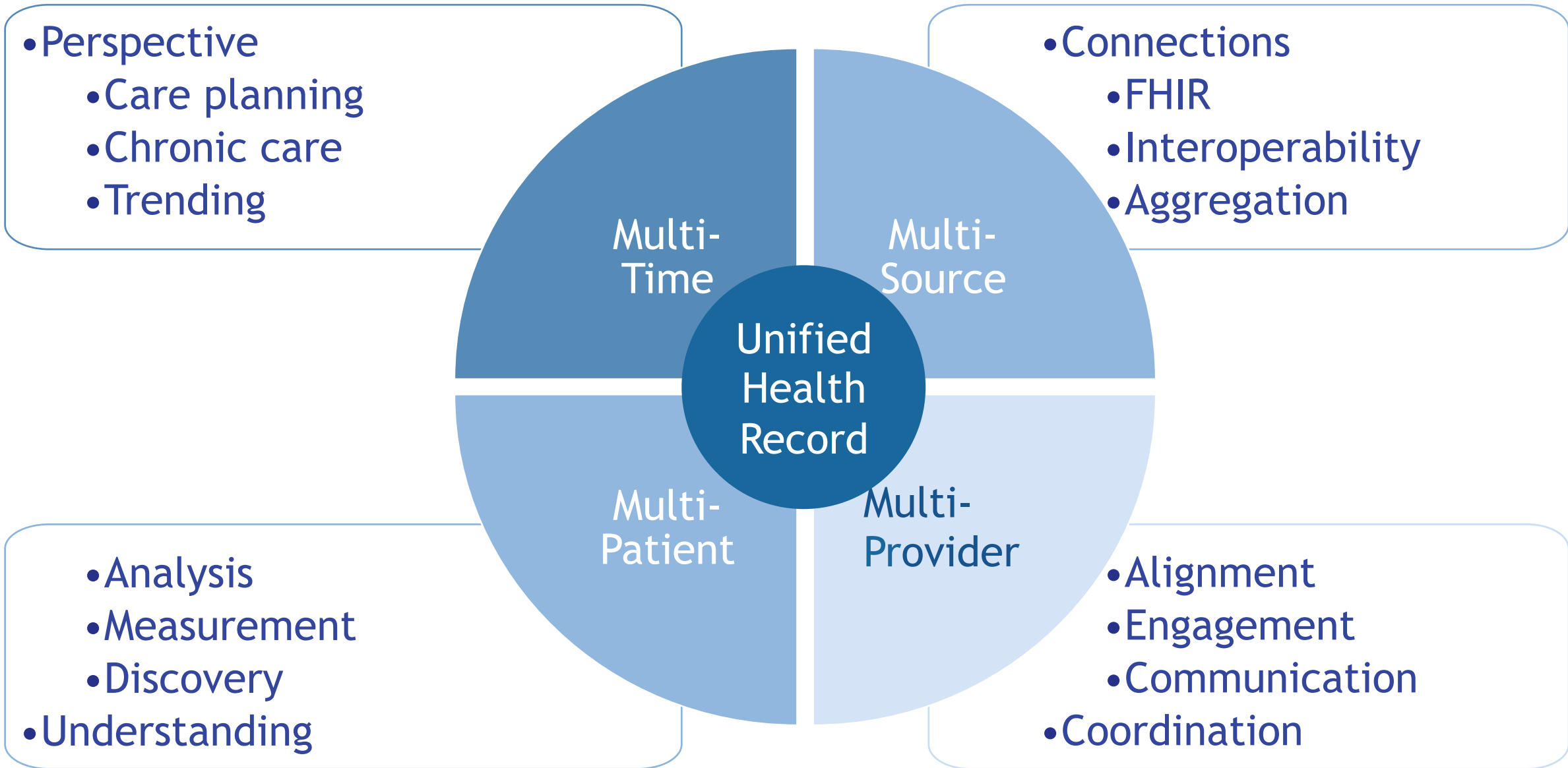




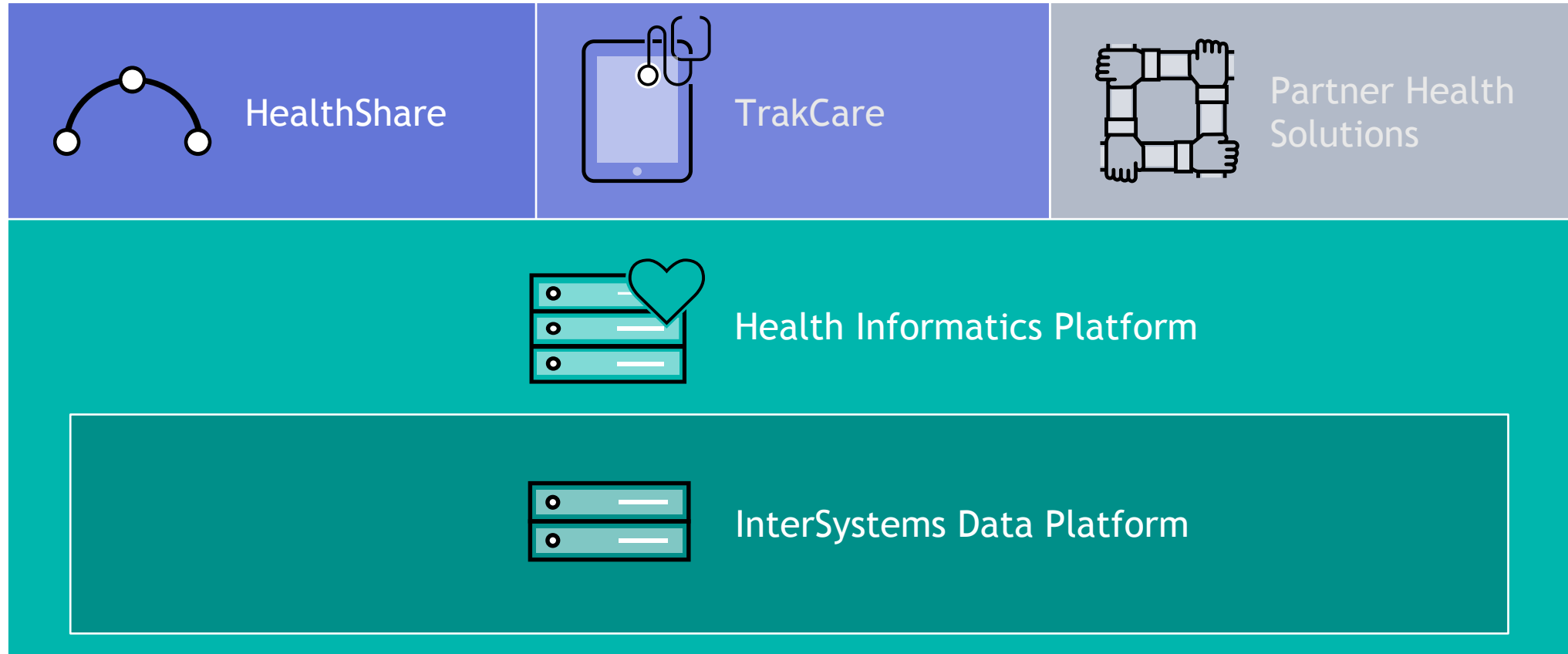
These are  
**Multi-Health**  
Challenges



