Quality by Design in Ambulatory Practice

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Internal Medicine residency Program
Kansas University Medical Center
Learning objectives:

• Understanding & implementing Population health quality measures in ambulatory practice
• Building a high reliability quality system
• Lean strategies & waste elimination approach
• Fostering care team initiatives around quality
• Building quality through system design and clinical processes.
Improve the:

• **BETTER HEALTH:** health of the defined population
• **BETTER CARE:** Enhance the patient care experience (including quality, access and reliability)
• **LOWER COST:** Reduce, or at least control, the per capita cost of care
Quality care?

- Picture of an amputation in the operating theatre of old Saint Thomas Hospital, London, around 1775
And...by having constancy of purpose!

“Quality is meeting and exceeding the customer’s needs and expectations and then continuing to improve.”

W. Edwards Deming

Steps toward Mature Processes
An Aid for Assessing and Scoring Process Items

Reacting to Problems (0–25%)

Operations are characterized by activities rather than by processes, and they are largely responsive to immediate needs or problems. Goals are poorly defined.

Early Systematic Approaches (30–45%)

The organization is beginning to carry out operations with repeatable processes, evaluation, and improvement, and there is some early coordination among organizational units. Strategy and quantitative goals are being defined.

Aligned Approaches (50–65%)

Operations are characterized by repeatable processes that are regularly evaluated for improvement. Learnings are shared, and there is coordination among organizational units. Processes address key strategies and goals.

Integrated Approaches (70–100%)

Operations are characterized by repeatable processes that are regularly evaluated for change and improvement in collaboration with other affected units. The organization seeks and achieves efficiencies across units through analysis, innovation, and the sharing of information and knowledge. Processes and measures track progress on key strategic and operational goals.
From Fighting Fires to Innovation: An Analogy for Learning

Learning is an essential attribute of high-performing organizations. Effective, well-deployed organizational learning can help an organization improve from the early stages of reacting to problems to the highest levels of organization-wide improvement, refinement, and innovation.

1. Reacting to the problem (0–5%)
   Run with the hose and put out the fire.

2. General improvement orientation (10–25%)
   Install more fire hoses to get to the fires quickly and reduce their impact.

3. Systematic evaluation and improvement (30–45%)
   Evaluate which locations are most susceptible to fires. Install heat sensors and sprinklers in those locations.

4. Learning and strategic improvement (50–65%)
   Install systemwide heat sensors and a sprinkler system that is activated by the heat preceding fires.

5. Organizational analysis and innovation (70–100%)
   Use fireproof and fire-retardant materials. Replace combustible liquids with water-based liquids. Prevention is the primary approach for protection, with sensors and sprinklers as the secondary line of protection.
I know I deliver high quality care because I’m well trained.

We measure our quality and make rapid changes to improve it.

*Slide from Daniel Duffy MD School of Community Medicine Tulsa Oklahoma*
Care ≠ Visits

A great relationship demands that we go far beyond visits in delivering care to patients

How?
Can we do that? Was it done?

An outmoded way of managing patients

The Time Problem: Current Primary Care

- Time Needed for Chronic Illness Care: 10.6 hours a day for 2500 patients
- Time Needed for Preventive Care: 7.4 hours a day
- Time Needed for Acute Care: 4.6 hours a day
- Total face to face time for 2500 patients: 22.6 hours/day

Figure 1. The Bottleneck of Brief Episodic Visits

Ann Fam Med 2005;3:209
Am J Pub Health 2003;93:635
There are serious problems in quality

- Between the health care we have and the health care we could have lies not just a gap but a chasm.

The problems come from **POOR SYSTEMS ... not bad people**

- In its current form, habits, and environment, American health care is incapable of providing the public with the quality health care it expects and deserves.

We can fix it ... but it will require **change**
Phasing Out Fee-for-Service Payment

Steven A. Schroeder, M.D., and William Frist, M.D., for the National Commission on Physician Payment Reform

Recommendation 6: Fee-for-service contracts should always include a component of quality or outcome-based performance reimbursement at a level sufficient to motivate a substantial change in behavior.
Eliminating Waste in US Health Care

Donald M. Berwick, MD, MPP
Andrew D. Hackbart, MPhil

No matter how polarized politics in the United States have become, nearly everyone agrees that health care costs are unsustainable. At almost 18% of the gross domestic product (GDP) in 2011, headed for 20% by 2020, the nation’s increasing health care expenditures reduce the resources available for other worthy government programs, erode wages, and undermine the competitiveness of US industry. Although Medicare and Medicaid are often in the limelight, the health care cost problem affects the private sector just as much as the public sector. Both need

The need is urgent to bring US health care costs into a sustainable range for both public and private payers. Commonly, programs to contain costs use cuts, such as reductions in payment levels, benefit structures, and eligibility. A less harmful strategy would reduce waste, not value-added care. The opportunity is immense. In just 6 categories of waste—overtreatment, failures of care coordination, failures in execution of care processes, administrative complexity, pricing failures, and fraud and abuse—the sum of the lowest available estimates exceeds 20% of total health care expenditures. The actual total may be far greater. The savings potentially achievable from systematic, comprehensive, and cooperative pursuit of even a fractional reduction in waste are far higher than from more direct and blunter cuts in care and coverage. The potential economic dislocations, however, are severe and require mitigation through careful transition strategies.

