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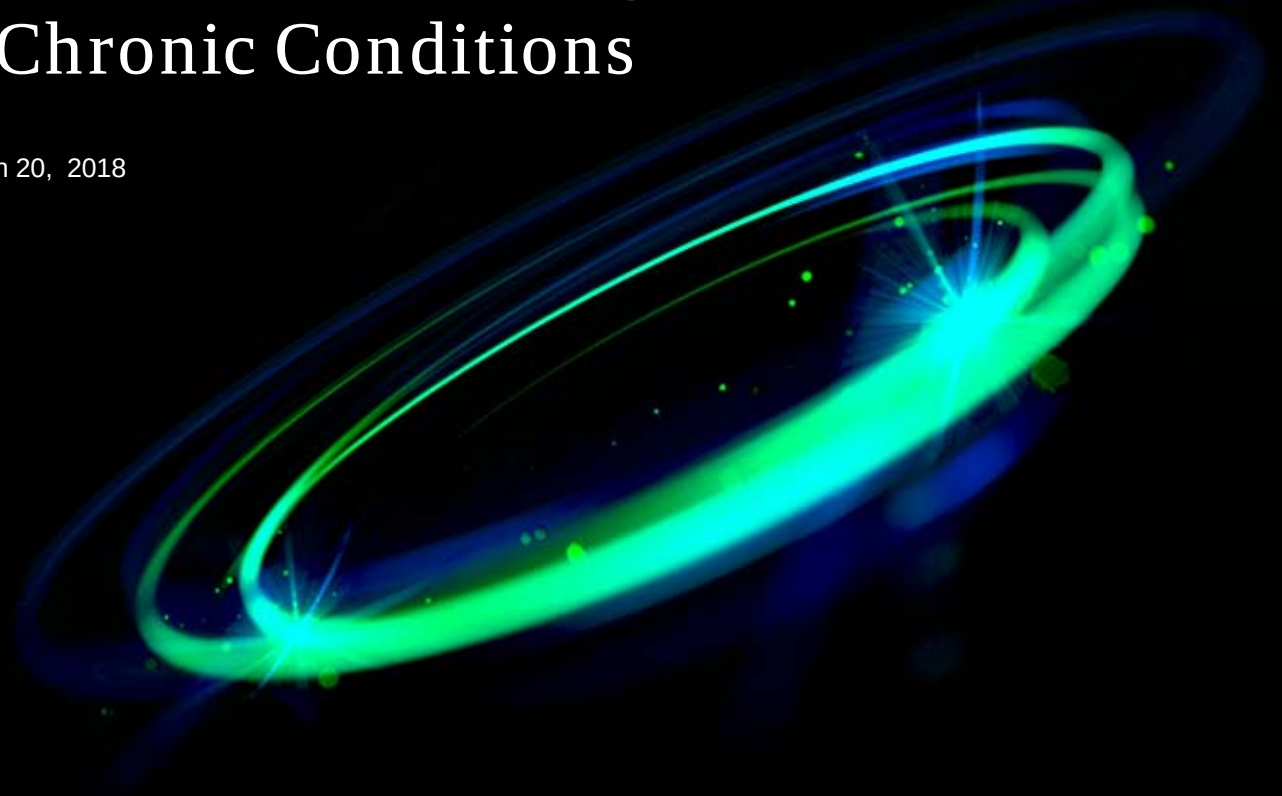
Mini Summit IV
Best in Class Collaboration Models with Pharma for Improving Population Health in Chronic Conditions

March 20, 2018



Objective

**Present models of how health systems and pharmaceutical manufacturers can work together to address chronic conditions,
such as multiple sclerosis (MS) and diabetes, within the population health framework.**

Topics covered will include the use of data analytics, quality metrics, care pathways, and roles of patients, providers, and payers.

Agenda

Landscape Review and Policy Trends Toward Value-Based Care

- David B. Nash, MD, MBA, FACP, Dean, Jefferson College of Population Health, Thomas Jefferson University

Transformation Through Disruptive Innovation

- Kristina Yu-Isenberg, PhD, MPH, RPh, VP, Head of Evidence Generation & Analytics, Intarcia Therapeutics

Systematically Improving Population Health in Chronic Neurological Conditions: The Multiple Sclerosis Case Example

- Terrie Livingston, PharmD, Senior Director, US Medical, Biogen

Panel Discussion

- Kristina Yu-Isenberg, PhD, MPH, RPh, VP, Head of Evidence Generation & Analytics, Intarcia Therapeutics
- Terrie Livingston, PharmD, Senior Director, US Medical, Biogen
- Drew A. Harris, DPM, MPH, Assistant Professor, Jefferson College of Population Health, Thomas Jefferson University

Landscape Review and Policy Trends Toward Value-Based Care

Dr. David Nash

Thomas Jefferson University College of Population Health

March 20, 2018

The Access Group

Achieving Quality and Value Has Been a Fundamental Goal For Our Health Care System

1. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academies Press; 2001. http://www.nationalacademies.org/hmd/~/media/Files/Report%20Files/2001/Crossing-the-Quality-Chasm/Quality%20Chasm%202001%20%20report%20brief.pdf. Accessed July 16, 2017. **2.** Institute of Medicine. *Envisioning the National Health Care Quality Report*. Washington, DC: National Academies Press; 2001.

