

# Defining the Perfect Health System

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Durham, North Carolina, USA

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Panel Moderator



**Duke** Center for Health Informatics

Duke Clinical and Translational Science Institute



# The Healthcare System Is Broken!

- Lack of communication
  - Between clinicians
  - Between clinicians and patients
  - Between clinicians and administrators
- Clinicians are unhappy
- Patients are unhappy
- Lack of interoperability (end to end)
- Systems are siloed
- Systems are out of date
- Medical errors are still a major cause of death





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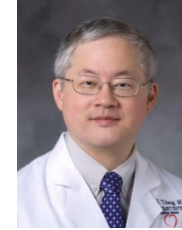
# The Galileo Project

*How do we fix the Health Care System?*

- The Galileo Project is to define the PERFECT Health System.
  - Health Care is a sub-component.
- The goal is not to address perceived problems of today, but to step into the future.
- Have held two “thinking aloud” Zoom sessions involving over 25 clinicians in 2020 and one additional session in 2021 with over 20 primarily Allied Health Staff
  - Invited initial thoughts shared in group
  - Divided into 5 breakout groups. Panelists were leaders of the breakout groups.
- Only constraints
  - Can’t say “you can’t do that because ...”
  - Can’t say “that’s impossible”
  - No boundaries – no comment is out of scope.

# Panelists

- Patients – James E Tcheng, MD  
Professor of Medicine, Interventional cardiologist
- Clinicians – Stephen Keir, DPh, MPH  
Professor in Neurosurgery
- Technology – Genie McPeck Hinz, MD, MS  
Associate CMIO
- Community – Lori Orlando, MD, MHS, MMCI  
Professor of Medicine
- Health System – Vivian West, PhD, MBA, RN  
Associate Director, DCHI





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# Patients and the Health Care System

*What do patients want?*

Great Expectations!

- Customer service perspective
- What, where, when & how





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# Patients and the Health Care System

*What do patients want?*

## High Quality Care

- Right information
- Right format
- Right diagnostics
- Right therapeutics
- Coordinated
- Patient centered

## Accessible & Navigable

- Accessible
- Adaptive
- Convenient
- On-demand
- Continuous
- Personalized

## = Great Experience

- People
- Processes
- Communications
- Environment
- IT systems (PHR)
- Ancillaries



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# Patients and the Health Care System

*What do patients want?*

## Corollary Patient Issues – Responsibilities of Health Care and Beyond

*Patients should be the centerpiece of the perfect system*

*What needs to be done to provide the greatest value for the patient?*

- “Total responsibility” – all health issues, well-coordinated
- Physical plant, workflows – re-engineer to take the clinician to the patient
- Access, technology – portals, telemedicine, virtual visits
- Health literacy – teach from K-12, biology / science and technology
- Diversity, equity, and inclusion - gender, race, social, financial, handicaps, ...
- Universal healthcare payment models





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# Patients and the Health Care System

*What do patients want?*

Corollary Issues – for Patients to Consider

*We are all patients; health care and healthcare should be about the patient!*

Most participants in Galileo have their own stories about how the health care system has failed them.

- Patient responsibilities – engagement, health literacy, lifestyle
- Computer literacy – increasingly relevant
- Privacy – not an absolute
- Anticipate new models – virtual visits, home hospitalization, virtual assistants