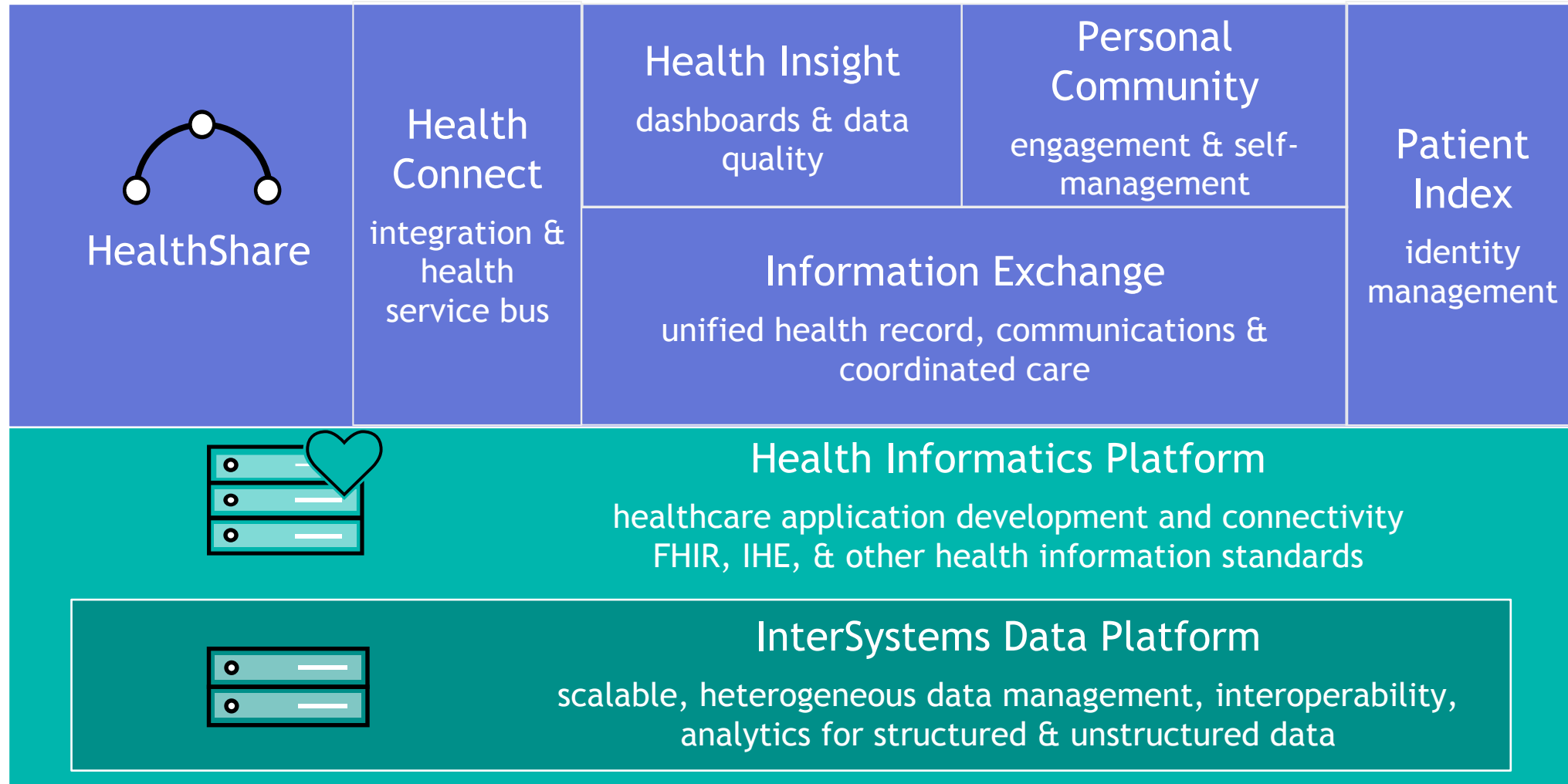




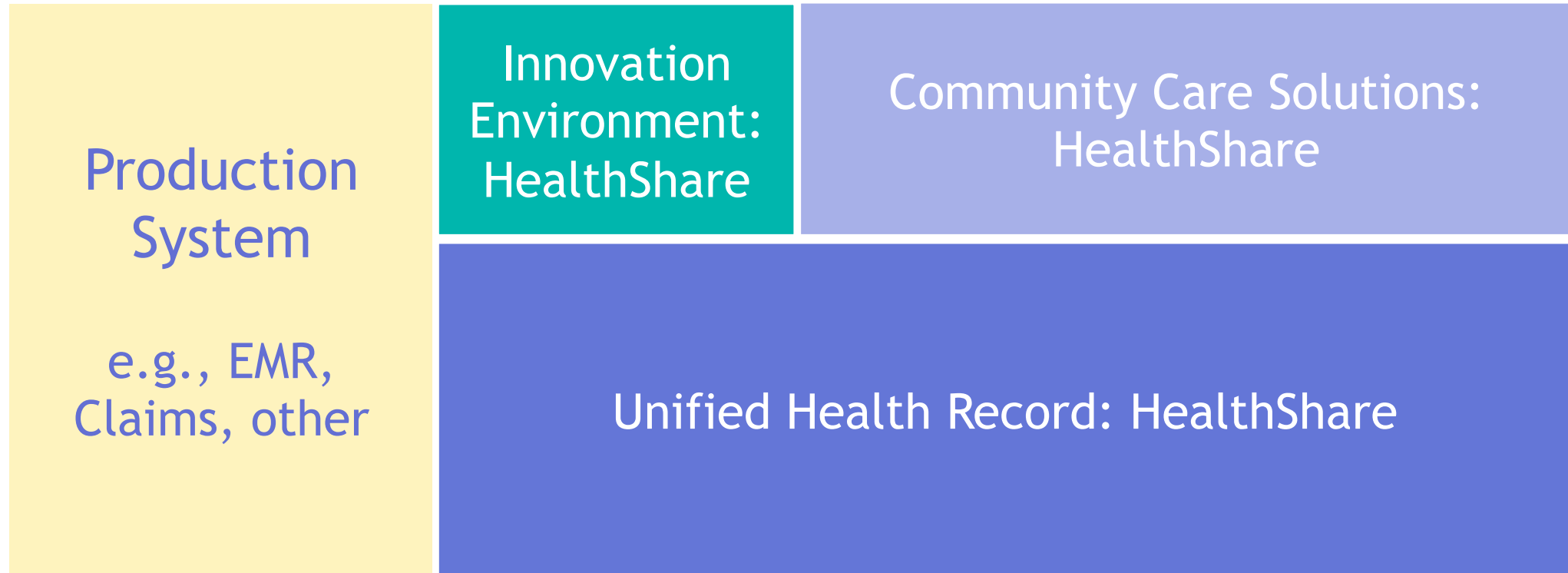
# InterSystems Healthcare Solutions



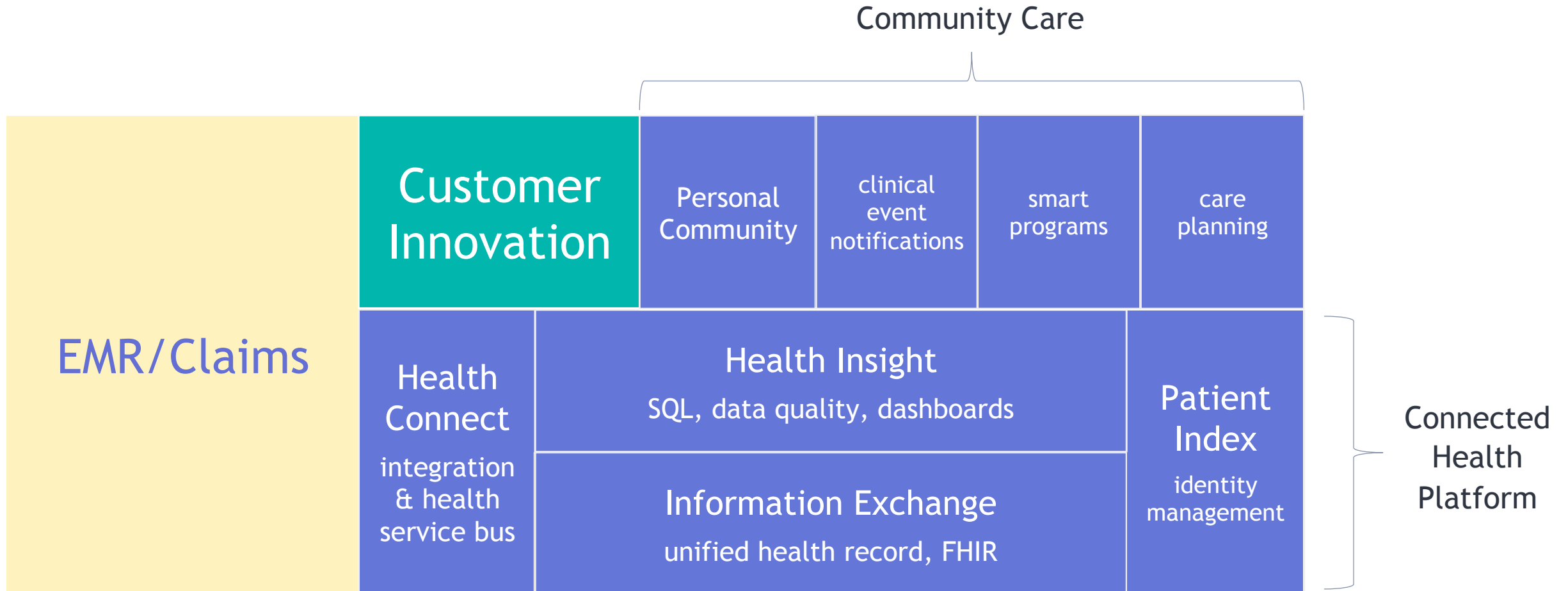
# HealthShare



# Bimodal Health IT



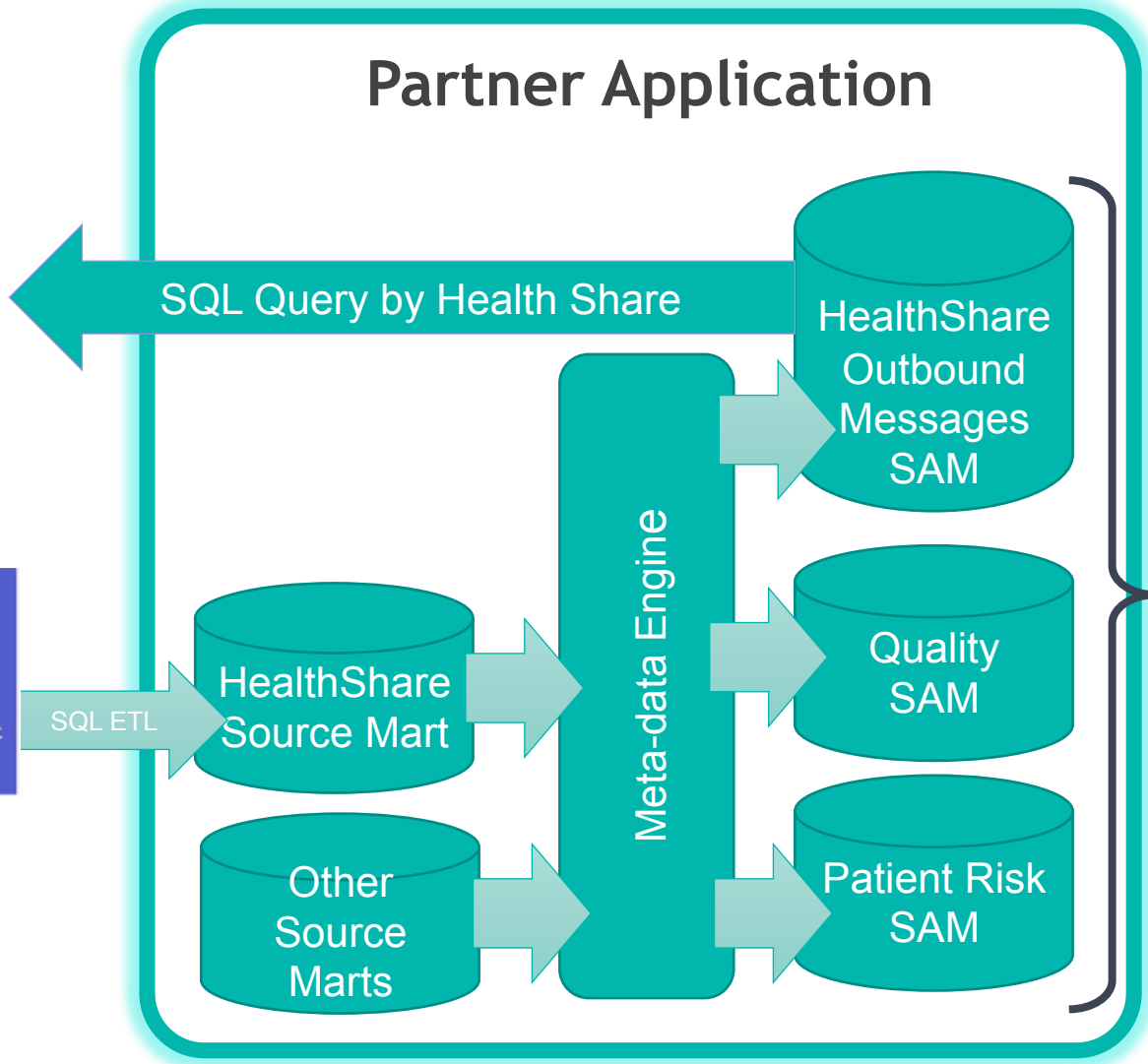
# Bimodal Health IT



# Connected Health Solution Development

## Data Sources

Claims, HR  
Finance...  
HL7v2.x, CCDA, FHIR, Direct...



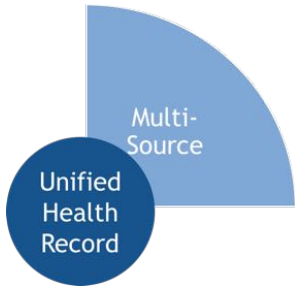
QlikView Visualization of Quality,  
Pt. Risk, Utilization, etc.





# Doing What Matters

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# Creating Connected Care Communities Matters



**9** Million Patients

**300+** Unique Data Sources

**2500+** Contributing Providers

**350+** Participating Entities

**40+** Unique EHRs



# Clinically Integrated Network Provider Participation

**90%** With a Signed Participation Agreement

**70%** Contributing Encounter Data to the HIE

**70%** Contributing LabCorp and/or Quest Data to the HIE

**60%** Receiving Electronic Results and/or Sending Electronic Orders to/from the HIE

**100%**

with Access to ShareVue



# ShareVue: Enhancing Clinical Value

The screenshot displays the ShareVue clinical viewer interface for a patient. The header includes logos for St. Joseph Health, Covenant Health, and Providence Health & Services, along with the text 'CLINICAL, VIEWER DEMO'. The patient's name is 'M' and the date is '05/24/2017'. The interface is divided into several sections:

- Summary:** A vertical sidebar on the left with tabs for Alerts, Allergies, Conditions/History, Continuity of Care Docs, Documents, Diagnostics/Imaging, Lab Results, Medications, Vaccinations, Vitals, Encounters, Care Team, and St. Joseph Health.
- ALLERGIES (Last 8 Items):**

Allergen	Nature Of Reaction	Last Updated
Acetaminophen	Hypertension	
Lactose	Coughing	
Unable to Obtain		
Wheat	Chest Pain	
Milk	Anaphylaxis	
- MEDICATIONS (Last 8 Items):**

Order Name	Details	Dose	Entered On