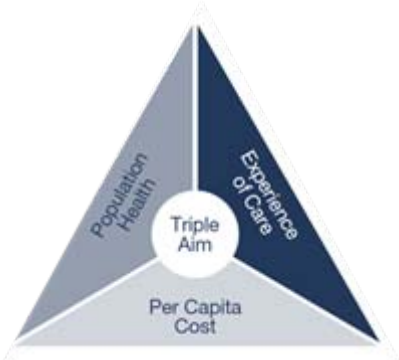
We Are Making Progress

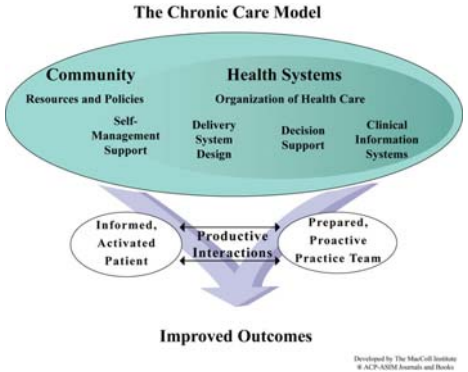
- **The shift from volume to value is occurring slowly**
- **Some aspects are improving more quickly than others**
- **Stakeholders are evolving to align with value-driven goals**

Policies and Programs Have Been Implemented to Promote Value-Based Care

Nine Levers to Achieve Improved Health and Health Care

Healthy People 2020





Cancer MoonShot 2020

AHRQ Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

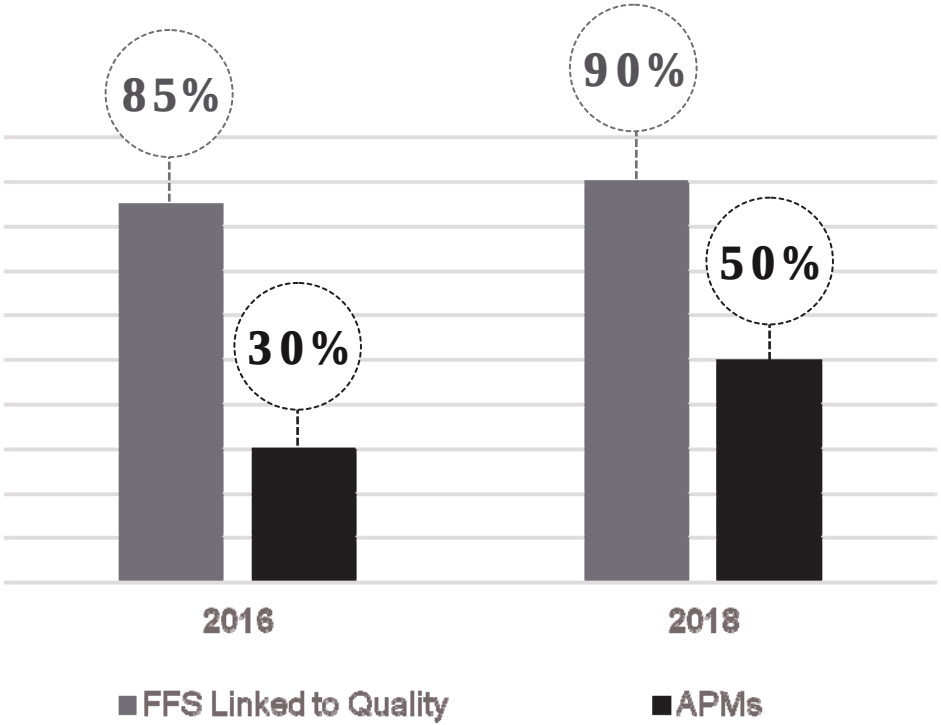
IHT² INSTITUTE FOR HEALTH TECHNOLOGY TRANSFORMATION

POPULATION HEALTH MANAGEMENT

Quality Payment Program
MACRA

Achieving Quality and Value by Being Better, Smarter, and Healthier: Delivery System Reform

In January 2015, HHS announced unprecedented goals to migrate FFS payments to APM and value-based payments



APM=alternative payment model
FFS=fee for service
HHS=US Department of Health and Human Services.

Centers for Medicare & Medicaid Services website. https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2015-Fact-sheets-items/2015-01-26-3.html. Published January 26, 2015. Accessed July 26, 2017.

Incentive and Quality Programs Are Continually Being Developed to Emphasize Value

Ambulatory Surgical Center Quality Reporting (ASCQR)

Appropriate Use Criteria Program

Center for Medicaid and CHIP Services (Medicaid EHR Incentive)

Comprehensive Primary Care

Quality Improvement Organizations

Medicaid

Bundled Payments for Care Improvement (BPCI) Advanced

Dual-Eligible Beneficiaries Program

Electronic Prescribing Incentive Programs

Nursing Home Compare

Nursing Home Quality Initiative

End-Stage Renal Disease (ESRD) Quality Incentive Program

HEDIS Quality Measure Rating System

Home Health Quality Reporting

Home Health Value-Based Purchasing

Hospice Quality Reporting

Hospital-Acquired Condition Reduction Program (HACRP)

Hospital Value-Based Purchasing

Hospice Quality Reporting

Physician Quality Reporting System

Medicare Part D Star Rating

Medicare Part C Star Rating

Merit-based Incentive Payment System

Hospital Inpatient Quality Reporting

Hospital Outpatient Quality Reporting

Inpatient Psychiatric Facility Quality Reporting (IPFQR)

Inpatient Rehabilitation Facility (IRF) Quality Reporting

Medicare Shared Savings

Long-Term Care Hospital (LTCH) Quality Reporting

Medicare Advantage Quality Improvement Program

Outcome and Assessment Information Set (OASIS)

Hospital Compare

Prospective Payment System-Exempt Cancer Hospital Quality Reporting

Payment System-Exempt Cancer Hospital Quality Reporting

Quality Payment Program

Skilled Nursing Facility Value-Based Purchasing Program (SNFVBP)

Post-Acute Care Quality Initiatives

Physician Feedback/Quality Resource Use Report

Program of All-Inclusive Care for the Elderly (PACE)

Incentive Program for Eligible Hospitals or Critical Access Hospitals

Medicare and Medicaid EHR

Medicare and Medicaid EHR Incentive Program for Eligible Professionals

Qualified Health Plan (QHP) Quality Rating System (QRS)

Physician Value-Based Payment Modifier

Hospital Readmissions Reduction Program (HRR)