JAMA. 2012;307(14):1513-1516
Published online March 14, 2012. doi:10.1001/jama.2012.362
www.jama.com
The “wedges” model for US health care follows the approach based on the model by Pacala and Socolow. The solid black “business as usual” line depicts a current projection of health care spending, which is estimated to grow faster than the gross domestic product (GDP), increasing the percentage of GDP spent on health care; the dashed line depicts a more sustainable level of health care spending growth that matches GDP growth, fixing the percentage of GDP spent on health care at 2011 levels. Between these lines lies the “stabilization triangle”—the reduction in national health care expenditures needed to close the gap. The 6 colored regions filling the triangle show one possible set of spending reduction targets; each region represents health care expenditures as a percentage of GDP that could be eliminated by reduction of spending in that waste category over time.

**Figure Legend:**

The “wedges” model for US health care follows the approach based on the model by Pacala and Socolow. The solid black “business as usual” line depicts a current projection of health care spending, which is estimated to grow faster than the gross domestic product (GDP), increasing the percentage of GDP spent on health care; the dashed line depicts a more sustainable level of health care spending growth that matches GDP growth, fixing the percentage of GDP spent on health care at 2011 levels. Between these lines lies the “stabilization triangle”—the reduction in national health care expenditures needed to close the gap. The 6 colored regions filling the triangle show one possible set of spending reduction targets; each region represents health care expenditures as a percentage of GDP that could be eliminated by reduction of spending in that waste category over time.
Quality And Medicare Spending Per Beneficiary, By Census Region, 2000.

**EXHIBIT 1**
Quality And Medicare Spending Per Beneficiary, By Census Region, 2000

Medicare spending per beneficiary (dollars)

<table>
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<th>Medicare spending per beneficiary (dollars)</th>
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<td>8,000</td>
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<tr>
<td>7,000</td>
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<tr>
<td>6,000</td>
</tr>
<tr>
<td>5,000</td>
</tr>
<tr>
<td>4,000</td>
</tr>
</tbody>
</table>

State quality rank

- Northern New England
- Upper Midwest
- Southern New England
- Northwest
- Mid-Atlantic
- New York
- Lower Midwest
- South Atlantic
- Southwest
- California
- Florida
- Southern Tier

**SOURCES:** Medicare spending data from 2000, adjusted for age, sex, race, and cost of living, were obtained from Katherine Baicker and were previously published: K. Baicker and A. Chandra, “Medicare Spending, the Physician Workforce, and Beneficiaries’ Quality of Care,” *Health Affairs* 23 (2004): w184–w197. Quality rankings are the averages from S.F. Jencks et al., “Quality of Medical Care Delivered to Medicare Beneficiaries,” *Journal of the American Medical Association* 284, no. 13 (2000): 1670–1676; and S.F. Jencks, E.D. Huff, and T. Cuerdon, “Change in the Quality of Care Delivered to Medicare Beneficiaries, 1998–1999 to 2000–2001,” *Journal of the American Medical Association* 289, no. 3 (2003): 305–312.

**NOTES:** Correlation coefficient = 0.65. Lower numbers on the quality rank indicate better quality.

Cooper R A Health Aff 2009;28:w103-w115
PCMH 2011 Overview (6 standards/27 elements)

1. Enhance Access and Continuity
   A. Access During Office Hours
   B. After-Hours Access
   C. Electronic Access
   D. Continuity (with provider)
   E. Medical Home Responsibilities
   F. Culturally/Linguistically Appropriate Services
   G. Practice Organization

2. Identify and Manage Patient Populations
   A. Patient Information
   B. Clinical Data
   C. Comprehensive Health Assessment
   D. Use Data for Population Management

3. Plan and Manage Care
   A. Implement Evidence-Based Guidelines
   B. Identify High-Risk Patients
   C. Care Management
   D. Medication Management
   E. Use Electronic Prescribing

4. Provide Self-Care Support and Community Resources
   A. Support Self-Care Process
   B. Provide Referrals to Community Resources

5. Track/Coordinate Care
   A. Test Tracking and Follow-Up
   B. Referral Tracking and Follow-Up
   C. Coordinate with Facilities/Care Transitions

6. Measure and Improve Performance
   A. Measure Performance
   B. Measure Patient/Family Experience
   C. Implement Continuous Quality Improvement
   D. Demonstrate Continuous Quality Improvement
   E. Report Performance
   F. Report Data Externally

Optional Patient Experiences Survey
Quality & Value

- Focus on VALUE
- Focus on QUALITY
- Focus on cost
- Value based modifier for 2015
What is the Implementation Timeline for the Value-based Payment Modifier?

