How CER Can Bring Better Care to Patients
Objectives

➢ Strategic needs
➢ Operational requirements
➢ Challenges

…perspective of one academic health center…
Strategic needs

- Strong commitment to research on the practice with the goal of improving the practice
- Culture of teamwork
- Leadership engagement
Business case for CER

- Where research and QI meets
- Maximize reimbursement
- Weather the journey from fee for service to alternative payments models
- The quest for value…
Time to Take Health Delivery Research Seriously

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Biomedical science has made amazing life-saving discoveries. The science of “omics” offers hope for further improvements in preventing, prognosticating, and personalizing care. Each year, researchers publish approximately 18,000 active clinical trials, yet a gap remains between the development and publication of this new knowledge and better patient outcomes. While clinical translational science awards are designed to improve population health, their relevance varies pending on how the knowledge is used by providers. The development of new therapies raises the question of how they are prioritized and which are best for whom. Likewise, when there is a valid measure for a patient outcome that can be accurately and feasibly collected from a large number of health systems, when evidence-based interventions to improve the outcome are sufficiently known, and when pilot tests demonstrate that a multifaceted intervention improves patient outcomes. Policy makers can support the creation of national mechanisms to monitor performance and share evidence-based practices while encouraging local provider organizations to innovate, coordinating social, economic, and regulatory pressures to change behavior to optimize outcomes.

“If patients are to receive the full benefit of medical advances, health care has to take health delivery research seriously and conduct research to improve population health.”

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“Left open for further thought and research.”

William Worrall Mayo, MD
Singular focus on the needs of patients

Strong emphasis on value
  - Individual patients
  - Broader health care system

Translation of knowledge into delivery
Operational needs

- Dedicate resources
- Acknowledge complexity
Operational needs

Acknowledge complexity…

- Multiplicity of tests and procedures
- Explosion of knowledge
- Regulatory environment
- Focus on process measures
- Electronic health record
- Erosion of reimbursement
From health economics to clinical research to behavioral sciences
An engineer’s vision
Mayo Clinic Operating Plan

People
Create the Healthcare Workforce of the Future that Sustains Mayo’s Values

• Improve staff’s ability to deliver high value care
• Implement individual provider scorecards including quality and cost metrics (outcomes, safety, service, cost, competence, adherence to standardized practice guidelines)
• Invest in continuous staff development to improve staff satisfaction and retention
• Increase diversity of staff and development of diverse staff
• Improve leadership training and mentoring
• Increase the number and skill of physicians and clinical and basic scientists engaged in generating new knowledge
• Increase our capacity and skill in comparative effectiveness and health care delivery research

Processes
Transform Mayo Clinic’s Knowledge Management and Healthcare Delivery Process

• Provide solutions and hope for patients
• Standardize, improve effectiveness (outcomes, safety, service), and reduce cost in:
  • All practice settings
  • Core clinical processes
  • Core business processes
• Explore new payment mechanisms
• Generate, evaluate, integrate, and manage knowledge and information
• Create global value-adding relationships, alliances, and partnerships that serve as a platform to extend the reach of Mayo Clinic’s knowledge to delivery proposition
• Increase our offerings for health and healthy living

Outcomes
Deliver Highest Value Care – Be Most Trusted and Affordable

• Achieve the highest levels of outcomes, safety, and service
• Reduce cost and fees
• Increase appropriate access to Mayo Clinic services

Achieve Mission-Advancing Financial Performance

• Achieve NOI, cost, and margin targets from practice operations
• Achieve NOI, cost, and margin targets from strategic business development
• Increase market share in targeted segments
• Re-invest a portion of NOI into research and development for new products and services; practice transformation; and strategic growth

• Increase our capacity and skill in comparative effectiveness and health care delivery research
The Mayo Clinic Center for the Science of Health Care Delivery was created in 2011

To create, evaluate and implement high value patient-centric care delivery

Objectives

• Improve our delivery systems to provide high value and reliable care
• Increase our national leadership in value driven care delivery
• Disseminate our knowledge

Part of our Strategic and Operating Plan
A compass...

Value = \frac{Quality}{Cost \over time}

(outcomes, safety, service)
Days Between Events With Any Type of Harm (E and Higher) For Events Influenced By Barcode Technology
Frozen Section Margin Analysis and Reoperation in Lumpectomy for Breast Cancer

▶ Compare reoperation rates following lumpectomy:
  ▶ at MCR, where frozen section pathology is used, to national rates.

▶ 2006-2010: 23,911 National and 314 Mayo patients

▶ Return to OR rate 13% overall
  ▶ 13% in the National cohort
  ▶ 3.5% Mayo cohort (p<0.001)

▶ Use of intra-operative frozen section of margins associated with reduced re-operations for margin control in women operated for breast cancer.

▶ Improved value: better quality and reduced cost
Value Analysis
Douglas Wood, MD
Assoc Medical Director
James Naessens, ScD
Assoc Scientific Director

Health Affairs

A Collaborative Of Leading Health Systems Finds Wide Variations In Total Knee Replacement Delivery And Takes Steps To Improve Value

ABSTRACT Members of a consortium of leading US health care systems, known as the High Value Healthcare Collaborative, used administrative data to examine differences in their delivery of primary total knee replacement. The goal was to identify opportunities to improve health care value by increasing the quality and reducing the cost of that procedure. The study showed substantial variations across the participating health care organizations in surgery times, hospital lengths-of-stay, discharge dispositions, and in-hospital complication rates. The study also revealed that higher surgeon caseloads were associated with shorter lengths-of-stay and operating time, as well as fewer in-hospital complications. These findings led the consortium to test more coordinated management for medically complex patients, more use of dedicated teams, and a process to improve the management of patients’ expectations. These innovations are now being tried by the consortium’s members to evaluate whether they increase health care value.
...challenges...
Evaluate what we do

Better outcomes
Healthier Lives

Clinical Practice Implementation
New contracts with payors Knowledge development
Patents, Inventions Publications Grants
New Hires Programs created
Total dollars awarded to CSHCD

EVALUATION CRITERIA
From Paper to Terabytes… the brave new world of big data

Demographics  Laboratories
Diagnoses    Procedures
Narratives  Pathology…

High-Volume Data Storage
Data and dilemmas

- Clinical (EHR)
- Patient-reported
- Environment
- Genomics and other *omics
- Physiology

...informational risk, signal to noise ratio, integration, predictive modeling....