Improving Clinical Quality and Affordability Through Rapid Cycle Design

Presented to: National Academy of Medicine
Clinical Effectiveness Research Innovation Collaborative
January 25, 2018

Integrated Delivery and Finance System

UPMC LIFE CHANGING MEDICINE

$18B Global Health Enterprise

80,000 Employees

Leading Academic Medical Center

Integrated Delivery & Financing System

| UPMC HEALTH SERVICES DIVISION	UPMC ENTERPRISES	UPMC INSURANCE SERVICES DIVISION	UPMC HEALTH INTERNATIONAL

Health Services

39 Academic, Community and Specialty Hospitals

4,000+ Employed Physicians; 600+ Ambulatory Sites

#14 Best Hospital; #9 Best Children's Hospital - *U.S. News*

Partnership – University of Pittsburgh – #5 NIH Funding

3rd Largest GME Program (1,750 Residents & Fellows)

Insurance Services

3.4M Health Insurance Members

Leading Market Share: Medicare, Medicaid & Children's Health, LTSS and Behavioral

4 and 5 Star Medicare and Commercial Ratings NCQA

#1 Member Satisfaction in PA – J.D. Power

Multiple PCORI Awards

Infrastructure to Support Implementing Care and Payment Transformation

Quality Review Committee
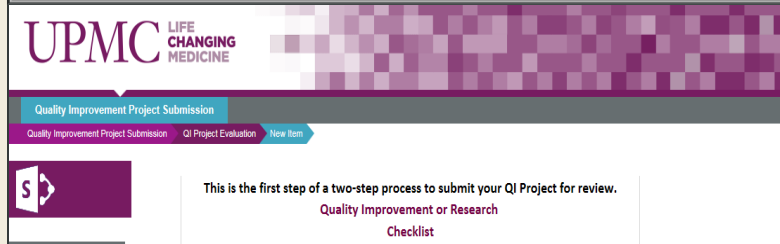
UPMC Provider-Payer Transformation Steering Committee

UPMC Center for High-Value Health Care
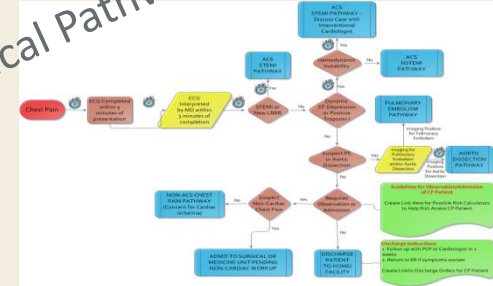
Value Based Pharmacy and Initiatives

University of Pittsburgh

Institutional Review Board (IRB)

3

Population Health Meets Precision Medicine

Population Health

DECREASE variation in population care

Clinical Pathways

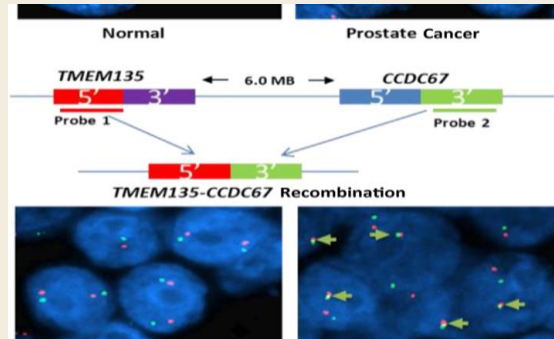Analytics & Machine Learning

Precision Medicine

INCREASE variation in individual care

Targeted therapy (target severe disease and reduce unnecessary care)

Examples:

fusion genes identify aggressive prostate cancer

Normal   Prostate Cancer

TMEM135   ←— 6.0 MB —→   CCDC67
5'   3'   Probe 1   Probe 2   5'   3'