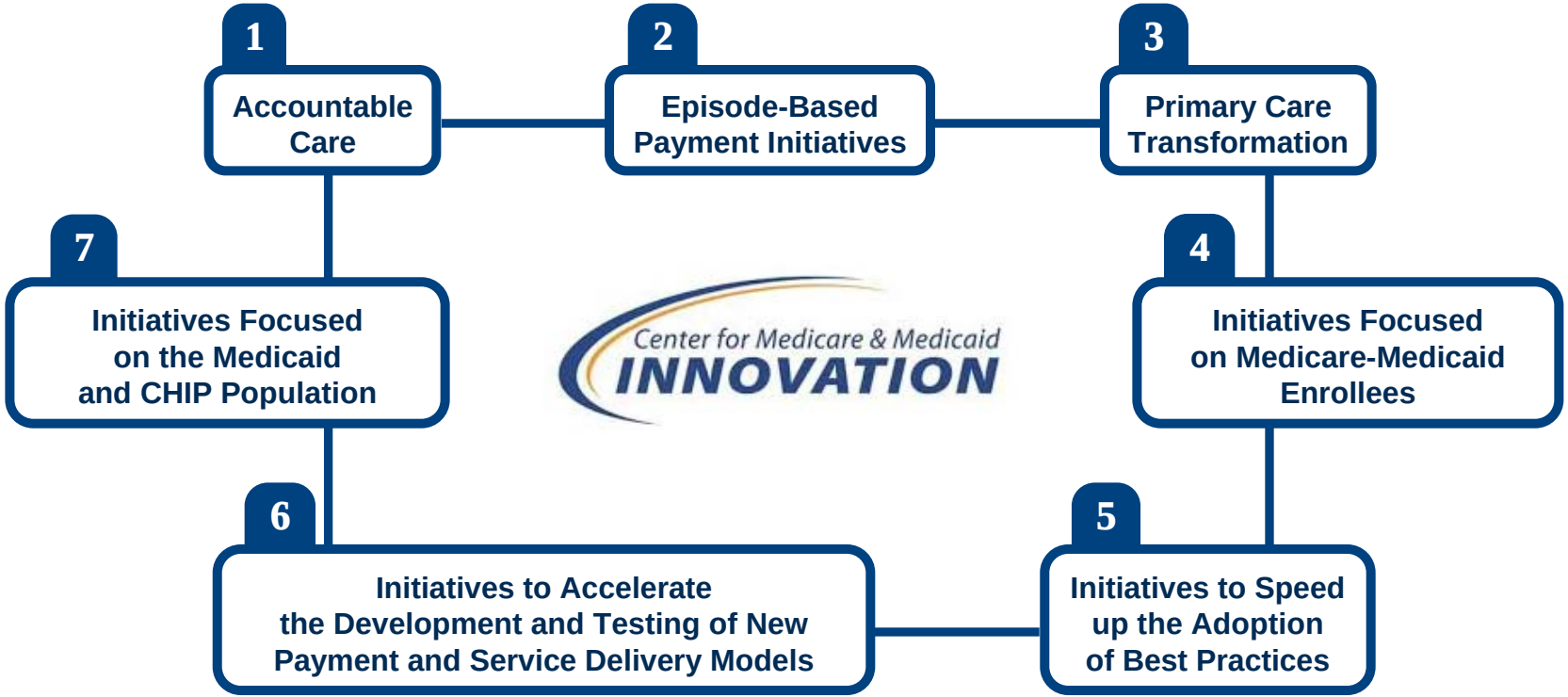
Skilled Nursing Facility (SNF) Quality Reporting Program

Value-Based Modifier (VM) Program

Value Based Programs

Physician Compare Initiative

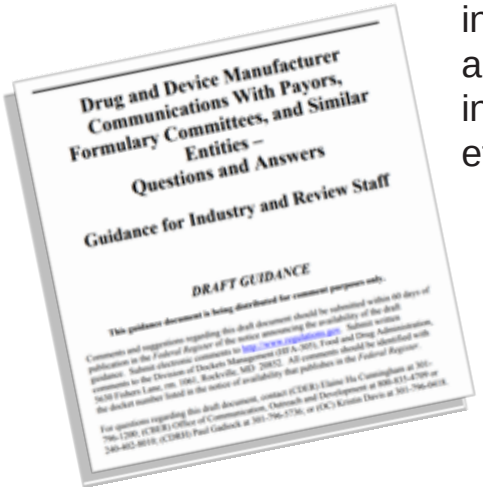
CMS Innovation Center Develops New Payment and Service Delivery Models That Focus on 7 Categories



CMS=Centers for Medicare & Medicaid Services.

The FDA is Changing the Way Payers Evaluate Pharmaceutical Products Based on RWE and Health Economics

FDAMA Section 114 Renewed Interest[1]


Drug and Device Manufacturer Communications With Payors, Formulary Committees, and Similar Entities – Questions and Answers

Guidance for Industry and Review Staff

DRAFT GUIDANCE

This guidance document is being distributed for comment purposes only.

Renewed interest stems largely from the increasingly visible and growing interest in comparative effectiveness research

The 21st Century Cures Act

Designed to help accelerate medical product development and bring new innovations and advances to patients who need them faster and more efficiently

FDA=US Food and Drug Administration.

Perfetto EM et al. JMCP July 2016 Vol. 22, No. 7

Manufacturers Are Getting Involved

Transforming the Chronic Disease Treatment Paradigm With Disruptive Innovation

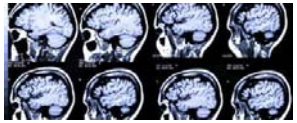
Kristina Yu-Isenberg, PhD, MPH, RPh
VP, Head of Evidence Generation & Analytics
March 20, 2018

Innovations have altered the landscape of disease treatment

Anesthesia
1846

Radiography
1895

MRI/CT
1970s



Electronic drug delivery
2000s

Small pox vaccination
1796

Penicillin
1940s

Minimally invasive surgery
1980s

The United States has contributed more toward innovation in basic science, diagnostics, and therapeutics than any other country, and in some cases, more than all other countries combined[1]

1. Whitman G, et al. Bending the Productivity Curve: Why America Leads the World in Medical Innovation. 2009. https://www.cato.org/publications/policy-analysis/bending-productivity-curve-why-america-leads-world-medical-innovation. Accessed March 8, 2018.