Cyanocobalamin 1000 MCG/ML Injection Solution			05/26/2016
50+ Adult Eye Health CAPS			03/20/2017
2nd Skin Moist Dressing Kit PADS			03/20/2017
Codeine sulfate 30 MG Oral Tablet		30	05/15/2017
Acetaminophen 325 MG / Hydrocodone Bitartrate 10 MG Oral Tab		1	05/15/2017
- ACTIVE CONDITIONS (Last 8 Items):**

Description	Last Updated
Tuberculosis of heart	2017-06-12
Chronic diastolic heart failure - Details Chronic diastolic (congestive) he	2017-06-12
Mitral valve disorder - Details Nonrheumatic mitral (valve) insufficiency	2017-06-12
Type I diabetes mellitus without complication - Details Type 1 diabetes mel	2017-06-12
- CONTINUITY OF CARE DOCUMENTS (CCDs) (Last 8 Items):**

Document	Physician	Document Date
Patent Summary	HomeCommunity	07/11/2017 08:48
Patent Summary	HomeCommunity	07/11/2017 08:48
Summarization of Episode Note	Physician TestHE MD	07/06/2017 00:06
Summarization of Episode Note	Physician TestHE MD	07/06/2017 18:06
Summarization of Episode Note	Physician TestHE MD	06/16/2017 22:50
- LAB RESULTS (Last 8 Items):**

Description	Details	Status	Collection Date
Surgical Pathology		Final	05/21/2017 00:00
Glucose Level		Final	05/30/2017 11:29
CBC w Differential		Final	05/30/2017 11:29
Proline		Final	05/30/2017 11:29
Surgical Report		Final	05/15/2017 14:03
- DIAGNOSTICS/IMAGING (Last 8 Items):**

Description	Details	Status	Order Start Date
BI SCREENING MAMMOGRAM DIGITAL BILAT		Final	05/21/2017 07:55
MR BRAIN W/ CON JANSSEN		Preliminary	06/14/2017 13:53
Peripheral Vascular Lab Report		Final	05/15/2017 13:20
Cardiac Rehab Report		Final	05/15/2017 13:20
Electrophysiology Report		Final	05/15/2017 13:20

Access to the unified health record from anywhere

New features released quarterly, prioritized for clinical value and ease-of-use



# From Proof-of-Concept to General Availability



Care managers in Texas receive **notifications** when insurance-attributed patients are admitted or registered at any Covenant facility