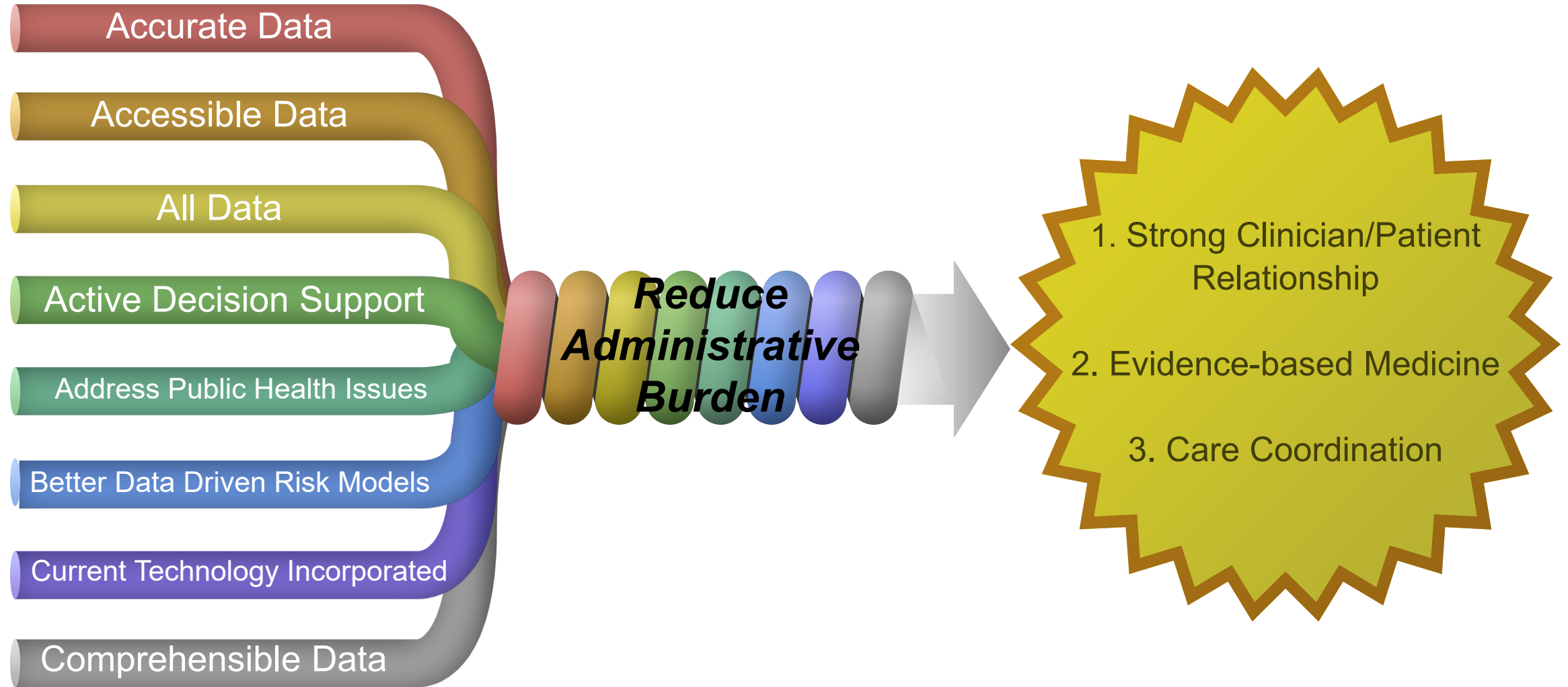




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# Clinicians and the Health Care System.

*What do clinicians want?*



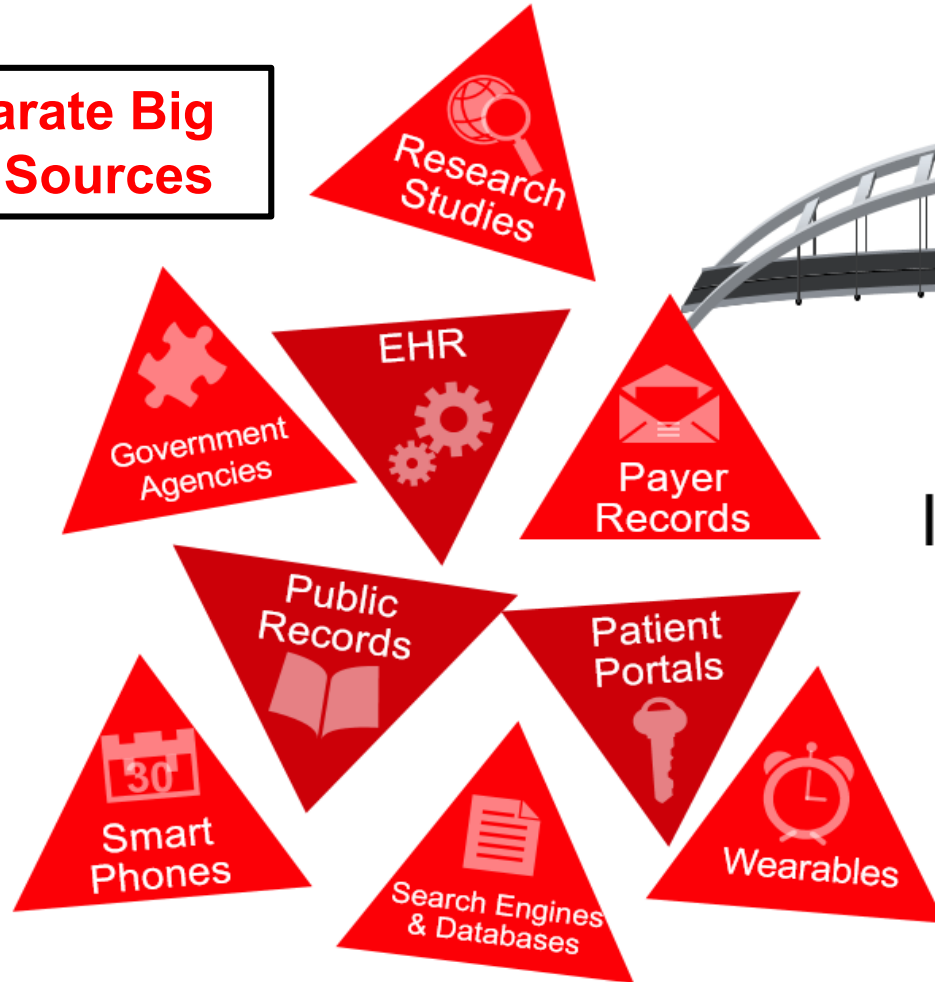


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# Clinicians and the Health Care System.

*What do clinicians want?*

**Disparate Big Data Sources**



**Systemic Big Data Integration**



**Integrated  
“Universal” Big  
Data System**



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# Technology and the Health Care System

*What do clinicians and patients want?*

## Barriers to Healthcare for Patients

### Patient Centric

- Fear / Beliefs / Perceptions
- Health Literacy
- Comorbidities
- Disability
- SDoH
  - Food / Housing
  - Transportation
- Language Barriers
- Child/Adult Care

### Healthcare Centric

- Location of Healthcare Facilities
- Communication with Personnel
- Scheduling
- EHR functionality
- Uninsured / Underinsured
- Burnout of Caregivers
- Oversight Requirements

### Environment Centric

- Employment Opportunities
- Access to Healthy Food
- Exercise Opportunities
- Local Pollution
- Safe and Affordable Housing
- Education
- Community Support/ Collaboration