2013
- The initial performance period is slated to begin in 2013, meaning services provided during calendar year 2013 will be used in calculating the 2015 modifier.

2015
- Beginning in 2015, the Value-based Payment Modifier will be phased-in over a two-year period.
- In 2015 the HHS Secretary has discretion to apply the Value-based Payment Modifier to specific physicians and/or groups of physicians that he/she deems appropriate.

2016
- In 2016 the HHS Secretary will continue his/her efforts to apply the Value-based Payment Modifier to specific physicians and/or groups of physicians that he/she deems appropriate.

2017
- Beginning in 2017, the Value-based Payment Modifier will apply to most or all physicians who submit claims under the Medicare physician fee schedule.
Berwick’s Law

Every system is perfectly designed to produce exactly the results it produces.

Donald Berwick, MD

How do we identify a problem, develop an intervention, measure change, and improve system quality?
all products and services arise from "processes"....

- **Process**: A series of linked steps designed to create (cause?) some set of desired outcomes.

- **Quality improvement is the science of process management.**
Think QUALITY
Think SYSTEM SCIENCE
Quality by design

NOT Quality by chance
NOT Quality by memory
NOT Quality by interest
Facts

• Everyone makes errors every day.
• No one makes an error on purpose.
• An error is not misconduct.

Reference: Donald M. Berwick, MD, presentation at 24th Annual National Forum: Minicourse M2: Leading the Journey to High Reliability
Write what you will see...
PARIS IN THE SPRING
PARIS IN THE SPRING

Reference: Donald M. Berwick, MD, presentation at 24th Annual National Forum: Minicourse M2: Leading the Journey to High Reliability
The Perfect Myth

“If we try hard enough we will not make any errors.”

Reference: Donald M. Berwick, MD, presentation at 24th Annual National Forum: Minicourse M2: Leading the Journey to High Reliability
The Punishment Myth

“If we punish people when they make errors, they will make fewer of them.”

Reference: Donald M. Berwick, MD, presentation at 24th Annual National Forum: Minicourse M2: Leading the Journey to High Reliability
Better understanding:

“Errors occur because of system failures…the American health care system needs a fundamental change…Trying harder will not work. Changing the system in which we practice will.”

Kenneth Shine, MD
President, Institute of Medicine
Patient Safety Leadership Forum, March 2001
Keynote Address
• Can we accept 95% quality & reliability in clinical practice?
Living with 99% Reliability

- Unsafe Landings: 84/day
- Lost Mail: 16,000/hour
- Bank Check Errors: 32,000/hour

Reference: Donald M. Berwick, MD, presentation at 24th Annual National Forum: Minicourse M2: Leading the Journey to High Reliability
| Number of patients who have an operation on the wrong side | 5 |
| Number of hospitalized patients who have something go wrong | 40,000 |
| Number of people who have a complication from a medication | 10,000 |

Reference: Donald M. Berwick, MD, presentation at 24th Annual National Forum: Minicourse M2: Leading the Journey to High Reliability
The Annual Toll of Medical Injuries

- 1.3 million injuries
- 180,000 deaths
- $50 billion total costs
- $14 billion uncompensated costs
- <2% of negligent injuries are compensated
• Understating high reliability systems (HRO)

Becoming a High Reliability Organization: Operational Advice for Hospital Leaders

Prepared for:
Agency for Healthcare Research and Quality
U.S. Department of Health and Human Services
540 Gaither Road
Rockville, MD 20850

Contract No. 290-04-0011

Prepared by:
The Lewin Group, Falls Church, VA

Figure 1. The five specific concepts that help create the state of mindfulness needed for reliability, which in turn is a prerequisite for safety.

<table>
<thead>
<tr>
<th>Specific Considerations</th>
<th>General Orientation</th>
<th>Impact on Processes</th>
<th>Ultimate Outcome</th>
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<tr>
<td>Sensitivity to Operations</td>
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<td>Preoccupation with Failure</td>
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<td>Deference to Expertise</td>
<td>State of Mindfulness</td>
<td>High Reliability</td>
<td>Exceptionally Safe, Consistently High Quality Care</td>
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<td>Resilience</td>
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<tr>
<td>Reluctance to Simplify</td>
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</table>
Sensitivity to operations

HROs recognize that manuals and policies constantly change and are mindful of the complexity of the systems in which they work.