TMEM135-CCDC67 Recombination

The New York Times

It's Not Cancer: Doctors Reclassify a Thyroid Tumor

An international panel led by UPMC and Pitt strips a type of tumor of its 'cancer' title, saving patients from unnecessary and painful life-long treatment.
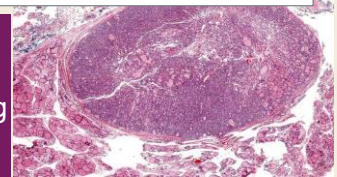
ThyroSeq Nikiforov

4

UPMC INSURANCE SERVICES

- MyFlex Advantage
- UPMC Health Plan
- UPMC for Life
- EAP Life Solutions
- UPMC for Life Special Needs
- WorkPartners
- UPMC for You
- Workers' Compensation Solutions
- UPMC for Kids
- Community Care Behavioral Health
- UPMC Vision Care
- UPMC Dental Advantage
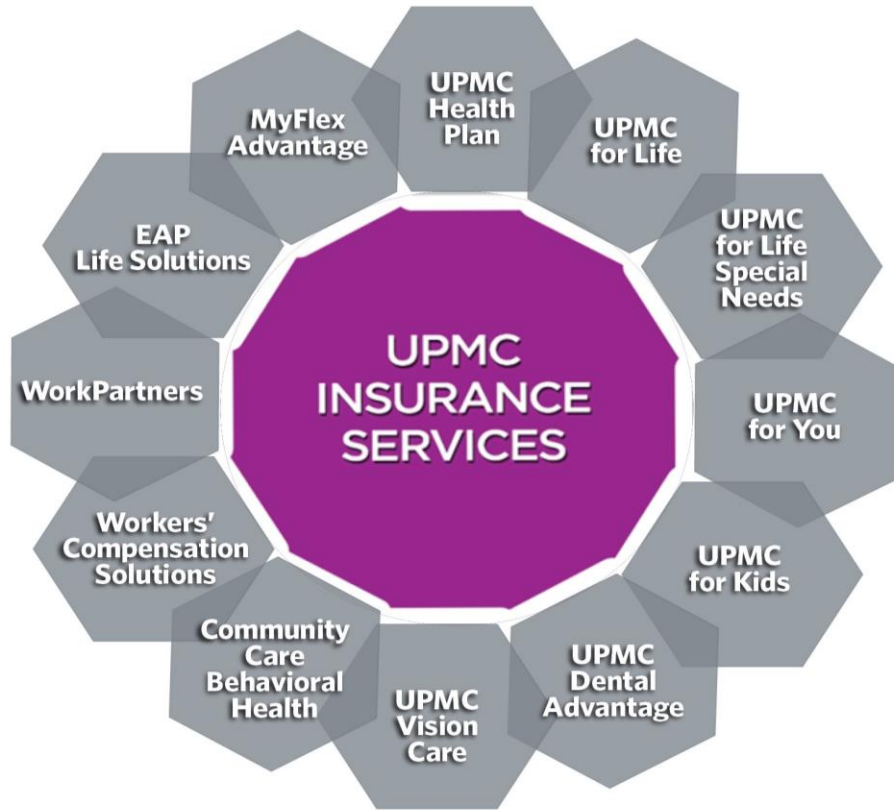
Large Network Anchored by UPMC

- UPMC Health Plan Contracted Network
- UPMC Health Plans
- UPMC Clinical Enterprise
- Other Major Payers