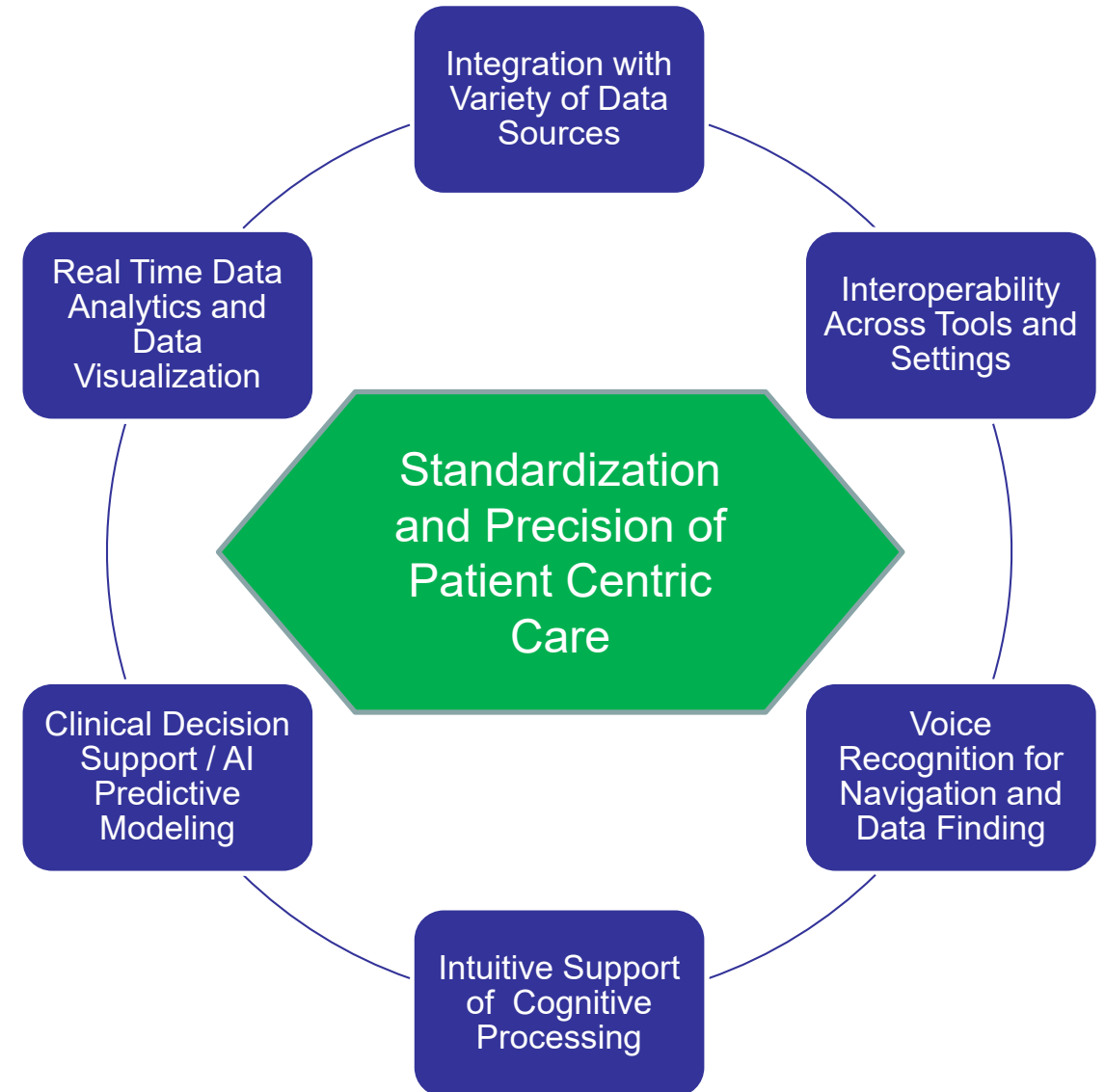
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# Technology and the Health Care System

*What do clinicians and patients want?*

Can technology democratize access to health care and the data be used to improve our lives?

Can the health care technology support returning joy to the practice of medicine?