HROs work quickly to identify anomalies and problems in their system to eliminate potential errors.

How do patients get diabetes care?

Sensitivity to operations encompasses more than checks of patient identity, vital signs, and medications. It includes awareness by staff, supervisors, and management of broader issues that can affect patient care, ranging from how long a person has been on duty, to the availability of needed supplies, to potential distractions.
Reluctance to simplify

HROs refuse to simplify or ignore the explanations for difficulties and problems that they face.

These organizations accept that their work is complex and do not accept simplistic solutions for challenges confronting complex and adaptive systems.

Why do patients miss breast cancer screening?

Oversimplifying explanations for how things work risks developing unworkable solutions and failing to understand all the ways in which a system may fail, placing a patient at risk.

Preoccupation with failure

HROs are focused on predicting and eliminating catastrophes rather than reacting to them.

These organizations constantly entertain the thought that they may have missed something that places patients at risk.

“Near misses” are viewed as opportunities to improve current systems by examining strengths, determining weaknesses, and devoting resources to improve and address them.

What will happen if patients fail to get screened for colon cancer?

Deference to expertise

HROs cultivate a culture in which team members and organizational leaders defer to the person with the most knowledge relevant to the issue they are confronting. The most experienced person or the person highest in the organizational hierarchy does not necessarily have the information most critical to responding to a crisis.

How can we improve colon cancer screening rates?

In many situations, different staff members as well as the patient and family may have information essential to providing ideal care. Deference to expertise entails recognizing the knowledge available from each person and deferring to whoever’s expertise is most relevant to the choices being made.

Resilience

HROs pay close attention to their ability to quickly contain errors and improvise when difficulties occur. Thus, systems can function despite setbacks. An HRO assumes that, despite considerable safeguards, the system may fail in unanticipated ways. They prepare for these failures by training staff to perform quick situational assessments, working effectively as a team that defers to expertise, and practicing responses to system failures.

Figure 6. Resilience

How can we follow up on missed screenings or overdue labs or results?

A good boater never leaves the dock without preparing for many situations that are unlikely but possible. Oars, pump, lifejacket, and fire extinguisher ensure that the boater can quickly respond to unexpected system failures.

The 2012 Fifth International High Reliability Conference

Conference Proceedings
Conducted by Strategic Reliability LLC
Hosted by The Joint Commission
May 21-23, 2012
Healthcare as a High Reliability Organization

Nuclear Aircraft Carriers

Air Traffic Control

Commercial Aviation
http://www.jointcommission.org/hr_pubs.aspx
Change

1. Deming: Aim defines the system
2. Change creates the system

People like to change. They just don't like to be changed. 
(Sir Winston Churchill)

– What is your change strategy?
– How could you use these data to drive change?
Resistance to Change

$$\rho = \frac{P(G^{(alt-1)}i)}{\Delta}$$
Failure to adapt with changes

Failure to survive
The Corresponding Classic Bell-Shaped Adopters Curve

Many studies have looked at how these groups differ:

- **Innovators** are highly cosmopolite and open to new things.
- **Early adopters** tend to be opinion leaders.
- **Early majority** provide “legitimization” of the innovation.
- **Late majority** are skeptical.
- **Laggards** put trust in the status quo.

Some Human Factors Principles

- Avoid Reliance on Memory
- Simplify
- Standardize
- Use Constraints and Forcing Functions
- Use Protocols and Checklists Wisely

Reference: Donald M. Berwick, MD, presentation at 24th Annual National Forum: Minicourse M2: Leading the Journey to High Reliability
Human Factors Engineering

“We can’t change the human condition, but we can change the conditions under which humans work.”

James Reason

Reference: Donald M. Berwick, MD, presentation at 24th Annual National Forum: Minicourse M2: Leading the Journey to High Reliability
By having a Model for Learning and Change

When you combine the 3 questions with the...

PDSA cycle, you get...

...the Model for Improvement.

The Improvement Guide, API, 2009

# NQF-Endorsed® Standards

This directory currently includes performance measures. NQF also endorses other types of consensus standards, including preferred practices and measurement frameworks. Information about these other types of standards will be added in the coming months. For information on all of NQF’s work, please refer to our current projects and publications.

<table>
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<th>Code</th>
<th>Measure Title</th>
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<th>Center for</th>
<th>National</th>
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<tr>
<td>0003</td>
<td>Bipolar Disorder: Assessment for diabetes</td>
<td>AUG 04, 2011</td>
<td>Center for Quality Assessment and Improvement</td>
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<td>Initiation and Engagement of Alcohol and Other Drug</td>
<td>JAN 03, 2012</td>
<td>National Committee</td>
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</table>
Measures by Topic

Browse topics to find measures represented in NQMC that are linked to a particular term derived from the U.S. National Library of Medicine’s (NLM) Medical Subject Headings (MeSH) and health services administration. MeSH is one of the controlled vocabularies included within the Unified Medical Language System (UMLS) (what’s this?)