Diabetes and CHF **clinical pathways** are available to providers in ShareVue

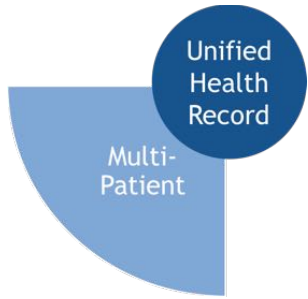


6 diabetes **quality measures**, calculated using HIE clinical data and validated for HEDIS definitions, are being validated for use as leading indicators for performance improvement



Pre-op users streamline workflow and reduce duplicate testing through real-time access to HIE data in **ePreOp**





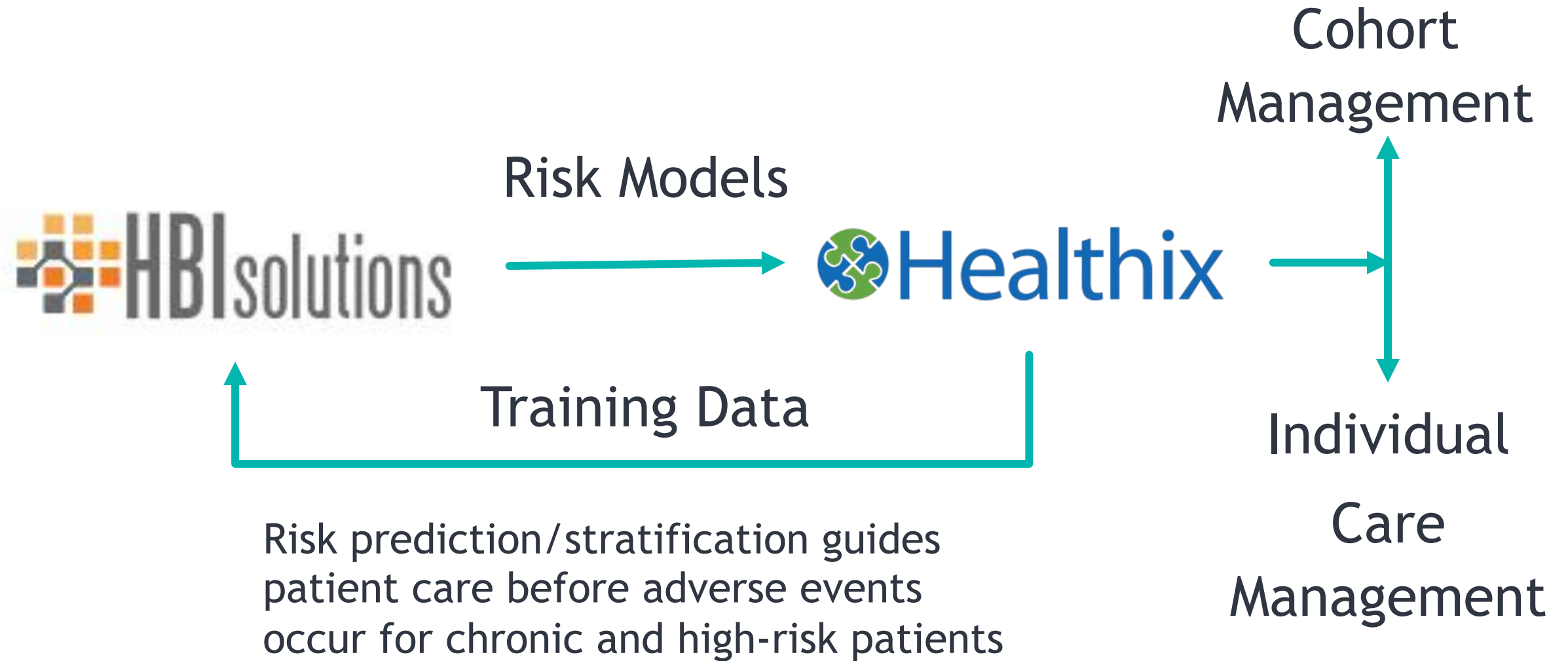
# Improving Population Health Matters



- Nation's largest public HIE
- Share patient encounter records for 600+ organizations across thousands of NYC/Long Island locations
- Over 500K real-time clinical event notifications each month



# Predictive Analytics to Inform Care





GONZALEZ, MARLA

Female - 43 Years (1972-09-22) - 40 Great Pain Ave ,Chicago 60290

Summary



Jul 2012

2013

2014

2015

Feb 2016

Summary

- Allergies & Alerts
- History
- Documents
- Lab Results
- Radiology Results
- Medications
- Vaccinations
- Conditions
- Procedures
- Discharge Summaries
- Physical Exams
- Plan
- Encounters
- Appointments
- Care Team
- Programs

PATIENT PROGRAMS

- FITNESS CHALLENGE EXERCISE TRACKING FOR OVERWEIGHT PATIENTS
- HEART HEALTHY NUTRITION NUTRITION INFO FOR HTN PATIENTS
- HTN AND UNCONTROLLED BP PATIENTS WITH HTN AND UNCONTROLLED BP

PATIENT RISK

- Inpatient Admission 3
- Emergency Visit 47
- Diabetes 32
- AMI 0

MEDICATIONS

Hydrochlorothiazide 25mg	1	11/23/2015
Lipitor 10mg	1	11/23/2015
Doxycycline	1	10/18/2015
Lisinopril-GA tablet 10mg [30]	1	05/04/2015
Multivitamin	1	07/20/2012

DOCUMENTS

ER Visit	ER Visit
Routine Visit	Clinic Visit
ER Visit	ER Visit
Discharge Summary	ER Discharge
Ortho Consult	Orthopedic Consult

LABORATORY RESULTS

Lipid Profile	02/21/2016 16:00
Fasting Plasma Glucose	02/21/2016 16:00
HgA1C	02/21/2016 16:00
Lipid Profile	11/23/2015 11:00
HgA1C	11/23/2015 11:00

DIAGNOSES

Acute	Viral illness
Chronic	Low back pain
Acute	Allergic Rhinitis
Chronic	Disorders of Lipid Metabolism
Acute	Chest pain



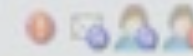




GONZALEZ, MARLA

Female - 43 Years (1972-09-22) - 40 Great Pain Ave ,Chicago 60290

Summary



- Summary
- Allergies & Alerts
- History
- Documents
- Lab Results
- Radiology Results
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PATIENT PROGRAMS

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- HTN AND UNCONTROLLED BP PATIENTS WITH HTN AND UNCONTROLLED BP

PATIENT RISK

Inpatient Admission	1
Emergency Visit	47
Diabetes	32
AMI	0

Elevated risks highlighted in red

- 47% likelihood of ED visit in next 12 months
- 32% likelihood developing diabetes in next 12 months

DOCUMENTS

- ER Visit ER Visit
- Routine Visit Clinic Visit
- ER Visit ER Visit
- Discharge Summary ER Discharge
- Ortho Consult Orthopedic Consult

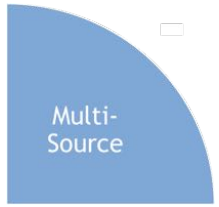
DIAGNOSES

- Acute Viral illness
- Chronic Low back pain
- Acute Allergic Rhinitis
- Chronic Disorders of Lipid Metabolism
- Acute Chest pain

LABORATORY RESULTS

Lipid Profile	02/21/2016 16:00
Fasting Plasma Glucose	02/21/2016 16:00
HgA1C	02/21/2016 16:00
Lipid Profile	11/23/2015 11:00
HgA1C	11/23/2015 11:00





# Innovating to Protect Children Matters



# English Child Protection Information Sharing (CP-IS)

At risk children may receive unscheduled care in many locations

- Providers may be unaware the child is at risk
- Patterns of abuse are difficult to detect in any single EMR

Connecting all urgent care providers with local authorities supports early detection and intervention





# Child Services

Child identified as  
“at risk”



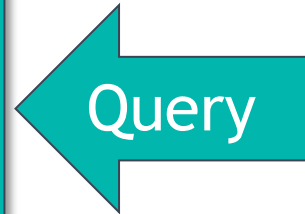
Child services can  
follow up and  
monitor



# Care Provider



Child presents for  
unscheduled care



Provider able to  
respond  
appropriately



Welcome to CurrentCare. Call it a healthcare eco-system. Call it patient-centered. Call it peace of mind. Just rest assured that your well-being is at the center of it all.

Unified Health Record  
Multi-Provider



# Empowering Patients and Families Matters



# Reasons Why You Need CurrentCare

## Reason #14

### Reason #14 why you need

**CurrentCare:** Your 82-year-old mother takes six different medications. Could you name them all in an emergency?

You shouldn't have to.