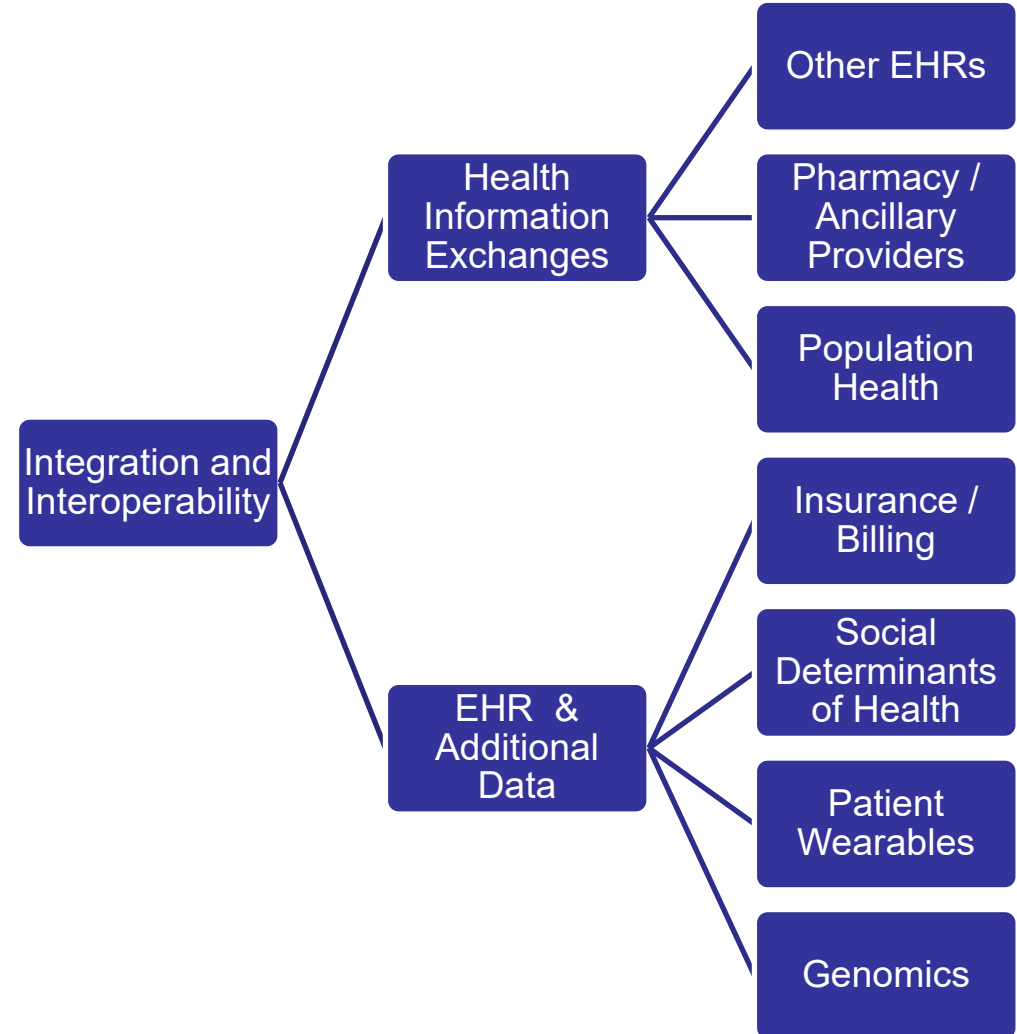
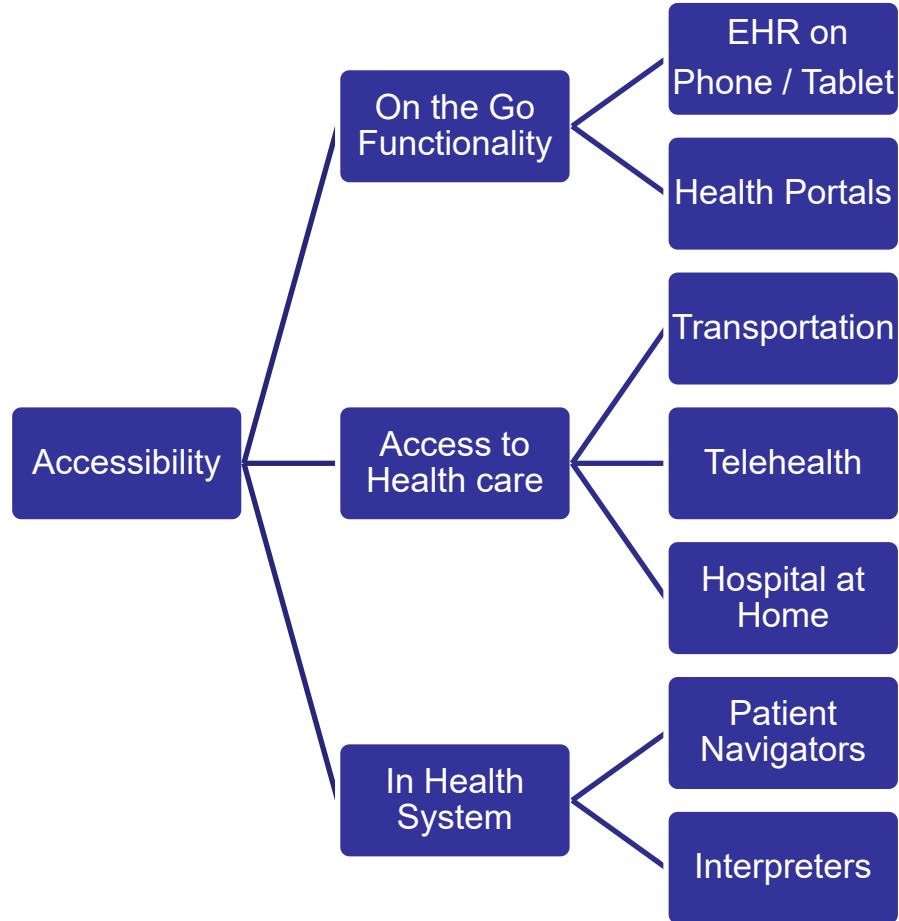




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# Technology and the Health Care System