MeSH terms are arranged hierarchically ranging from broad headings to more narrow concepts. For example, the general concept "Nervous System Diseases" can be followed through the broad concept "Diagnostic Techniques, Digestive System" to the narrow concept "Sigmoidoscopy."

Disease/Condition

- Anatomy (7)
- Organisms (15)
- Diseases (1372)
- Chemicals and Drugs (7)
- Analytical, Diagnostic and Therapeutic Techniques and Equipment (110)
- Psychiatry and Psychology (337)
- Phenomena and Processes (151)
- Disciplines and Occupations (1)
- Anthropology, Education, Sociology and Social Phenomena (37)
- Technology, Industry, Agriculture (3)
- Information Science (45)
- Named Groups (22)
- Health Care (189)

Treatment/Intervention

- Anatomy (9)
- Organisms (2)
- Diseases (36)
- Chemicals and Drugs (420)
- Analytical, Diagnostic and Therapeutic Techniques and Equipment (1410)
- Psychiatry and Psychology (343)
- Phenomena and Processes (260)
- Disciplines and Occupations (131)
- Anthropology, Education, Sociology and Social Phenomena (179)
- Technology, Industry, Agriculture (27)
- Humanities (2)
- Information Science (214)
- Named Groups (103)
- Health Care (1296)
- Publication Characteristics (4)

http://www.qualitymeasures.ahrq.gov/
Learning & Applying Lean Strategies:

Waste identification & elimination
• “At Toyota we get brilliant results from average people managing a brilliant process. Others get average results from brilliant people managing broken processes.”

Source: Toyota Motor Co.
• Approach to Production
  • Build only what is needed
  • Stop if something goes wrong
  • Eliminate anything which does not add value
• Philosophy of Work
  • Respect for workers
  • Full utilization of workers’ capabilities
  • Entrust workers with responsibility & authority
Applications in ambulatory care delivery:

- Waste walk in clinics
- Results notification
- Work optimization
- Click reduction projects
- Work flows
- Standardization
- Waste elimination rapid improvement events
Vision
(vizh’ən) n.
1. An imagined idea or a goal toward which one aspires.
• Trained Provider

System resources
HealthPartners Medical Group (HPMG) in Minneapolis: An Innovative Model of Ambulatory Care Delivery 2004

Care Model Process®: Key Components

Before the Visit
- Visit Scheduling
  - Appointment scheduling
  - Identification of additional care needs
  - Accurate data capture
  - Informed patient re: visit preparation
- Pre-visit Planning
  - Health maintenance needs
  - Lab screening
  - Medication refill system
  - Data system maintenance
  - Patient education identified & planned

During the Visit
- Check-in
  - Any outstanding vital patient information gathered
  - Updates on providers on-time status
  - Communications with patients
- Visit
  - Minimized rooming tasks
  - Review of health maintenance needs
  - Medication refill
  - Visit summary offered to patient
  - Follow-up appointment scheduling

After & Between Visits
- Post-visit
  - Test results sent to patient
  - Lab results within given timeframe
Not everything that counts can be counted, and not everything that can be counted counts.

~Albert Einstein

But...

You can’t improve what you don’t measure
The PDSA Cycle

**Plan**
- Objective
- Questions & predictions
- Plan to carry out: Who? When? How? Where?

**Do**
- Carry out plan
- Document problems
- Begin data analysis

**Study**
- Complete data analysis
- Compare to predictions
- Summarize

**Act**
- Ready to implement?
- Try something else?
- Next cycle

“What’s next?”
“Did it work?”
“Let’s try it!”
“What will happen if we try something different?”

Source: Associates in Process Improvement, Improvement Guide
Repeated Use of Cycle

PDSA Measures

Changes That Result in Improvement

Implementation of change

Wide-scale tests of change

Follow-up tests

Very small scale test

Hunches
Theories
Ideas

Learning from Data
### Appropriate Scope for next PDSA Cycle

<table>
<thead>
<tr>
<th>Current Situation</th>
<th>Resistant</th>
<th>Indifferent</th>
<th>Ready</th>
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<td><strong>Low</strong> &lt;br&gt;Confidence that current change idea will lead to Improvement</td>
<td>Cost of failure large</td>
<td>Very Small Scale Test</td>
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<td>Cost of failure small</td>
<td>Very Small Scale Test</td>
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<tr>
<td><strong>High</strong> &lt;br&gt;Confidence that current change idea will lead to Improvement</td>
<td>Cost of failure large</td>
<td>Very Small Scale Test</td>
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<td>Small Scale Test</td>
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</tr>
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From Ginna Crowe RN, EdD
• Population health ???
Fig 2: The Importance of Managing Transitions Across the Continuum