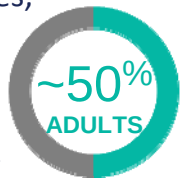
Medicine is evolving from acute symptomatic treatment to chronic disease management

"Sick-care"

Acute care model and its cultural, technological, and economic underpinnings remain embedded in every aspect of our health care system[1]

Burden of disease toward chronic conditions has accelerated[1]

In the United States, 117 million people have ≥1 chronic health conditions[2]

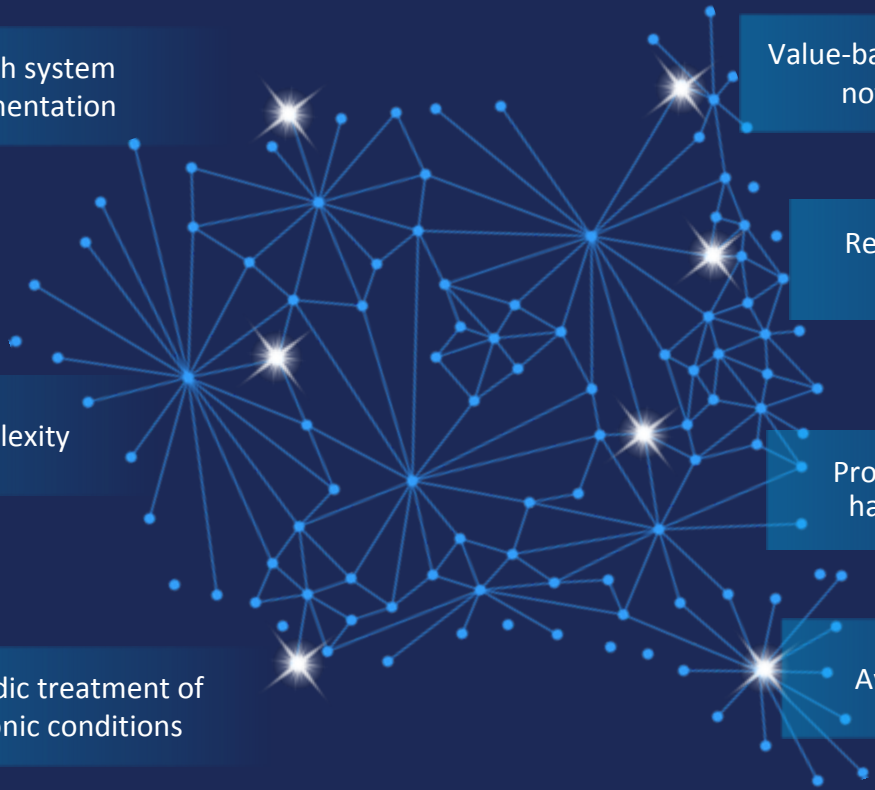


"Chronic care"

Epidemiologic progression of chronic disease demands planned integrated holistic approach to its management[1,3]

1. Marvasti F, et al. From "Sick care" to health care: reengineering prevention into the U.S. system. *N Engl J Med*. 2012;367(10):889-891. 2. Centers for Disease Control and Prevention. https://www.cdc.gov/chronicdisease/overview/index.html. Accessed March 8, 2018. 3. Transforming health: Shifting from reactive to proactive and predictive care. https://www.marsdd.com/news-and-insights/transforming-health-shifting-from-reactive-to-proactive-and-predictive-care/. Accessed March 8, 2018.