*What do clinicians and patients want?*





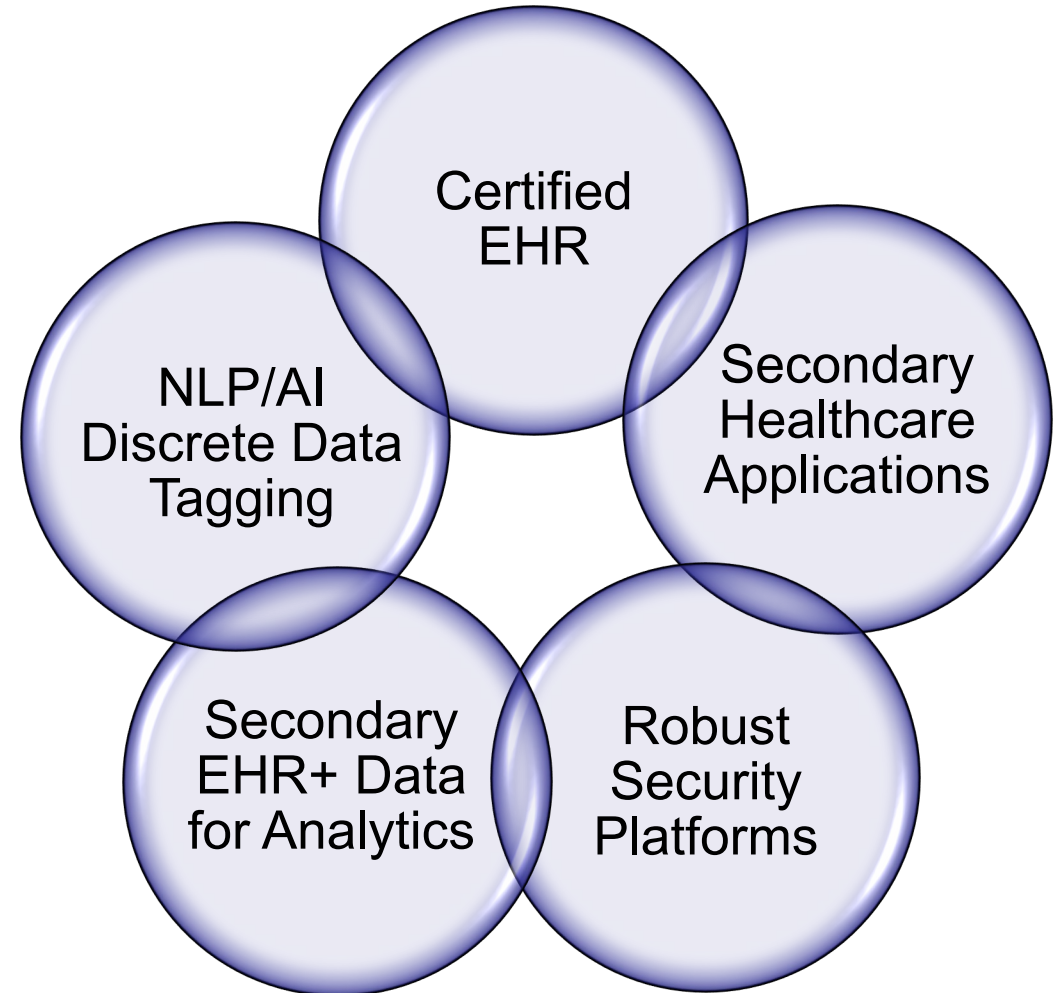
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# Technology and the Health Care System

*What do clinicians and patients want?*

## EHR Technology Building Blocks

- Storage: Cloud versus Standard
- Data Exchange Standards
  - HL7
  - SMART on FHIR
  - CDS Hooks
- Data Metadata Tagging Standards (LOINC, ICD10, RxNorm etc)
- Data Lakes
- NLP/AI/Voice Recognition
- Effective User Interface

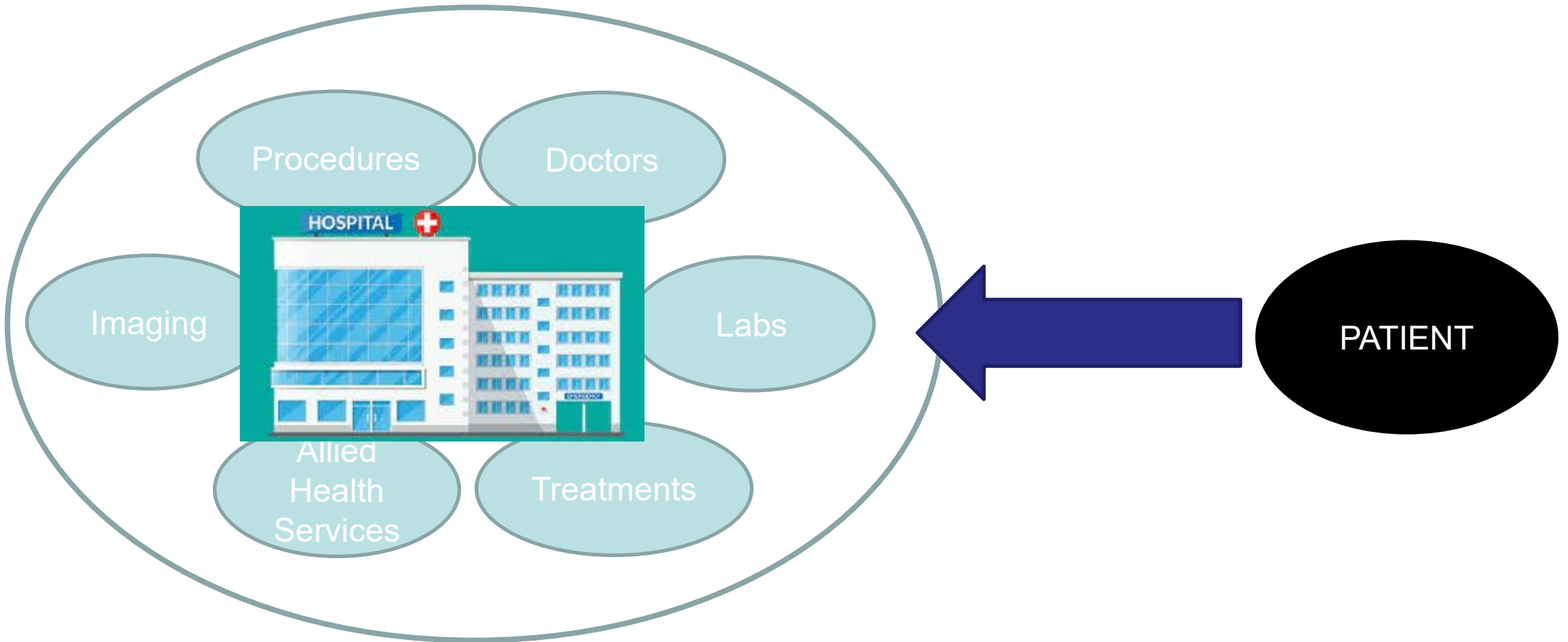




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# Community and the Health Care System