*CurrentCare ensures that your pharmacy and your doctors are a team, managing your medications accordingly*



## Reason #23

### Reason #23 why you need

**CurrentCare:** You don't like needle sticks but you just had blood tests repeated because the new specialist you were referred to couldn't access your previous results.

Ouch.

*CurrentCare can eliminate the need for duplicate blood work and other tests, which means avoiding unnecessary needles – and the extra co-payments that come with them*



## Reason #27

### Reason #27 why you need

**CurrentCare:** Your 15-year-old babysitter knows your children have peanut allergies but the doctors and nurses in the Emergency Room at your local hospital do not.

Sounds nuts, doesn't it?

*CurrentCare provides accurate, up-to-date information to providers*



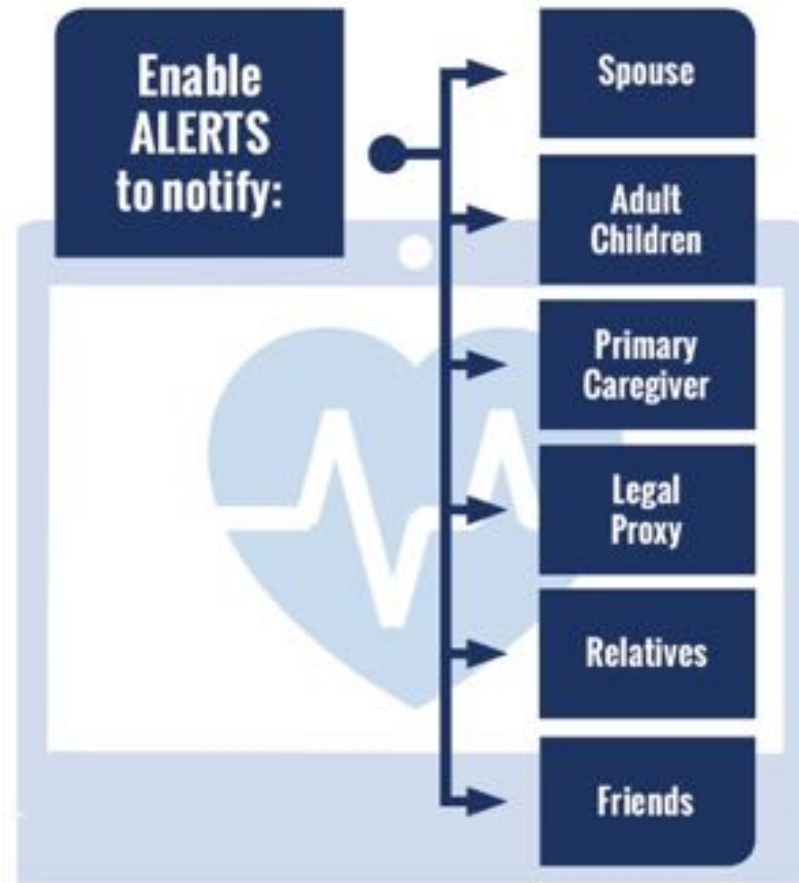
“People actively involved in their health and health care tend to have better outcomes”

Health Affairs [http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief\\_id=86](http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief_id=86)



# If I'm

- Admitted
- Transferred
- Discharged



Improve communications

Reduce care gaps

Streamline decision-making



Unified  
Health  
Record

Multi-  
Provider



## Information- Driven Process Transformation Matters





# Challenge: Transition of Care & Admission Process

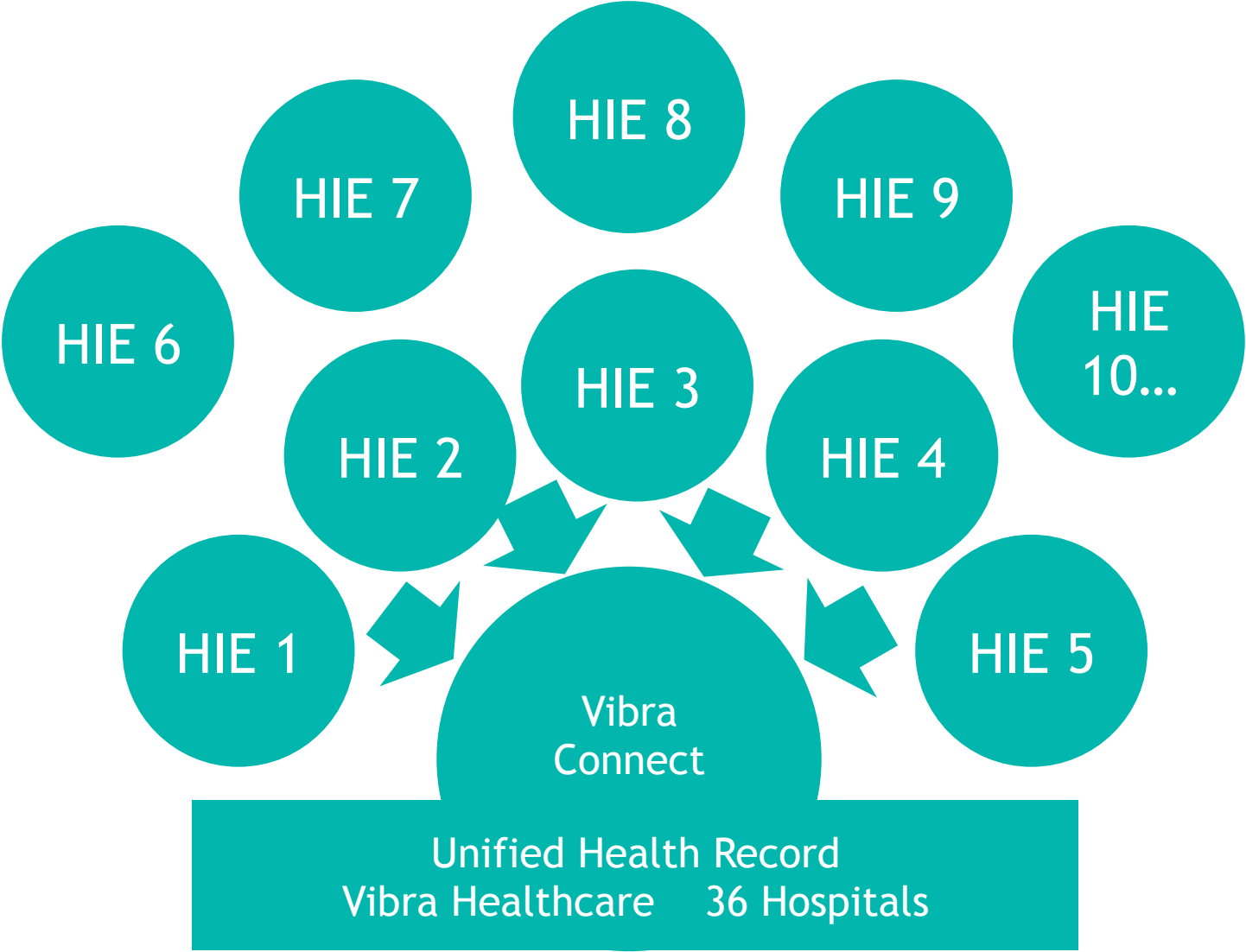
- Improve Efficiency for Admission & Transition of Care processes
- Increase Patient Safety, Reduce Risk; increase visibility into patient history
- Improve employee satisfaction through access to better patient information
- Build an analytics foundation