Increasing Capabilities

Episode of Care

Transitions Across the Continuum

Disease Management

Population Management

Increasing Risk

Successful care delivery models of the future will be based on multidisciplinary care teams that are aligned around a common set of objectives, communicate directly with each other and collaborate on priority-setting and decision-making.
Population Health Management Along the Care Continuum

Wellness Programs

Health Coaching

Chronic Condition Management

Intensive Case Management

Healthy/Low Risk
At Risk
High Risk
Chronic Disease
Complex & Catastrophic

Population Risk Segments

Care Continuum Alliance
Human Factors Engineering

• “We can’t change the human condition, but we can change the conditions under which humans work.”

   James Reason
Some Human Factors Principles

• Avoid Reliance on Memory
• Simplify
• Standardize
• Use Constraints and Forcing Functions
• Use Protocols and Checklists Wisely
• Design characteristics that induce errors:
  a) Require work that exceeds the capacity of the human brain
• OR
  b) Create conditions that generate known causes of errors

Reference: Donald M. Berwick, MD, presentation at 24th Annual National Forum: Minicourse M2: Leading the Journey to High Reliability
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http://www.youtube.com/watch?v=qdrD3MzRf_I
System solution:

Identification of care opportunities at multiple points

Accountable system trigger chronic and preventive care by multiple team members

Clear expectation for data measures and follow-up to address care gaps
Colleen Brown, MD
Chief Ambulatory Resident
Internal Medicine residency Program
Kansas University Medical Center
Quality Improvement Initiatives

• Patient identification
• Care TEAM
• Empower nurses and roomers
• Building registries to identify & track
• Patient population: proactive reach out
• Maintain process and monitor
• Colorectal cancer screening
• Breast cancer screening
• Cervical cancer screening
• Diabetes care measures
• CAD care measures
• CHF care measures
What can we standardize for rooming process for patients with diabetes?

1. HbA1c
2. LDL
3. Urine micro-albumin or Cr.
4. Eye exam
5. Foot exam

Other tasks:
- Document
- Prepare for foot exam
- Diabetes Score card
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<th>Due Date</th>
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<tr>
<td>11/22/2005</td>
<td>OSTEOPOROSIS SCREENING</td>
<td></td>
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<tr>
<td>9/1/2013</td>
<td>INFLUENZA VACCINE</td>
<td>10/16/2012 (Done)</td>
<td>12/14/2010 (Decline)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2/18/2014</td>
<td>DILATED EYE EXAM</td>
<td>2/18/2013 (Done)</td>
<td></td>
<td></td>
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<tr>
<td>7/16/2016</td>
<td>COLORECTAL CANCER SCREENING</td>
<td>7/16/2013</td>
<td>8/11/2010</td>
<td></td>
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<tr>
<td>12/18/2022</td>
<td>TETANUS VACCINE</td>
<td>12/18/2012 (Decline)</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Completed</td>
<td>PNEUMONIA VACCINE</td>
<td>3/30/2011</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Change concept:

• Move from episodic care to defined panels to population health
Change concept:

- Patient are partners in their care
- Patients should be engaged in their care
Practice uses Population management software (MDdatacor) to track performance and care opportunities in preventive and chronic diseases: CHF, DM, HTN, Immunization, Mammogram, Pap, colorectal cancer, smoking.
6E:

Diabetes as a Chronic Disease:

Practice is able to drill down on specific measures for patient population: microalbumin exam, LDL, HbA1c exam and control, retinal eye exam, and blood pressure and see practice performance for each area.
Diabetes as a Chronic Disease:

Practice is then able to pick any diabetes measure and find patients who are overdue for that measure (see HbA1c overdue example in screenshot above)
6E:

Diabetes as a Chronic Disease:

Practice is then able to export list of overdue patients for that measure (HbA1c) and generate outreach letters and to assess individual provider performance.
6E:

**CHF as a Chronic Disease:**

Practice track overdue care opportunities for CHF patients with measures above including EF and renal function assessment. The practice then can drill down to any of those measures and generate outreach letters or reminders and pull provider specific performance as well practice overall performance.
CAD as a Chronic Disease:

Practice track overdue care opportunities for CAD patients with measures above including LDL, BP, Beta blockers, antiplatelet, and smoking. The practice then can drill down to any of those measures and generate outreach letters or reminders and find provider performance rate.
Colorectal Cancer screening as a preventive care service:

Practice track overdue care opportunities for colorectal cancer screening. The practice then can drill down for overdue patients and generate outreach letters or reminders and find provider specific performance as well as practice overall performance.
The population management software is able to drill down and filter care opportunities by a specific provider based on provider panel as well as practice overall performance.
6E:

The population management software is able to drill down and filter care opportunities by a specific provider based on provider panel as well as practice overall performance.
The population management software is able to generate performance reports by a specific provider based on specific measure in any of the preventive or chronic care suites as well as practice overall performance.
The population management software is able to generate graphs of performance reports by a specific provider or for the whole practice based on specific measure in any of the preventive or chronic care suites.
• The practice distributes electronically quality performance reports that are provider specific with comparison with other providers’ data as well overall practice quality performance reports.