*What do communities want?*



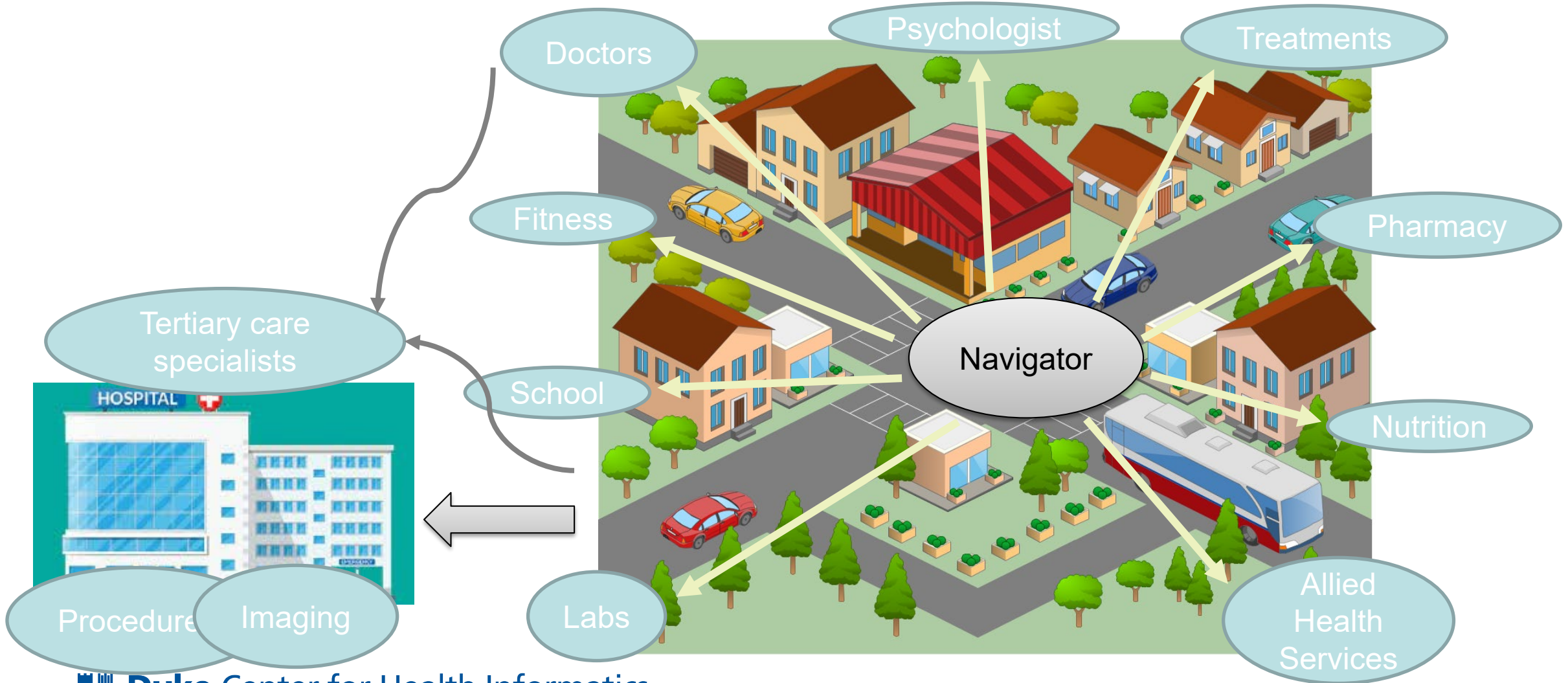


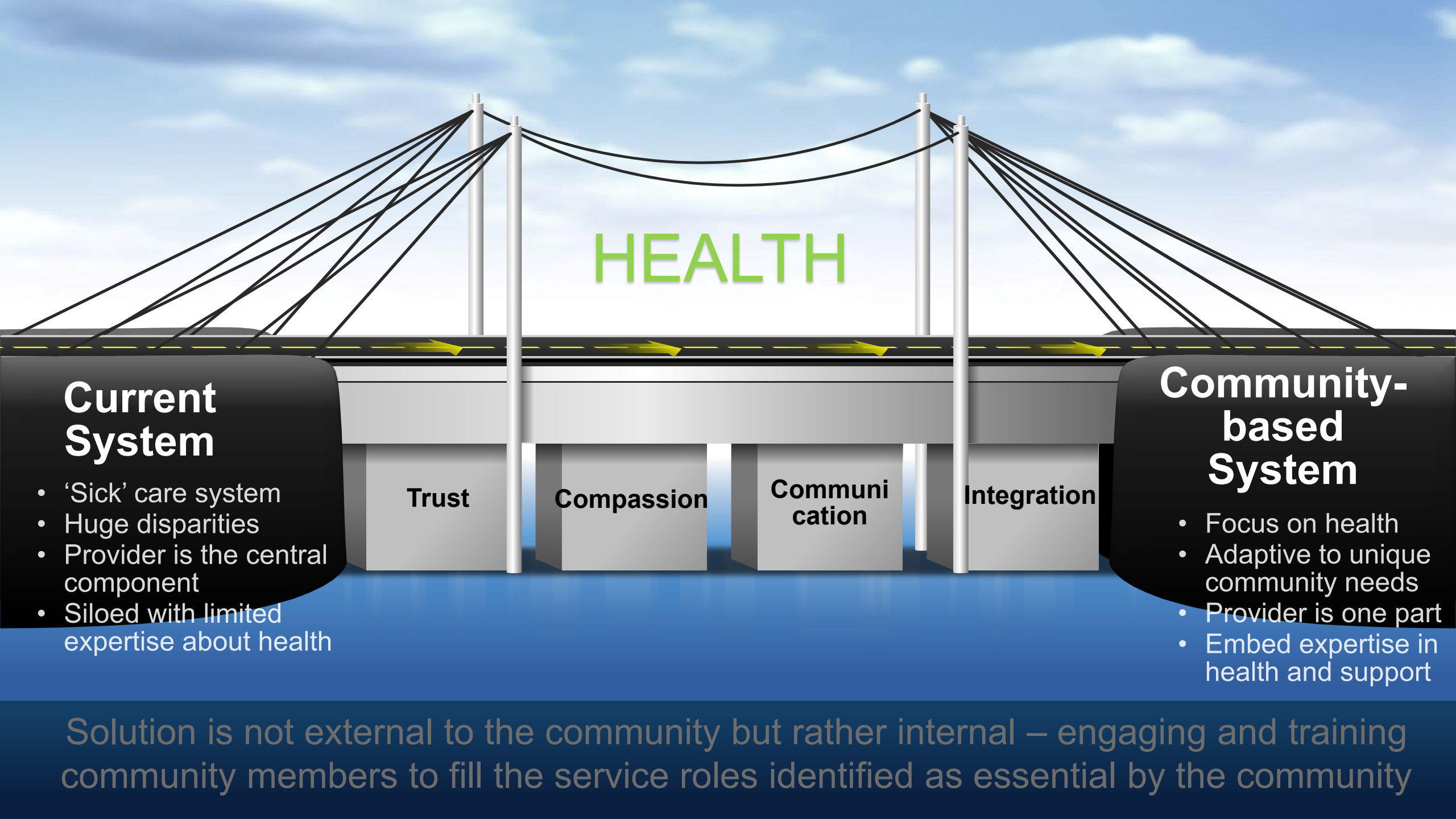


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# Community and the Health Care System

*What do communities want?*







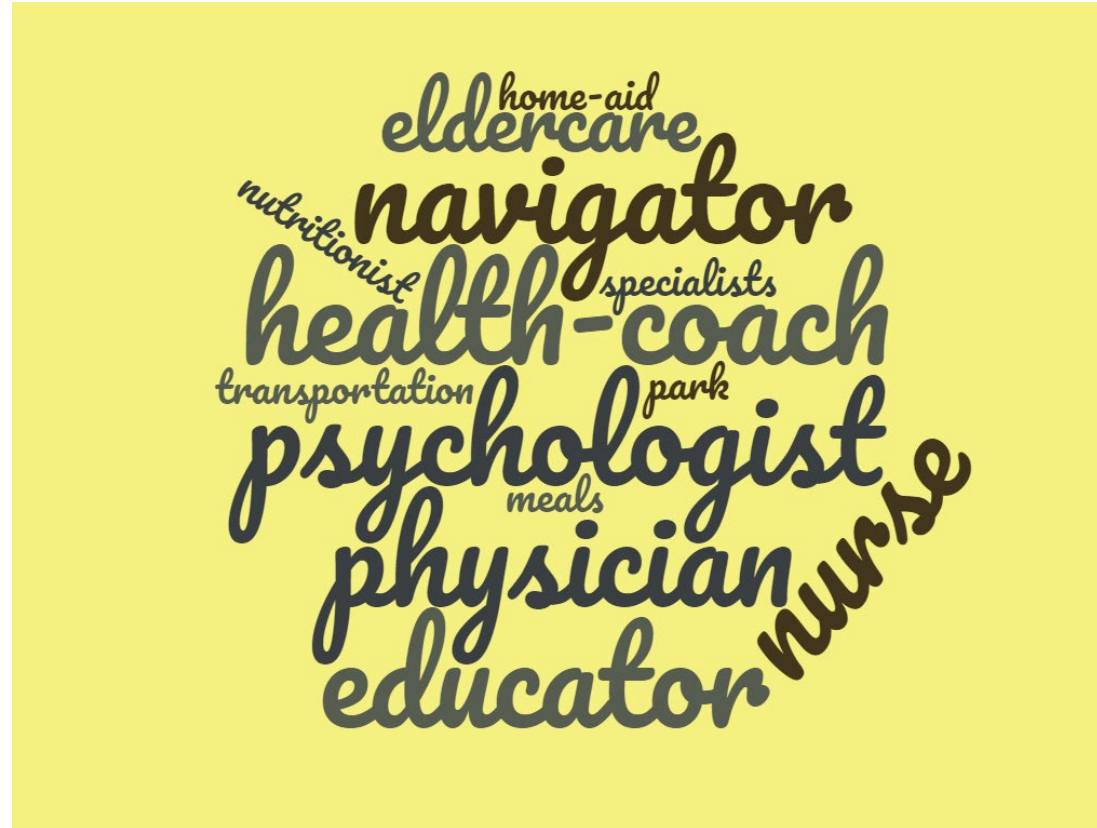
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# Community and the Health Care System

*What do communities want?*

## Community A

- Health coach
- Fitness
- Primary care
- Transportation



## Community B

- Physical therapy
- Prepared meals
- Transportation
- Primary care
- Navigator
- Eldercare