In chronic disease management, the stars have not aligned



Health system fragmentation

Value-based reimbursement not fully adopted

Real-world evidence not being maximized

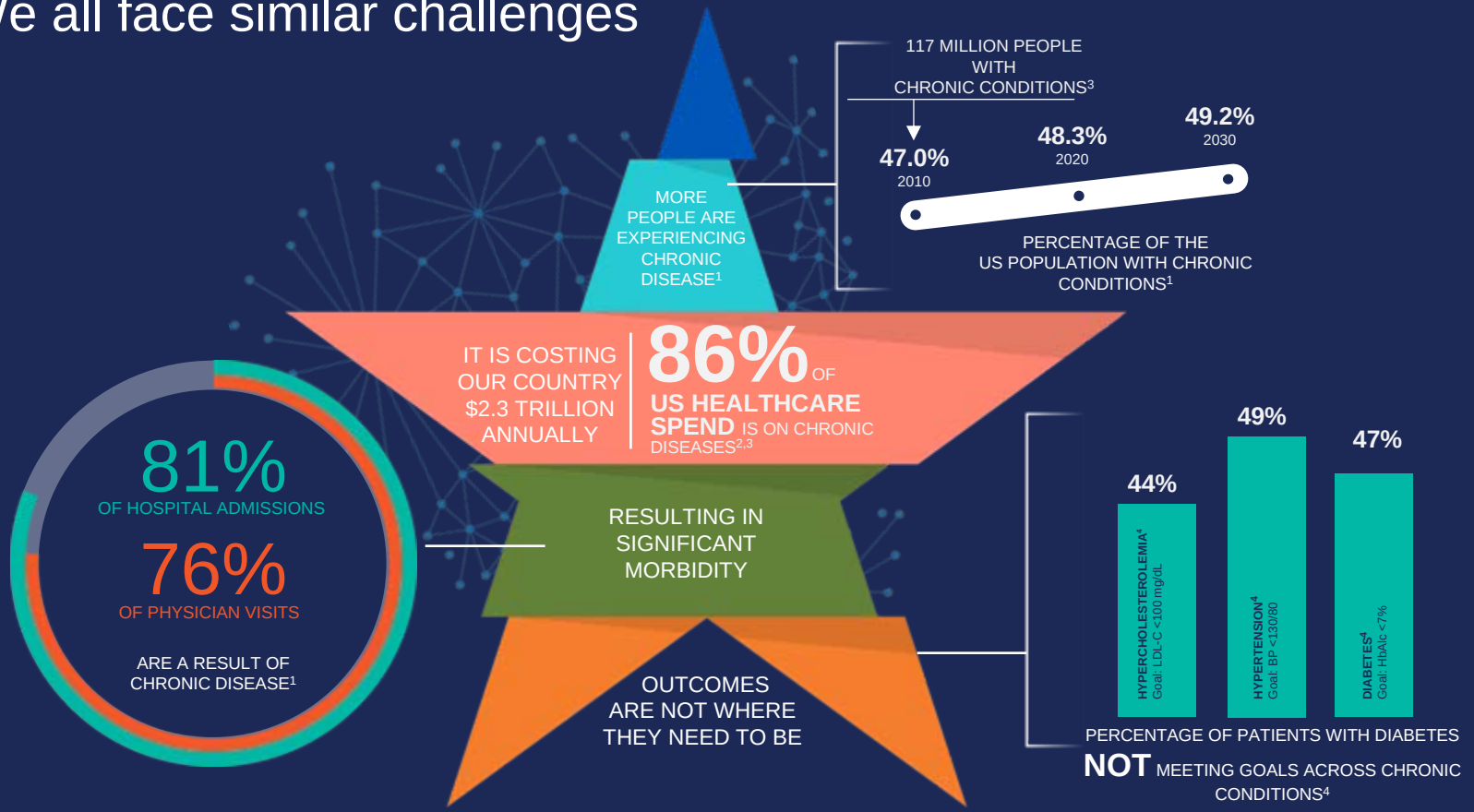
Patient complexity

Promise of technology has been unrealized

Episodic treatment of chronic conditions

Avoidable cost and waste

We all face similar challenges

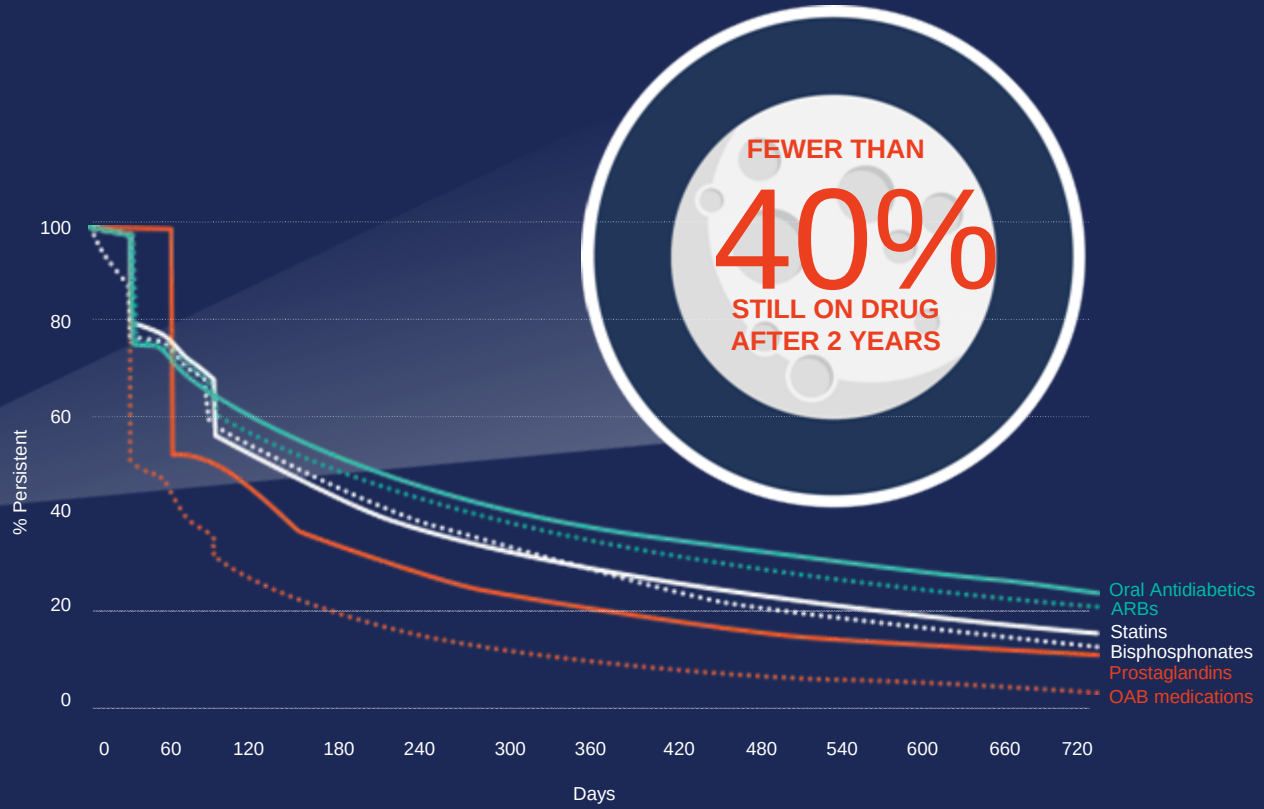


BP=blood pressure; HbA1c=hemoglobin A1c; LDL=low-density lipoprotein; T2D=type 2 diabetes.

