

This is a sample of the instructor materials for *Healthcare Operations Management*, third edition, by Daniel B. McLaughlin and John R. Olson.

The complete instructor materials include the following:

- Instructor support guides, with answers to the end-of-chapter questions and exercises
- PowerPoint slides
- Recommended teaching cases
- A test bank

This sample includes the instructor support guide and PowerPoint slides for chapter 3, “Evidence-Based Medicine and Value-Based Purchasing.”

If you adopt this text, you will be given access to the complete materials. To obtain access, e-mail your request to hapbooks@ache.org and include the following information in your message:

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Digital and Alternative Formats

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Instructor Support

Healthcare Operations Management, Third Edition

Health Administration Press, 2017

Dan McLaughlin and John Olson

Chapter 3: Evidence-Based Medicine and Value-Based Purchasing

Learning Objectives

Upon completing this chapter, the student should be able to do the following:

- Describe the history, current status, and future of evidence-based medicine (EBM)
- Distinguish and identify the features of standard care and custom care.
- Identify examples of public reporting.
- Describe the methodology and impact of pay for performance (P4P) and payment reform and value purchasing, including Medicare's Hospital Value-Based Purchasing (VBP) program.

Teaching Resources

PowerPoint slides (available on the Health Administration Press [HAP] website)

A test bank (available on the Health Administration Press website)

Discussion questions (see suggested responses below)

Case study (included on this website; teaching note is below)

Web Resources

Guidelines

Because of the growth of EBM, a number of organizations regularly update clinical guidelines.

Here are some of the leading resources.

National Guideline Clearinghouse: www.guideline.gov/

Institute for Clinical Systems Improvement: www.icsi.org/

The Cochrane Collaboration: www.cochrane.org/

Choosing Wisely (American Board of Internal Medicine): www.choosingwisely.org/

Public Reporting

Public reporting of healthcare quality is expanding throughout the United States. The URLs below link to the websites of organizations identified as leaders.

California Healthcare Performance Information System: www.chpis.org/

Massachusetts Health Quality Partners: www.mhqp.org/convene_and_collaborate/

Minnesota Community Measurement: <http://mncm.org/>

Wisconsin Collaborative for Healthcare Quality: www.wchq.org/

Pay for Performance

Medicare Value Purchasing program: www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/hospital-value-based-purchasing/index.html?redirect=/Hospital-Value-Based-Purchasing/

Discussion Questions: Suggested Responses

1. What are other examples of a care delivery setting with a mix of standard and custom care?

- Minute clinics located in grocery stores and pharmacies: standard care; when patients present outside these guidelines, they are referred to higher levels or emergency rooms
- Trauma care: custom care for each patient's specific injuries, but standard care for procedures (e.g., intubations)

- Chronic care for mental illness: standard care for medication management based on diagnosis;
custom care for support services and supportive housing arrangements

2. Select three prevention quality indicators from exhibit 3.1, and consult the National Guideline Clearinghouse to find guidelines that would minimize hospital admissions for these conditions. What would be the challenges in implementing each of these guidelines?

Examples

A. Condition: congestive heart failure

Resource: Agency for Healthcare Research and Quality,

www.guideline.gov/summaries/summary/47030/heart-failure-in-adults?q=congestive+heart+failure

Challenges:

- Patient compliance (e.g., smoking cessation)
- Data transfer to clinicians for monitoring (e.g., daily weights)
- Language/cultural barriers in patient education

B. Condition: dehydration

Resource: Hartford Institute for Geriatric Nursing,

www.guideline.gov/summaries/summary/43929/managing-oral-hydration-in-evidencebased-geriatric-nursing-protocols-for-best-practice?q=+Dehydration

Challenges:

- Complex diagnostic workup to determine causes
- Ongoing treatment includes large interdisciplinary team (certified nursing assistants [CNAs], registered or licensed nurses, a physician, and dietary staff); other clinicians who may be involved as needed include a consultant pharmacist, psychiatrist, psychologist, speech pathologist, social worker, and physical and occupational therapists

- Frequently occurs in long-term care setting, so other support and family issues may complicate treatment

C. Condition: urinary tract infection

Resource: American College of Obstetricians and Gynecologists,

www.guideline.gov/summaries/summary/12628/treatment-of-urinary-tract-infections-in-nonpregnant-women?q=Screening+for+asymptomatic+bacteriuria

Challenges:

- Recommended only for pregnant women; other patients might demand care
- Cost of screening not covered by some health insurance
- Patients with health savings accounts may not want to make this expenditure, particularly if they have no symptoms

3. Review the 11 payment reform methodologies (exhibit 3.4) and rank them on two scales: ability to improve quality and ability to reduce healthcare inflation. Rankings are *high*, *medium*, and *low*. Provide a rationale for your ranking.