Translational Opportunity

Value-Based Innovation

Translational Opportunity

5
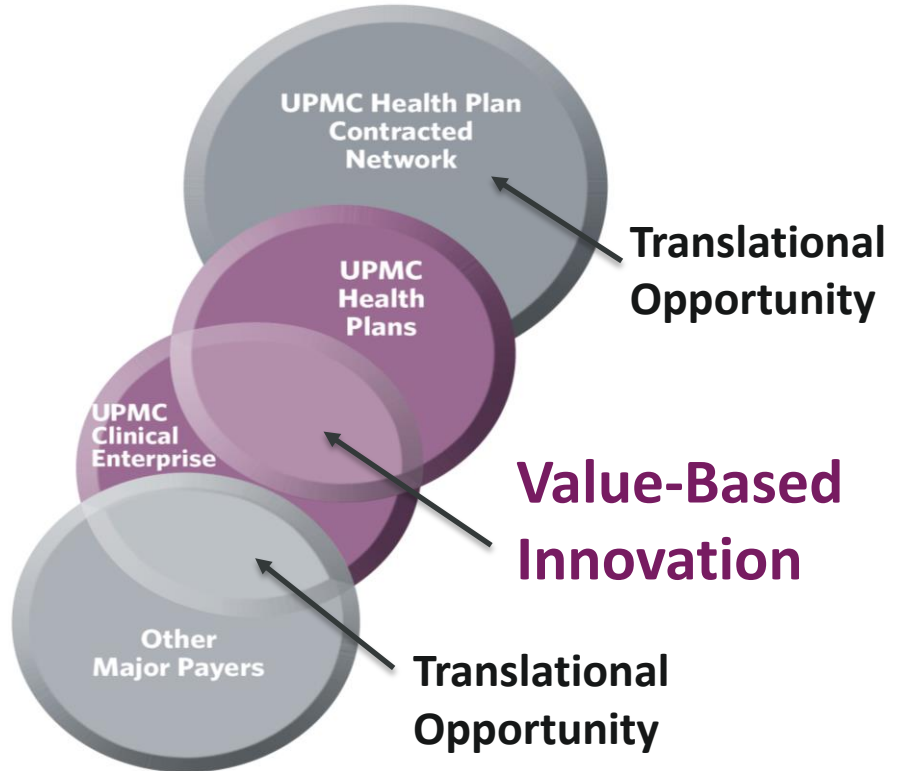
UPMC Center for High-Value Health Care

Promote and enhance visibility and innovation through **externally-funded research** that supports/ leverages ongoing work across the Insurance Services Division

Broadly **disseminate findings** through an active agenda of publication and presentations to spotlight UPMC's unique IDFS value proposition

CHVHC

Broad Dissemination of Results

Collaborative Partnerships

Evidence-Based Program Development

Definition of Goals, Outcomes & Decision-Points

Rapid-Cycle Learning & Improvement of Programs

Rigorous Evaluation

PCORI Awards

SAMHSA

RWJ

NIH - Collaboration Grants

6

Business Innovation, Learning, and Dissemination (BuILD) Framework – Rapid Learning Infrastructure