1. Partnership to Fight Chronic Disease. The growing crisis of chronic disease in the United States. https://www.fightchronicdisease.org/sites /default/files/docs/GrowingCrisisofChronicDiseaseintheUSfactsheet_81009.pdf. Accessed March 8, 2018. 2. Gerteis J, et al. Multiple Chronic Conditions Chartbook. AHRQ Publications No, Q14-0038. Rockville, MD: Agency for Healthcare Research and Quality. April 2014. 3. Centers for Disease Control and Prevention. Chronic disease overview. https://www.cdc.gov/chronicdisease/overview/index.htm. Accessed March 8, 2018. 4. Casagrande SS, et al. The prevalence of meeting A1C, blood pressure, and LDL goals among people with diabetes, 1988-2010. Diabetes Care. 2013. 36:2271-2279.

Adherence is a key catalyst

PEOPLE WITH CHRONIC DISEASES STOP TAKING MEDICATION OVER TIME



ARBs=angiotensin receptor blockers; OAB=overactive bladder.

1. Yeaw J, et al. Comparing adherence and persistence across 6 chronic medication classes. *J Manag Care Pharm*. 2009;15(9):728-740.

Real-world challenges in managing chronic conditions: the diabetes experience

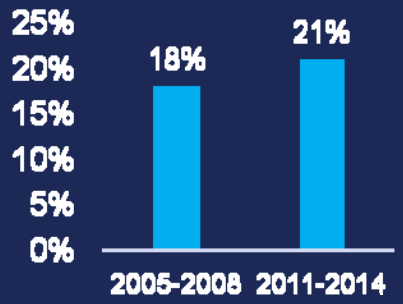
Trends not improved despite >40 new pills and injections approved over the last 10 years

of treated patients with T2D are not achieving target HbA1c/glucose goals (defined as <7%)[1]

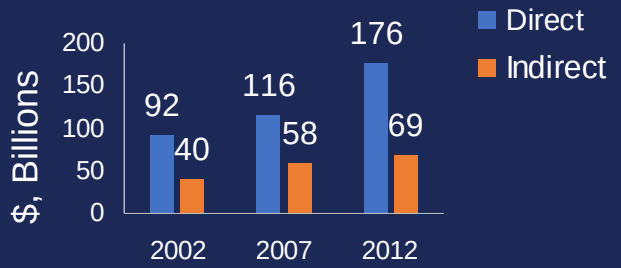
Trends Still Show

of patients with T2D stop/fail to adhere to therapy[3]

Trend worsening: more patients with T2D with HbA1c levels >9%[2]



Annual US T2D cost trends continue to increase[4-6]



1. National Committee for Quality Assurance. Comprehensive Diabetes Care. http://www.ncqa.org/report-cards/health-plans/state-of-health-care-quality/2017-table-of-contents/diabetes-care. Accessed March 10, 2018. **2**. U.S. Department of Health & Human Services. HealthyPeople.gov. https://www.healthypeople.gov/2020/data/Chart/4123?category=1&by=Total&fips=-1. Accessed March 10, 2018. **3**. Koro, Carole et al., "Treatment Utilization Patterns of GLP-1 Agonists and DPP-4 Inhibitors Among Type 2 Diabetics in a U.S. Commercially Insured Population: 2005-2011". **4**. American Diabetes Association. Economic costs of diabetes in the US in 2002. *Diabetes Care*. 2003;26(3):917-932. **5.** American Diabetes Association. Economic costs of diabetes in the US in 2007. *Diabetes Care*. 2008;31(3):596-615. **6**. American Diabetes Association. Economic costs of diabetes in the US in 2012. *Diabetes Care*. 2013;36:1033-1046.

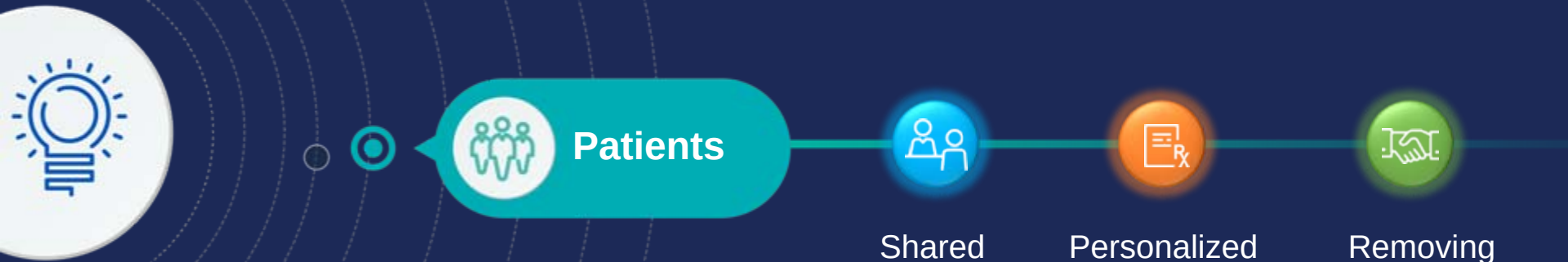
We can do better

Partner with health systems

Health Systems

- Coordinated care
- Realignment of provider incentives
- Adoption of quality metrics

Focus on patient-centric approaches



Integrate technology into chronic care management

Technology

Practice of medicine

- Implants
- Robotic surgery
- Electronic medication
- Interoperability

Patient engagement

- Telemedicine
- Digital/apps
- Patient portals

Improve adherence

- Bottle cap sensors
- Camera-based adherence technology
- Chip-in-the-pill technology
- Implantable delivery system

People deserve a **BETTER FUTURE**

How can we reimagine treatment for chronic conditions?

How can we better design medicine delivery for chronic disease?