• Those reports are saved to a practice share drive with care-opportunity patients’ lists for overdue services. The share drive folder is accessible to providers and nurses to care team.

• The practice uses population management software (MDdatacor) to pull and distribute quality reports for overall practice and individual providers.

• The practice share quality performance reports with patients in the practice through posting in waiting room.
6E2: Sharing practice performance data

Breast Cancer Screening QI process:

January 2012 screening rate: 35-40%

January 2013 rate: 59%

Goal of 55% has been achieved
6E2: Sharing practice performance data

HbA1c exam and control in diabetics QI process:

January 2012 HbA1c exam rate: 40%, control 30%
Goals: HbA1c testing 75%, control 55%
January 2013: testing rate 79%, control 59%
Both goals have been achieved
Blood Pressure < 130/80 success in diabetics
Influenza vaccination success

- 100%
- 93%
- 93%
- 91%
- 91%
- 90%
- 90%
- 90%
- 90%
- 89%
- 86%
- 83%
- 83%
- 83%
- 82%
- 82%
- 81%
- 76%
- 76%
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- 50%
- 49%
- 48%
- 47%
- 45%
- 42%
- 40%
- 39%
- 36%
- 32%
- 22%
LDL-Chol < 100 success in diabetics
Cervical Cancer Screening success

- 100%
- 99%
- 98%
- 97%
- 96%
- 95%
- 94%
- 93%
- 92%
- 91%
- 90%
- 89%
- 88%
- 87%
- 86%
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- 11%
- 10%
- 9%
- 8%
- 7%
- 6%
- 5%
- 4%
- 3%
- 2%
- 1%
- 0%
Engagement is not nice.
It is necessary.
Engagement defined

actions individuals take to obtain the greatest benefit from the health care services available to them

— Center for Advancing Health, 2010
Health determinants:
Need to re-focus on patient education and changes on behavior

Figure 1.1 A Model of the Determinants of Health

The Process: IHI Personal and Public Engagement Framework

ACT

Follow through

Environment

Ask

Organization

Listen

Microsystem

Inform

Personal Experience

Participate

DO

Evaluate

STUDY

Institute for Healthcare Improvement
## Personal and Public Engagement: Techniques and Timing

<table>
<thead>
<tr>
<th></th>
<th>Techniques</th>
<th>When it’s Useful</th>
</tr>
</thead>
</table>
| Asking and Listening | • Conversations  
• Soliciting preferences, wishes  
• Focus groups  
• Surveys  
• Panels  
• Town meetings | • When the purpose is to listen  
• When there is no commitment to do anything  
• When an initiative is being shaped |
| Informing          | • Fact sheets  
• Websites  
• Media campaigns  
• Resource centers  
• Patient Portals | • In a crisis  
• When the issue is simple  
• When a decision has already been made  
• When there is no opportunity to influence the outcome  
• When factual information is needed to describe a program/policy/process |
| Participating      | • Priority setting  
• Ranking  
• Voting  
• Advisory Groups | • When there is a capacity for the public to shape initiatives/programs/policies  
• When the public has accepted the challenge of developing solutions  
• When there is agreement to implement solutions/improvements |
Change concept:

• Quality by design not my memory
• Team responsibility
• KU General Internal Medicine & Geriatrics practice wants to share with our patients & their families news about quality initiatives and continuous quality improvement efforts.
• We believe that our patients are our partners and stakeholders in any quality improvement process.
• The practice tracks performance on different measures.
• The practice sets action plans for quality improvement using PDSA cycles:

**The PDSA Cycle**

- **Plan**
  - Objective
  - Questions & predictions
  - Plan to carry out: Who? When? How? Where?

- **Do**
  - Carry out plan
  - Document problems
  - Begin data analysis

- **Study**
  - Complete data analysis
  - Compare to predictions
  - Summarize

- **Act**
  - Ready to implement?
  - Try something else?
  - Next cycle

**“What will happen if we try something different?”**

**“Let’s try it!”**

**“Did it work?”**

**“What’s next?”**

---

**QUALITY**
Quality Measure: HbA1c exam at least once every 6 months for diabetic patients

Explanation: HbA1c is a measure of blood sugar control in diabetic patients over last 3 months. If you are a diabetic patient, you would like to make sure you are having HbA1c exam every 3-6 months.