Define, Refine & Test Design

Calculate Resources

Program Implementation

Rapid Cycle Learn & Improve

Modify & Scale

Disseminate & Communicate

Support **Business Innovation, Learning and Dissemination (BuILD)** through a collaborative rapid cycle evaluation and learning process
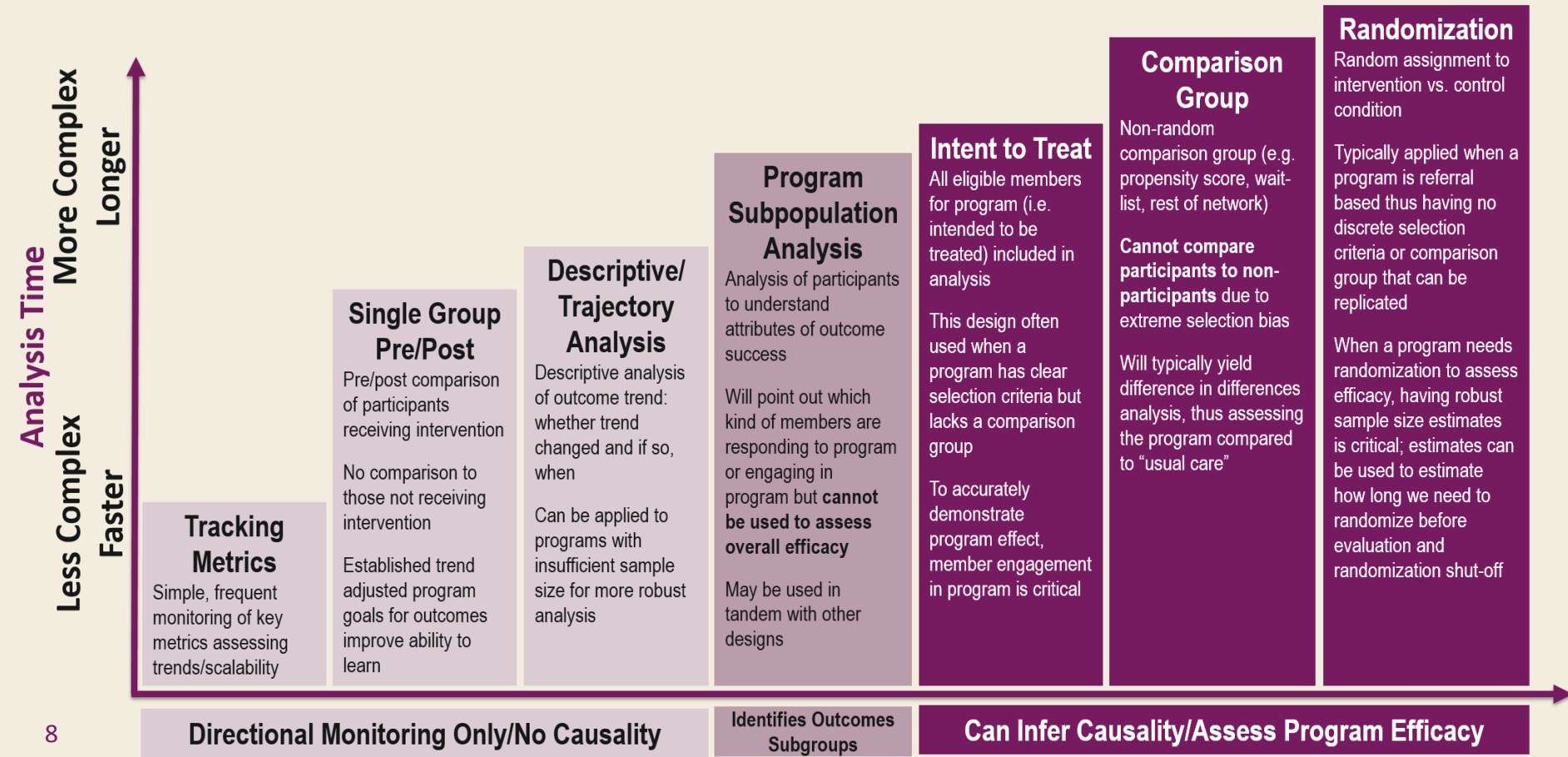
Iterative rapid cycle evaluation and learning approach to reduce cycle time

Optimizing key outcome drivers enables programs to become more effective, more quickly and for learnings to be rapidly shared with other program teams as appropriate

Supports provider-payer transformation teams with design and evaluation and implementation strategies

Program Evaluation Design Options (Conducted Singularly or in Combination)

Analysis Time
More Complex → Longer
Less Complex → Faster

Tracking Metrics
Simple, frequent monitoring of key metrics assessing trends/scalability

Single Group Pre/Post
Pre/post comparison of participants receiving intervention

No comparison to those not receiving intervention

Established trend adjusted program goals for outcomes improve ability to learn

Descriptive/ Trajectory Analysis
Descriptive analysis of outcome trend: whether trend changed and if so, when

Can be applied to programs with insufficient sample size for more robust analysis

Program Subpopulation Analysis
Analysis of participants to understand attributes of outcome success

Will point out which kind of members are responding to program or engaging in program but **cannot be used to assess overall efficacy**

May be used in tandem with other designs

Intent to Treat
All eligible members for program (i.e. intended to be treated) included in analysis

This design often used when a program has clear selection criteria but lacks a comparison group