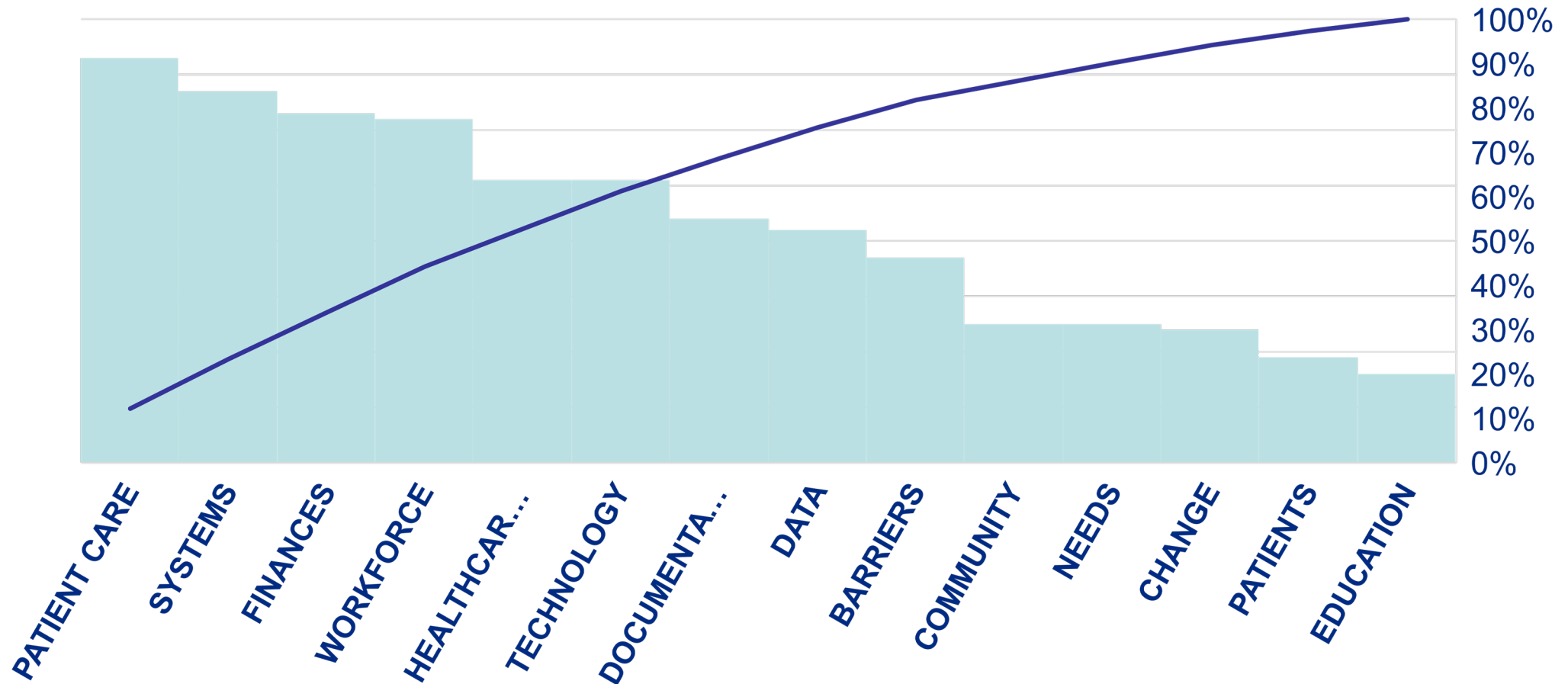
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# The Health System

*What is needed?*

## THE PERFECT SYSTEM COVERS THE WATERFRONT

Discussion Foci (n=615)





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- PATIENT CARE
  - SYSTEMS
  - FINANCES
  - WORKFORCE
  - HEALTHCARE SYSTEM OF FUTURE
  - TECHNOLOGY
  - DOCUMENTATION
- 
- DATA
  - BARRIERS
  - COMMUNITY
  - NEEDS
  - CHANGE
  - PATIENTS
  - EDUCATION

**PATIENT CARE**  
Patient focused

**SYSTEMS**  
Sick system →  
Health system

**FINANCES**  
ROI. Cost of keeping  
healthy = savings to  
pay for treatments

**WORKFORCE**  
“Work at the top of  
license” + navigator

# The Health System

*What is needed?*

**FUTURE  
HEALTHCARE**  
Team approach,  
everyone at every  
level is involved

**TECHNOLOGY**  
Transition tools into  
clinical care

**DOCUMENTATION**  
Reform process  
...team based





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- PATIENT CARE
- SYSTEMS
- FINANCES
- WORKFORCE
- HEALTHCARE SYSTEM OF FUTURE
- TECHNOLOGY
- DOCUMENTATION

- **DATA**
- **BARRIERS**
- **COMMUNITY**
- **NEEDS**
- **CHANGE**
- **PATIENTS**
- **EDUCATION**

### **DATA**

Big data to predict health...but coordinate all data

### **BARRIERS**

Infrastructure. Cost.  
Motto: No door is closed

### **COMMUNITY**

Create family from the community

### **NEEDS**

Take resources to patients

# The Health System

*What is needed?*

### **CHANGE**

Think as a start-up  
+Culture change of big ideas

### **PATIENTS**

Stakeholder involvement to transform

### **EDUCATION**

Training on health.  
Emphasis on the whole person



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# The Health System

*What is needed?*

## Identify and build from best of breed

- ☐ Community services (Brazil)
- ☐ Mental health and wellbeing (Australia)
- ☐ Innovation, flair, speed (India)
- ☐ Choice (France)
- ☐ Primary care (Israel)
- ☐ Patient and community empowerment (parts of Africa)
- ☐ Health promotion (Nordics)
- ☐ Information, communication, technology (Singapore)
- ☐ Funding (Switzerland)







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# The Health System

*What is needed?*

**Dream big**

**Move fast...be agile**