Most therapies were not designed for long-term chronic conditions

Taking pills and injections for an entire lifetime is impractical

Our vision

We believe the solution to improving outcomes lives at the intersection of medicine and technology

Innovations shouldn’t be limited to medicine discovery and development

We are dedicated to transforming the lives of patients living with chronic disease

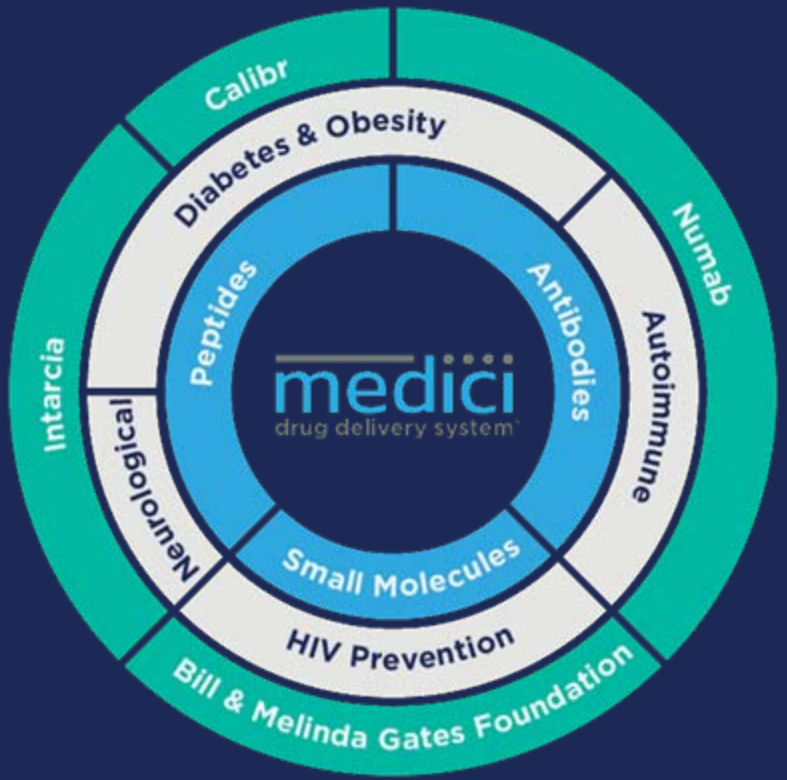
Our approach

Focus on chronic diseases that are poorly controlled

Deliver highly differentiated products that produce superior outcomes for patients, health care professionals, and payors

Transform how medications are delivered to patients

Keep patients at the very center of our thinking and our business



Our North Star approach to disruptive innovation

Systematically Improving Population Health in Chronic Neurological Conditions: The Multiple Sclerosis Case Example

Terrie Livingston, PharmD, Senior Director

March 20, 2018

Collaboration

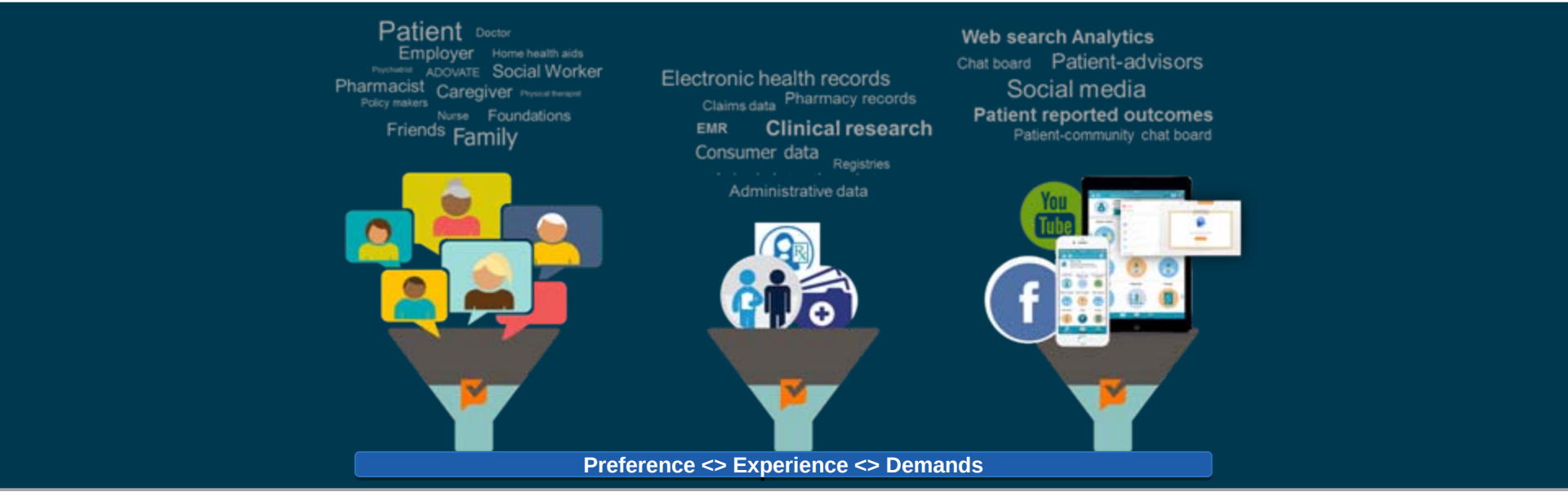
Creating meaningful change requires deep engagement.

Mutual Benefits

Shared Goals

Systematic Investigation

Understanding bona-fide needs, preferences, and value drivers requires examination.

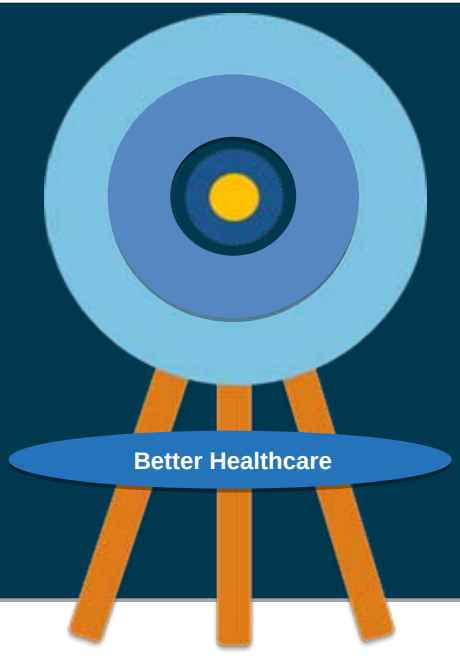


Systematic Investigation (cont.)