Model	Quality	Cost	Rationale
1. Global payment	Low	High	Global payment is the strongest method to control as it has a fixed budget. However, if patient volume increases beyond the budget, some nonurgent services (e.g., MRI) will be overloaded and waiting will occur
2. Accountable care organization (ACO) shared savings program	High	Med	Achieving quality outcomes is a goal of ACOs and provides financial rewards. Cost savings can be problematic, as patients are not locked into the ACO network for care.
3. Medical home	High	Med	The medical home is one of the highest-quality methods for delivering primary care. However, it does not control the costs of specialists or hospitals—just their use.
4. Bundled payment	Med	High	Quality indicators are part of bundles, but they are limited to one bundle at time. Because of this limited focus, cost control can be disciplined.

5. Hospital–physician gainsharing	Low	Low	This strategy may too diffuse for effective improvements in costs or quality.
6. Payment for coordination	Med	Low	Some quality improvements may occur with better coordination of care.
7. Hospital P4P	Med	Med	The amounts of bonuses so far for hospitals are very modest (< 2%), so this impact is only at a medium level.
8. Payment adjustment for readmissions	High	Med	This presents a great opportunity, but there is only a limited set of conditions to which new processes can be applied to reduce readmissions.
9. Payment adjustment for hospital-acquired conditions	High	Med	Similar to readmissions.
10. Physician P4P	Med	Med	Most physician P4P is directed toward primary care. Once specialists are included, the impact will increase.
11. Payment for shared decision making	Low	Med	Shared decision making usually results in decreased surgery. This will decrease some unneeded procedures.

4. What are three strategies to maximize P4P revenue?

- A. Develop clinical teams to review and implement guidelines
- B. Implement a daily scorecard to review outcomes of P4P conditions
- C. Pay bonuses to all clinic staff for successful P4P efforts (much of the success of P4P is due to work of frontline clerks and nurses)

Case Study: Evidence-Based Medicine and Accountable Care Organization Performance (Lower Back Pain)

Sally Champion, the manager of Vincent Valley Health’s (VVH) accountable care organization (ACO), has just completed a cost analysis of its members with lower back pain. Based on comparative data, she felt her ACO’s costs were too high—especially for surgical services. However, this first analysis project was one of her first that directly confronted practice

variation. She was aware that many physicians on her medical staff had different clinical judgements about the most appropriate treatments for back pain. As a result, she formed a team to do deeper analysis of her data and to examine all treatment options before she would begin a project to deliver the most cost-effective, high-quality care.

Her team consisted of Dr. Ira Moscone, chief medical officer; Dr. Robert Munsey, chief of family medicine; Phyllis Colson, nursing director for surgery; and Sameer Inanpudi, director of business intelligence.

Issues she felt needed research included the following:

- What are well-accepted guidelines for treating lower back pain from the US National Guideline Clearinghouse, Cochrane Institute, or peer-reviewed articles in Pub Med?
- What alternatives are available for pain management outside of medications (e.g., alternative medicine, functional medicine)?
- Could “shared decision making” play a role in any new therapeutic approaches?
- Would a pay for performance system be helpful in the VVH compensation system?

What would you recommend as an evidence-based approach to improving lower back-pain care at VVH?

Case Study: Suggested Responses

This case has no specific correct answer. However, it is an opportunity for students to explore the intersection of clinical care with the operations of a healthcare enterprise—the VVH ACO. The care of patients with lower back pain is controversial, so student results will be varied.

Students must use Internet resources to explore the four questions in the case:

- What were well-accepted guidelines from the US National Guideline Clearinghouse, Cochrane Institute, or peer-reviewed articles in Pub Med?
- What alternatives were available for pain management outside of medications (e.g., alternative and functional medicine)?
- Could “shared decision making” play a role in any new therapeutic approaches?
- Would a pay for performance system be helpful within the VVH compensation system?

In addition, the final recommendation needs to support the clinician’s accountability for clinical outcomes, the need to have a solution acceptable to the bulk of the medical staff, and cost-effectiveness.

It is likely that the recommended approach will include pain management with medications and complementary medicine (e.g., chiropractic care), physical therapy, and shared decision making for surgery.