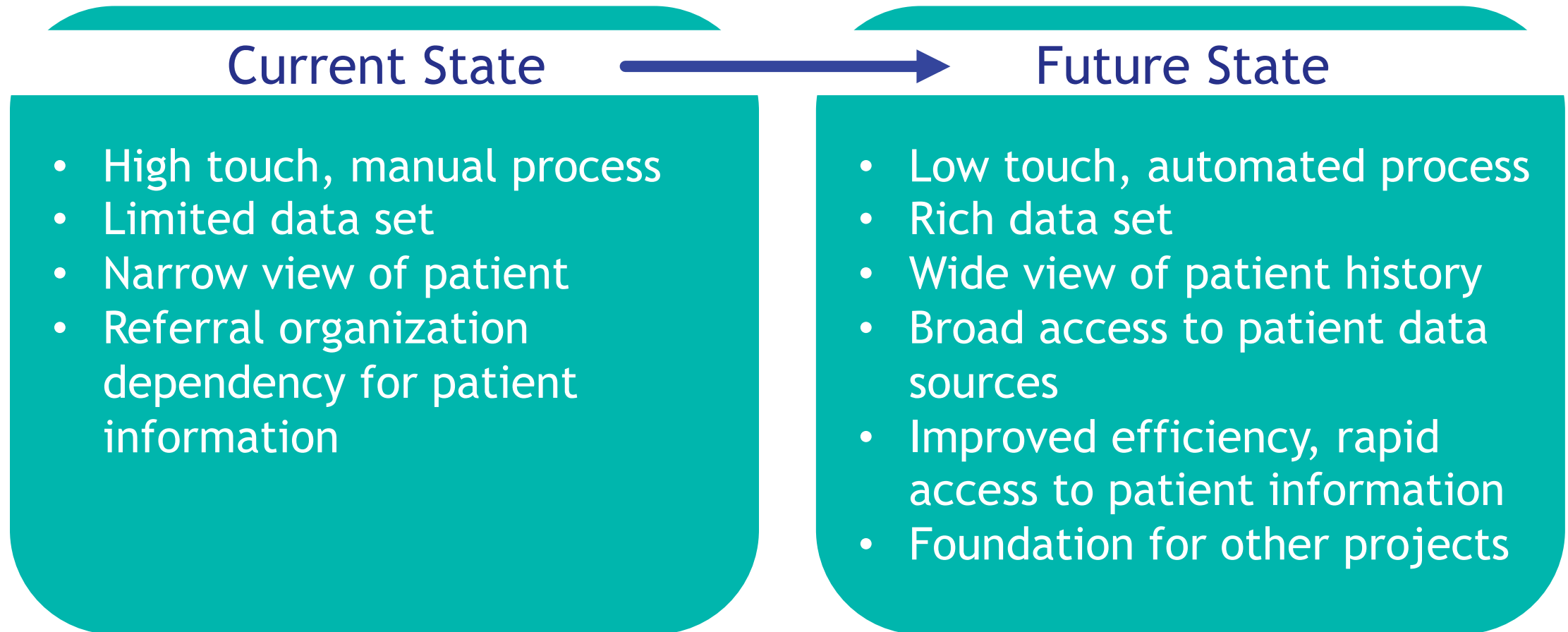
# Vibra Healthcare: Data Access Transformation

HIE Multiple Data Sources:

- Hospitals
- Providers
- Payers
- Labs
- Patients
- Other HIEs



# Vibra Healthcare: Process Transformation



Unified  
Health  
Record

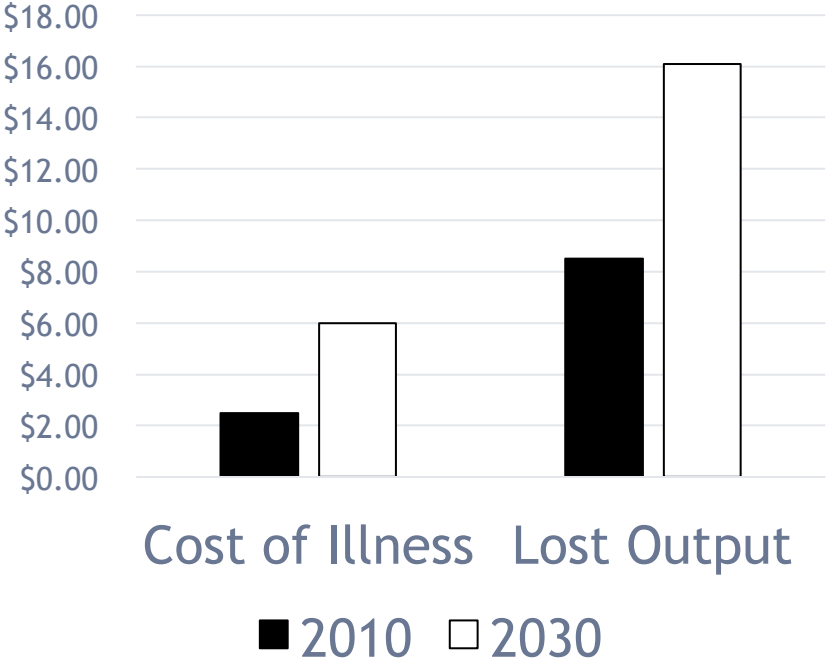
Multi-  
Provider

# Coordinating Mental Health Services Matters



# Burden of Mental Illness

## Global Costs in USD (Trillions)



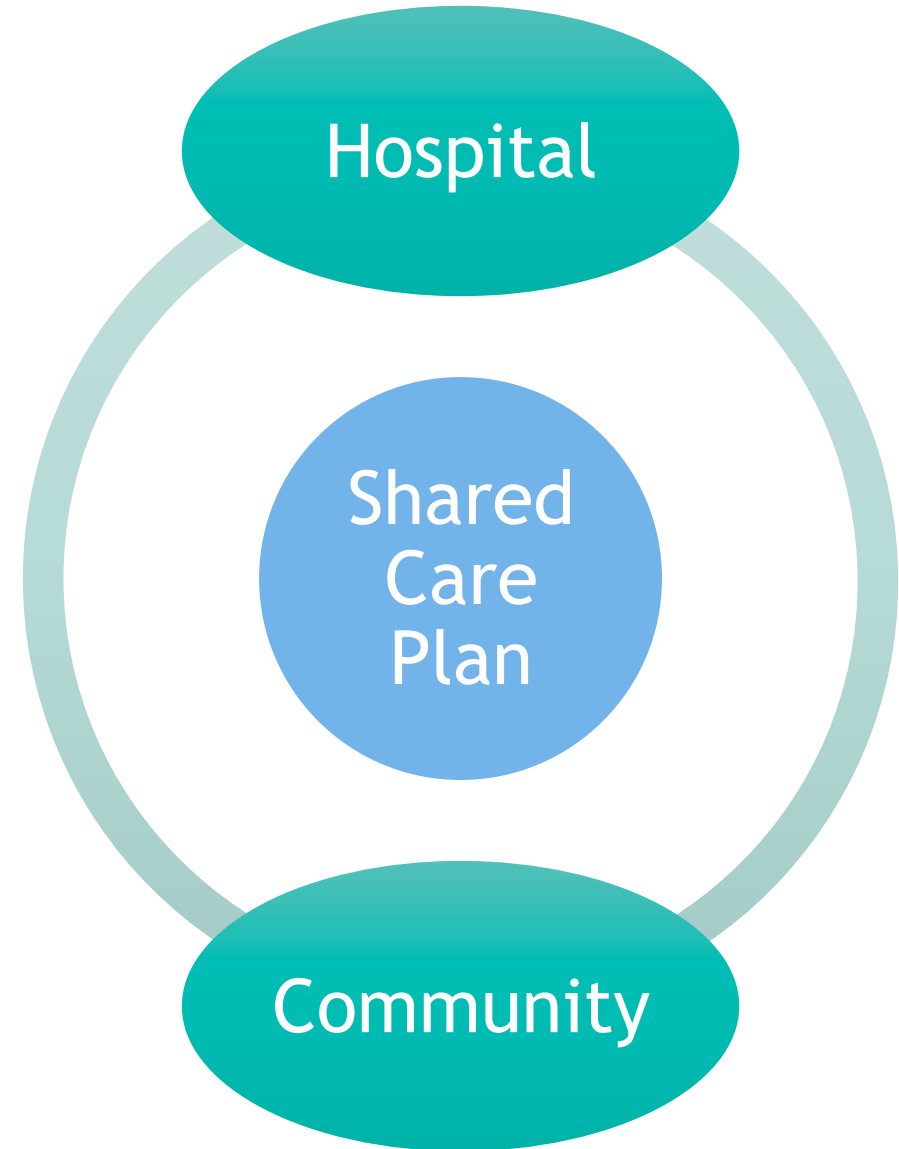
## 2015 Cases Worldwide (Millions)



# Medical Consortium in the West Midlands

One common record to support mental health:

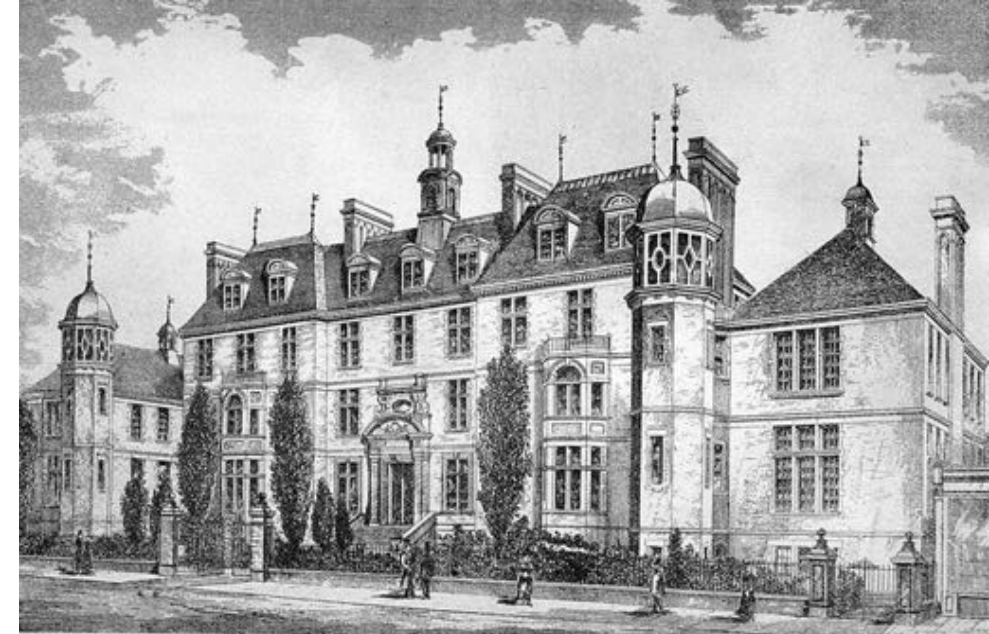
- Crisis care & risk reduction
- Recovery & rehabilitation in the community



Unified  
Health  
Record

Multi-  
Provider

# Honoring Patient Preferences Matters



THE CANCER HOSPITAL.  
FOUNDER: - WILLIAM MARSDEN, M.D.  
THE EXTENSION OF THE HOSPITAL BUILDING NOW COMPLETED  
CAPABLE OF RECEIVING ABOUT 120 PATIENTS.



# 50-87%

Records without documented patient preferences



Actual care doesn't match the preferences we DO know

# > 28%

Portion of US Medicare spend on final year of life





# Conversation

# Coordinate My Care



# Documentation



# Communication



Heloise (Heloisa) RAMSAY  
NHS No: 003 030 8445

Born: 31 Oct 1971 (Age 44)  
Gender: Female

Address: 3684 Maple Avenue  
Swiss Cottage, Greater London N4 5GH



State of Care Plan: Published, View Only  
Last saved on: 12 Nov 2015 at 13:39



UPDATE CARE PLAN

Last updated: 12 Nov 2015 at 13:39

Last updated by: Kim HumbyClinician at InterSystems GPs

Urgent Care Summary

Patient Consent

Patient Details

**Significant Medical Background**

Preferences

Cardiopulmonary Resuscitation

Emergency Treatment Plan

## Significant Medical Background

### Significant Diagnoses

The following table shows only those diagnoses that are active, clinically significant and will provide useful information to urgent care services.

Category	Diagnosis	Additional Details
Cancer - Primary site	Lung	

### Awareness of Diagnoses

Verizon 12:57 PM

Overview Care Plan ?

**Belinda RAGON** 31 Oct 1971 (Age 44)  
NHS: 003 030 8445 Male

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**Home Access**

Living Condition  
**Lives Alone**

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Type of Accommodation  
**Flat, Maisonette Or Apartment (Purpose Built)**

---

Key Code Details  
*(not specified)*



coordinate my care mycmc

coordinatemycare@nhs.net  
000 7611 8513

Home

“With an urgent care plan, you’ll get your care, your way.”  
Clinical Nurse Specialist

Start your CMC Plan  
If you’re ready to start creating your plan click here

View your CMC Plan  
If you already have a CMC plan, you can view and update it here:

Email address

Password

Visit [coordinatemycare.co.uk](http://coordinatemycare.co.uk) & Coordinate My Care 2019



“Now I have a plan, I feel so much happier. Because I’ve got some control over things.

I will probably need urgent care in the middle of the night again - that’s how cancer goes. But, this time, everyone will know what to do with me. I won’t have to explain it all and repeat myself to different people. I’ll get the right painkillers, at the right time. And I’ll be in my own home, instead of sitting in pain, in A&E. I’ll get the care I need, the way I want it.”

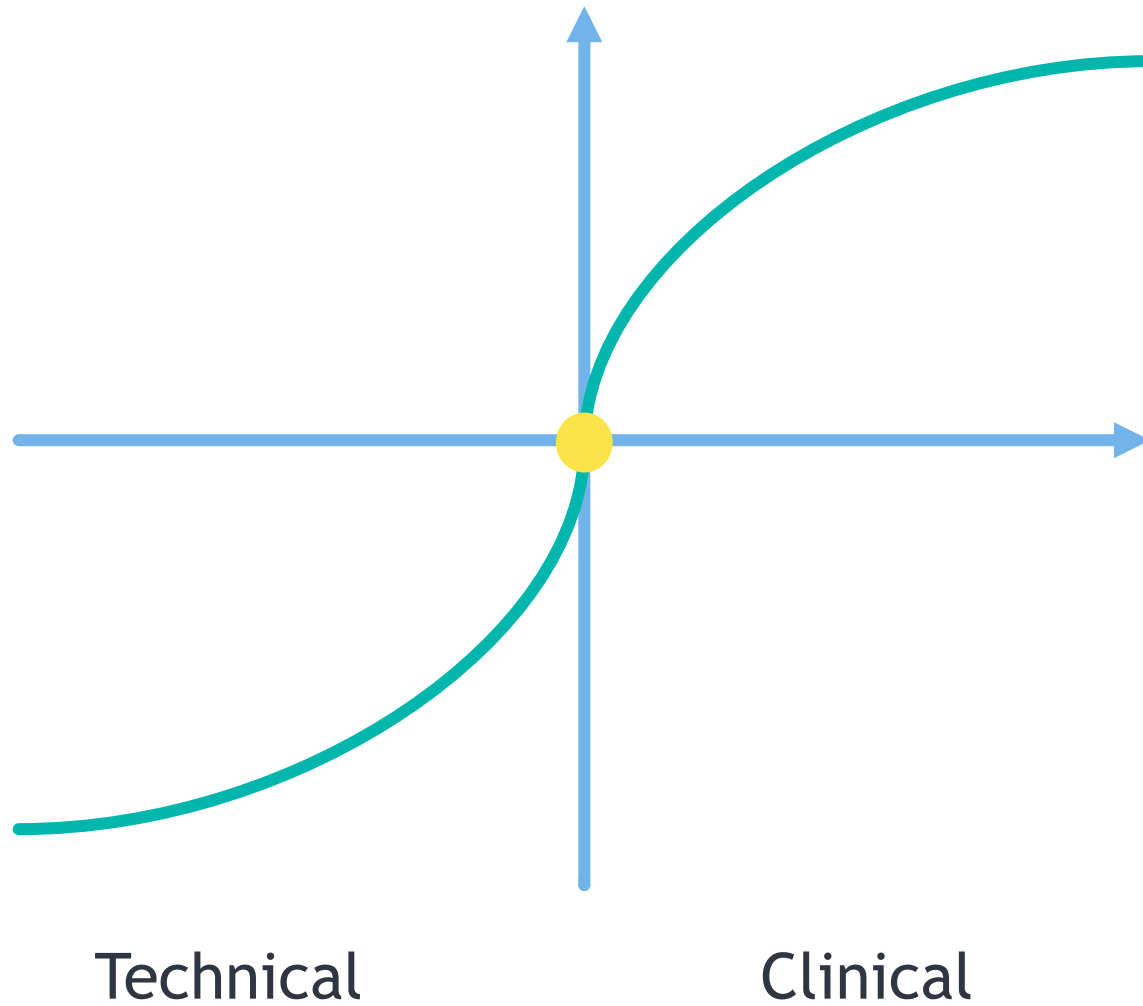
“Sitting here, feeling strong today, I can’t tell you how reassuring that is.”