We partner with patient communities to understand their needs and priorities;
and with key stakeholders to identify and understand determinants of population health.

Strategy and Intent

Driving large scale improvements requires a multi-target approach.



AWARENESS AND EDUCATION

MODELS

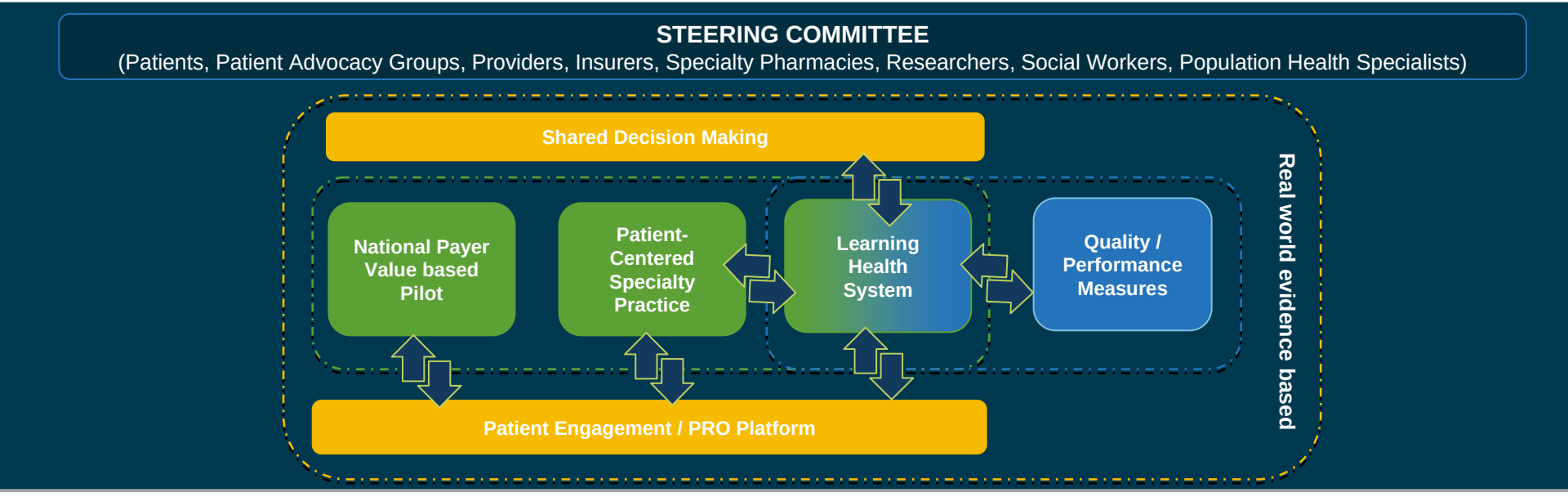
QUALITY / PERFORMANCE MEASURES

PATIENT ENGAGEMENT SOLUTIONS

Real world evidence based

Strategy and Intent In Action

We engaged a multidisciplinary steering committee to set priorities and drive improvement.



Awareness and Education

We partner with community leaders to access key communication channels.

Models

We partner with healthcare stakeholders to study models of care and create learning health systems.

Performance Measures

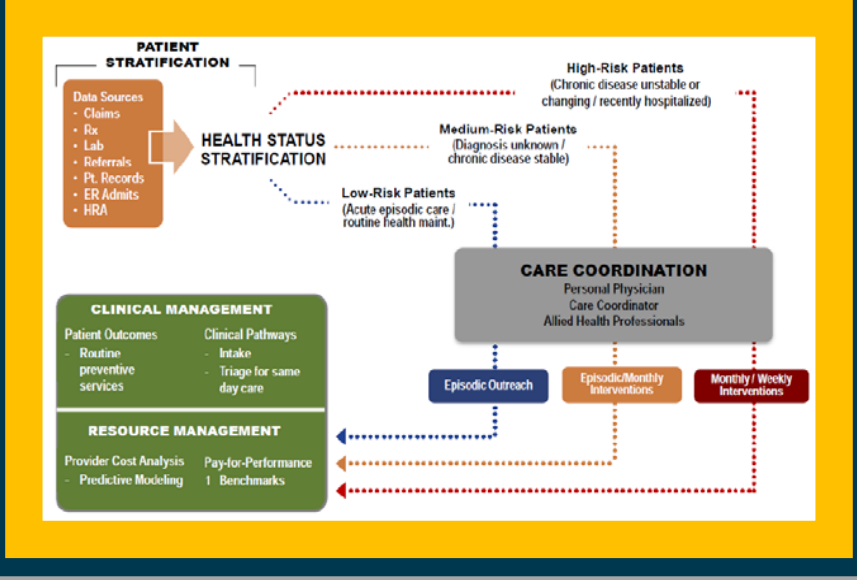
We partner with experienced measure developers, measure researchers and measure end-users to create meaningful feasible, and validated measures for broad adoption.

Patient Engagement Solutions

We partner with patient-focused technologists that already service the healthcare space.

Population Health Management Impact

The impact of population health management is wide ranging.



Population Health In Action

We are actively working to create conditions that promote health, prevent and adverse events, and improve outcomes.

- [X] Connecting Health Science with Health Delivery
- [X] Identifying Determinants of Health and Improving Policy
- [X] Applying new ways to model disease states / map their incidence and predict their impact
- [X] Using data analysis to design social and community interventions and new models of health care delivery that stress care coordination and ease of accessibility

We rely on the community to tell us if we are making a difference that matters in the lives of patients and to the system overall

SIGNIFICANCE

Panel Discussion

The Access Group

Thank You!

The Access Group