To accurately demonstrate program effect, member engagement in program is critical

Comparison Group
Non-random comparison group (e.g. propensity score, wait-list, rest of network)

Cannot compare participants to non-participants due to extreme selection bias

Will typically yield difference in differences analysis, thus assessing the program compared to "usual care"

Randomization
Random assignment to intervention vs. control condition

Typically applied when a program is referral based thus having no discrete selection criteria or comparison group that can be replicated

When a program needs randomization to assess efficacy, having robust sample size estimates is critical; estimates can be used to estimate how long we need to randomize before evaluation and randomization shut-off

Directional Monitoring Only/No Causality | **Identifies Outcomes Subgroups** | **Can Infer Causality/Assess Program Efficacy**

8

Provider-Payer Transformation Teams

Primary Care Transformation

1. Create team based primary care
2. Develop new primary payment models
3. Align primary care with full ambulatory continuum

Key Metrics

- Post-acute Follow-up Rates ↑
- Unplanned Care Rates ↓
- Surgery Rates ↓
- Readmission Rates ↓
  - ASC Rate
  - ER Presentation Post-Acute
  - CMS Stars (all cause)
- Enhance Patient Health Behavior
- Patient/Family Satisfaction ↑

Specialist Care Transformation

1. Refine protocol based care
2. Reduce unnecessary practice variations
3. Ensure appropriate utilization
4. Enhance shared decision support
5. Improve specialty-primary care coordination
6. Create specialty medical homes

Key Metrics

- PCP : Specialist Ratio
- Post-acute Follow-up Rates ↑
- Unplanned Care Rates ↓
- Surgery Rates ↓
- Readmission Rates ↓
  - ASC Rate
  - ER Presentation Post-Acute
  - CMS Stars (all cause)
- Patient/Family Satisfaction ↑

Post-Acute Care Transformation

1. Develop innovative home and community based treatment capacity
2. Optimize coordination of post-acute care services
3. Enhance patient and family education, outreach and support

Key Metrics

- Post-acute Follow-up Rates ↑
- Readmission Rates ↓
  - ASC Rate
  - ER Presentation Post-Acute
  - CMS Stars (all cause)
- Nursing Home Rates
- Patient/Family Satisfaction ↑

Supportive/Palliative Transformation

1. Improve quality of life for terminally ill
2. Enhance in-home and other "hospice-type" services
3. Enhance ambulatory-based education and support

Key Metrics

- Palliative Care & Hospice Utilization ↑
- Readmits 90 Days Pre-Death ↓
- Chemo/Radiation 30 Days Pre-Death ↓
- Patient/Family Satisfaction ↑

* Supported by people, business process and technology; predictive and prescription analytics; and aligned benefit designs and network configuration and management.

Transforming Care Through Value Based Payment Design

500 Medical Home Sites

- Patient-Centered Medical Homes
- Shared Savings Arrangement
- UPMC AnywhereCare Virtual Visits
- UPMC *My*Health 24/7 Nurse Line
- Rx for Wellness
- Health Coaching

Practices supported by robust analytics, care management technology support

Network and benefit designs engage members

Primary Care "Medical Home" Risk Sharing
Physicians incentivized to improve quality and reduce non-value add care

UPMC Health Plan Value Based Insurance Design
Five year Medicare Advantage Value Based CMS demonstration project
Our approach: Engage members with CHF, COPD and Diabetes in incentive program

Specialty Medical Home IBD
Team-based care to improve quality and cost outcomes

Post Acute In-Home Services
Transitions in care for high risk elderly

New Payment Model for Oncology Services
Five year CMS Oncology Care Model (OCM) in partnership with UPMC's Oncology-Hematology Associates

Bundled Payments
Orthopedics ■ Spine ■ Maternity ■ Obstetrics ■ AMI/CABG

- Immediate Support
- Sustained Engagement
- Better Clinical Outcomes
- Reduced Medical Spend