- Renal Cell Cancer Patient

# Building the Future

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# HealthShare Inflection Point



Transformational

Foundational



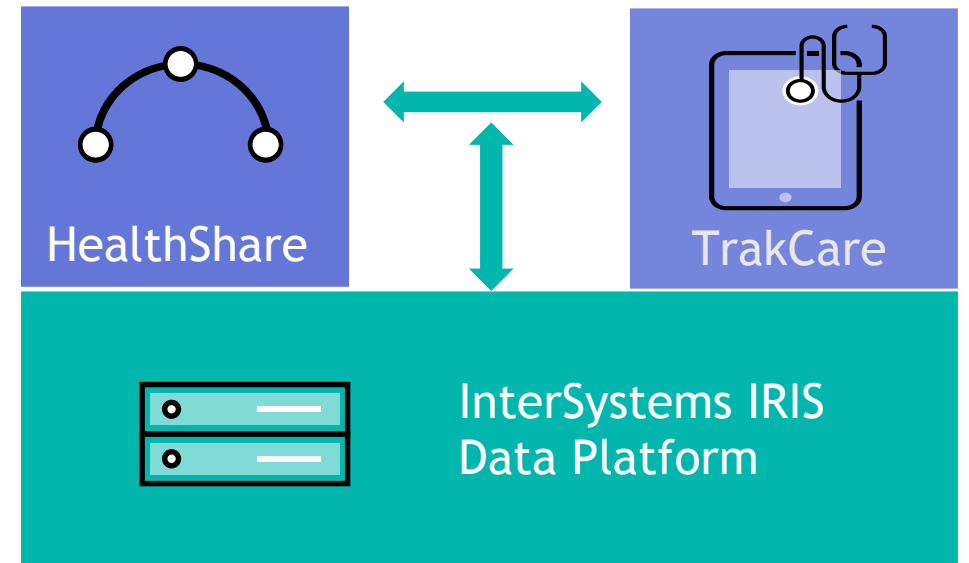
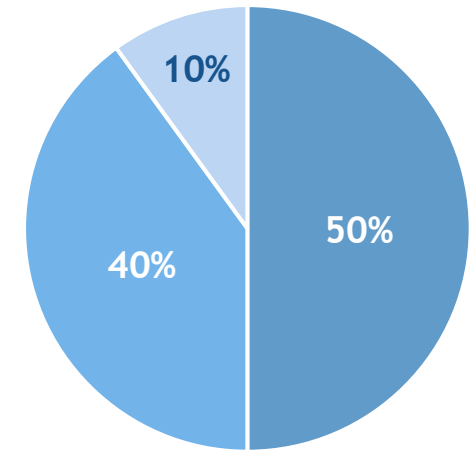
# Development Strategy

Balance resources to develop, sustain, and explore

Create full-featured configurable solutions

Leverage reusable modular product elements

Build out and leverage all our product assets

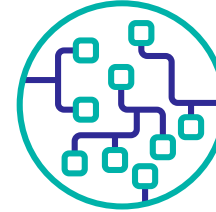


# Solution Investment Areas

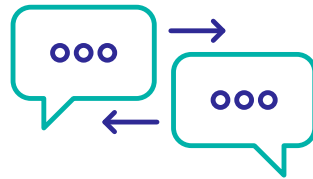
care planning & coordination



intelligent chart review



patient engagement



Unified Health Record

clinical trials acceleration



person management



analytics & clinical decision support





# Sample Reusable, Modular Foundation Elements

Cohort builder, patient list management

Wizards - notification, configuration, clinical changes

Flowsheets, task handlers, expanded forms

Clinical data summary widgets

CDS logic primitives, triggers and alerts

Terminology and ontology core

User and role management

Expanded reporting




# HealthShare Roadmap ... existing customers

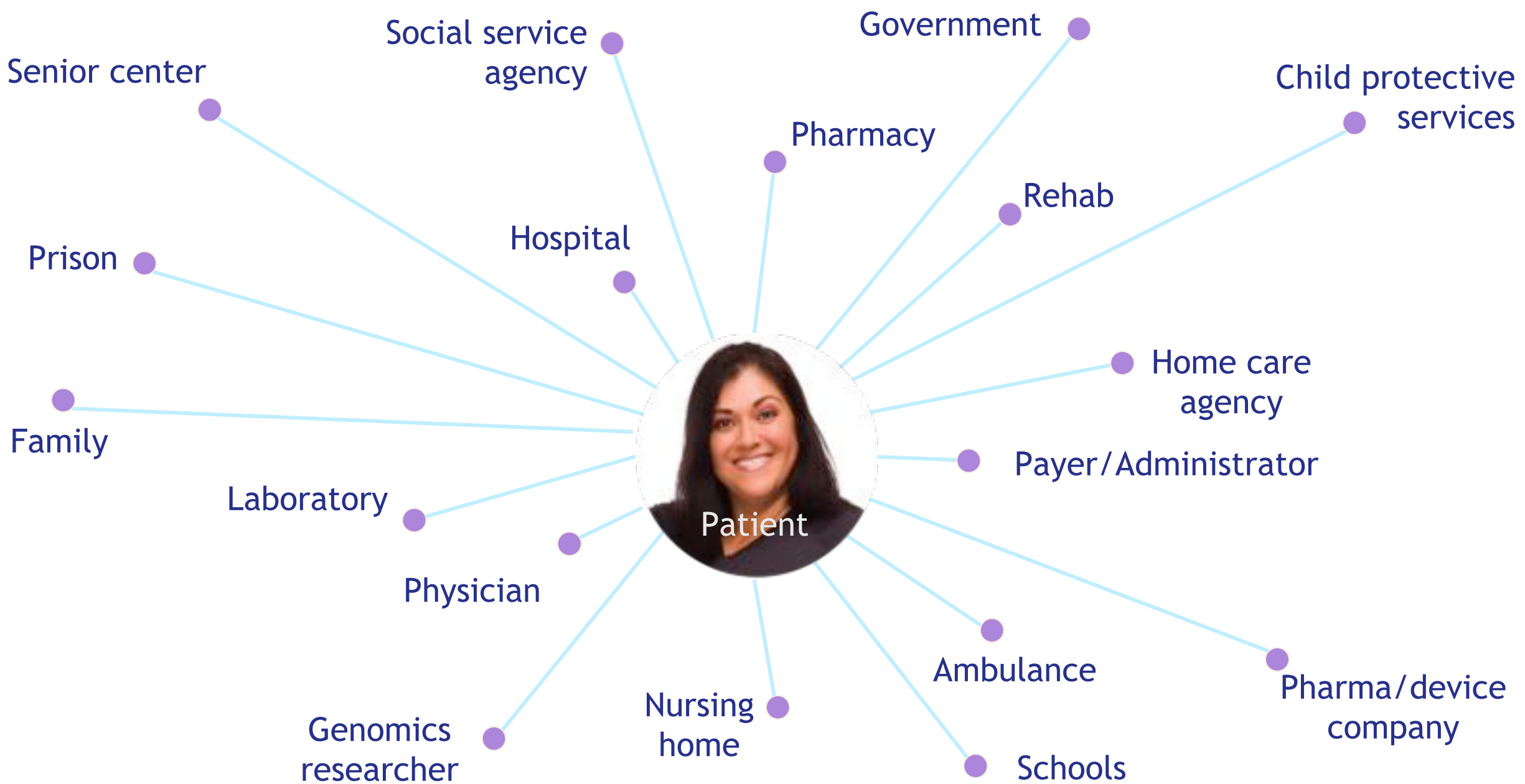
	Now	Future
Analytics / CDS	Platform	OOB solutions / configurable High-performance platform
HSIE	Capable platform to aggregate/ share	Massively scalable, secure, bulletproof, wrapped in shell of APIs, easily deployed
Care planning / Care coordination	Some piecewise capability	OOB solutions to plan, coordinate, execute, measure / configurable
Patient engagement	Record view; messaging and questionnaires	Support patients as active participants - express status & preferences, know & execute plan, alert to events
Clinical trials accelerator	POC requiring extensive custom implementation	Configurable suite to optimize study design, identify cohorts, expedite trial recruitment, ensure safety monitoring
Intelligent chart review	iKnow technology in POC but not a solution	Use structured and unstructured text to augment metrics, record completeness, prior auth, and more
Person management	Part-solution provider directory, patient index algorithms	Strong gold-standard provider and patient identity, support cross-site care



# HealthShare Roadmap

	Today	2018 - 2019	Beyond 
<b>Unified Record</b>	Information Exchange Patient Index	Enhanced management, configuration & upgrades	Massive scalability & performance API universe
<b>Connections</b>	Health Connect FHIR Gateway	FHIR STU 3 Auto-define HL7 mappings Enhanced data validation	IRIS-powered health connectivity
<b>Coordination</b>	Clinical Viewer Patient Portal Event notifications	Provider Directory Shared decision making Packaged notifications	Packaged CDS Family care planning Advanced clinical analytics
<b>Understanding</b>	Smart programs Analytics platform Chart Review Project	IRIS-powered analytics Analytics wizards Intelligent chart review	Big data platform Real-world evidence
<b>Perspective</b>	Analytics dashboards, SQL Clinical Trials Project	Packaged analytics Care planning Clinical trials accelerator	Robust care management Research registries Clinical safety monitoring





Bring together the information that matters.



The power behind what matters.



*Thank you.*