Practice performance:

Plan: Every diabetic patient should get HbA1c exam done. Our nurses will order the test and perform point of care clinic exam if test is overdue. Our goal is to achieve 90% success rate.
Quality measure: LDL exam in diabetics
Explanation: Diabetes control requires examining bad cholesterol (LDL) at least every 6 months. Your physician will ask you to get fasting blood draws usually to check your bad cholesterol.

Practice performance:

Plan: The practice wants to achieve at least 75% goal of testing LDL in diabetic patients. Patients will need to get fasting blood draw as instructed by their care team.
Quality Measure: Colorectal Cancer Screening
Explanation: After age 50 regular Colorectal Screenings can lead to early detection and cancer prevention.

Performance:

Plan: The practice hopes to achieve 80% of patients receiving regular Colorectal Cancer Screenings.
Diabetes Management:
Diet compliance: {Desc; compliance:5303::"compliant most of the time"},
Medication compliance: {Desc; compliance:5303::"compliant most of the time"},
Home glucose monitoring: {Home testing:5145}
The patient (has/has not:95020685) had hypoglycemic reactions

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
<th>Date/Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>HGBA1C</td>
<td>7.3%</td>
<td>10/15/2012 10:42 AM</td>
</tr>
<tr>
<td>A1C</td>
<td>5.6</td>
<td>5/4/2012</td>
</tr>
<tr>
<td>CHOL</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>TRIG</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td>HDL</td>
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<tr>
<td>LDL</td>
<td>71</td>
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<tr>
<td>VLDL</td>
<td>19</td>
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</tr>
<tr>
<td>NONHDLCHOL</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>CR</td>
<td>0.73</td>
<td>12/22/2012 4:56 AM</td>
</tr>
</tbody>
</table>

Last eye exam **
Microalbumin tested in last 12 months? {YES:18614:0}
The patient {Actions; is/will/was/not:16608} taking a daily aspirin
The patient {Actions; is/will/was/not:16608} taking an ACE inhibitor or an ARB
Impression: Diabetes - under {KU AMB QUALITY:19518} control

Plan:
Discussed general issues about diabetes pathophysiology and management.
Suggested low carbohydrate diet.
Discussed foot care.
Reminded to get retinal exam annually and dental appointment every 6 months.
Treatment goals: A1C < or = to ***
LDL < or = to ***
Are barriers to achieving goals present? Yes - {COMPLIANCE BARRIERS:8005267}
Patient ready to comply? {YES:22122}
Educational resources identified? {YES EDUCATION/NO:8005269}
Patient Goals are reviewed and updated at each office visit.

Includes history of previous test results.

This After Visit Summary is printed and given to the patient after each office visit.
## DIABETES REPORT CARD

**Patient:** ____________________________

<table>
<thead>
<tr>
<th></th>
<th>Date</th>
<th>Date</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight</strong> (Goal ≤ ___ kg)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BMI</strong> (Goal ≤ ___)</td>
<td></td>
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</tr>
<tr>
<td><strong>Blood Pressure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal 130/80*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HgA1c</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Goal less than 7*</td>
<td></td>
<td></td>
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<tr>
<td><strong>Cholesterol (Total)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal less than 200</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>HDL (good cholesterol)</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Goal higher than</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men - 40, women - 45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LDL (bad cholesterol)</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Goal less than 100*</td>
<td></td>
<td></td>
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</tbody>
</table>

### DIABETES SELF-MANAGEMENT

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<thead>
<tr>
<th>Accomplished</th>
<th>New Goal</th>
<th>Ongoing Goal</th>
<th>Comments</th>
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<tbody>
<tr>
<td>I will keep my appointments and work hard to keep my HgA1c less than 7.0*</td>
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<td></td>
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</tr>
<tr>
<td>I will exercise ___ minutes, ___ days per week.</td>
<td></td>
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<tr>
<td>I will check my feet daily. If I see a sore or an irritation, I will see my provider. I will see the podiatrist once a year.</td>
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<tr>
<td>I will follow my diet. I will see the dietician or diabetic nurse for diet instruction/review.</td>
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<tr>
<td>I will try to get to my ideal body weight. I will try to lose ___ lbs. by my next visit.</td>
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<tr>
<td>I will take my medications every day as prescribed, and ask my doctor if I should take a baby aspirin daily.</td>
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<tr>
<td>I will stop smoking. I will see a smoking cessation counselor if needed.</td>
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<tr>
<td>I will see the eye specialist every year or as recommended.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I will take my blood sugar as instructed.</td>
<td></td>
<td></td>
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<tr>
<td>I will see the dentist</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Patient’s Perspective
The future of Data access is
Sharing Data and
Comparing Data
For better Health outcomes for us all.

Fun Theory:  http://www.thefuntheory.com/

•  http://www.youtube.com/watch?v=SByymar3bds