Chapter 3

Evidence-Based Medicine and Value-Based Purchasing

The Challenge of Medical Progress

- Medical progress
 - Laboratory experiments
 - Clinical trials
 - Translation to clinical practice
- Translation to clinical practice is where system often breaks down
- Result—widespread variation in clinical costs and quality

Evidence-Based Medicine (EBM)

- The cure to wide variation in clinical practice: the consistent application of EBM
- Major tool: the clinical guideline (also known as a protocol)
- Institute of Medicine definition: “Statements that include recommendations, intended to optimize patient care, that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options”
- National Guideline Clearinghouse
 - 4,000 guidelines
 - www.guideline.gov

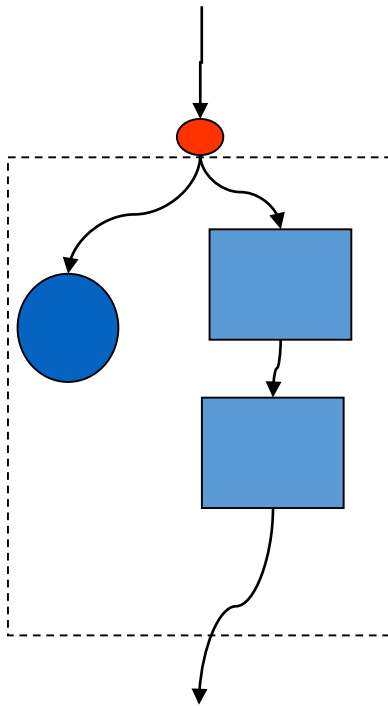
Resistance to Evidence-Based Medicine

- Disagreement on the science underlying a guideline
- EBM is “cookbook medicine”; all patients are unique
- Lack of variation in treatment approaches decreases “natural” discoveries
- Resistance to change and reliance on habits

Standard and Custom Patient Care

- All clinical care is a mix of custom and standardized care processes
- High-quality organizations. . .
 - Master the art of custom care
 - Optimize the science and consistent delivery of standard care

Separate and Select



Examples:

- Laser eye surgery
- Minute clinic

Patients self-select



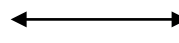
Custom



Standard



Sorting

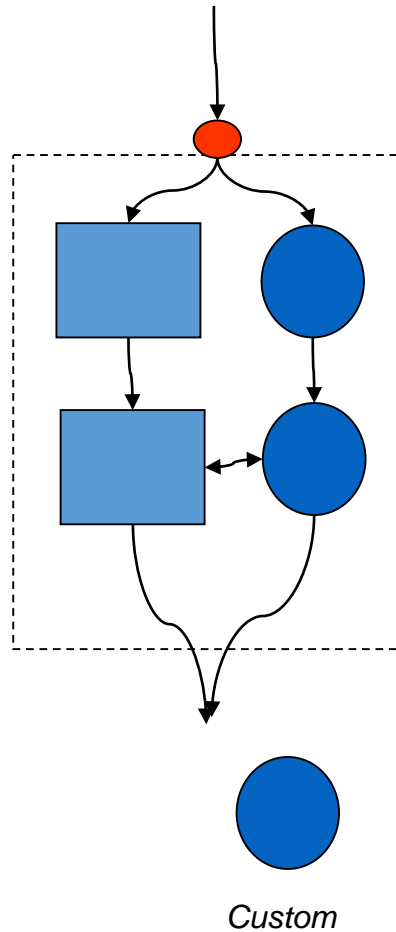


Resorting

Source: Bohmer, R. 2005. "Medicine's Service Challenge: Blending Custom and Standard Care." *Healthcare Management Review* 30 (4): 281.

Separate and Accommodate

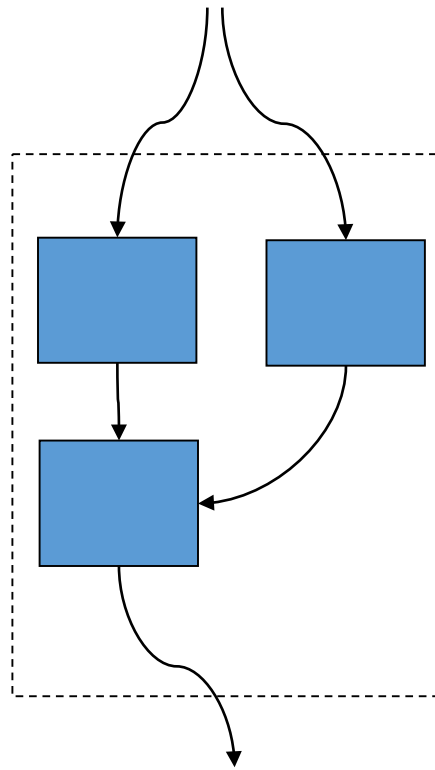
Example: Duke Cardiology Clinic



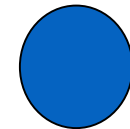
- Patients sorted by protocol
- Nurse practitioners provide standard care
- Cardiologists provide custom care
- Every fourth visit, standard patients are evaluated by the nurse practitioner and physician

Modularized

Example: Andrews AFB Clinic



- Physician serves as architect—care designer
- Physician performs evaluation and creates plan
- Standard care provided by other organizations and departments
- Hypertension modules: weight control, diet, drug therapy, stress modification, surveillance



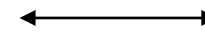
Custom



Standard



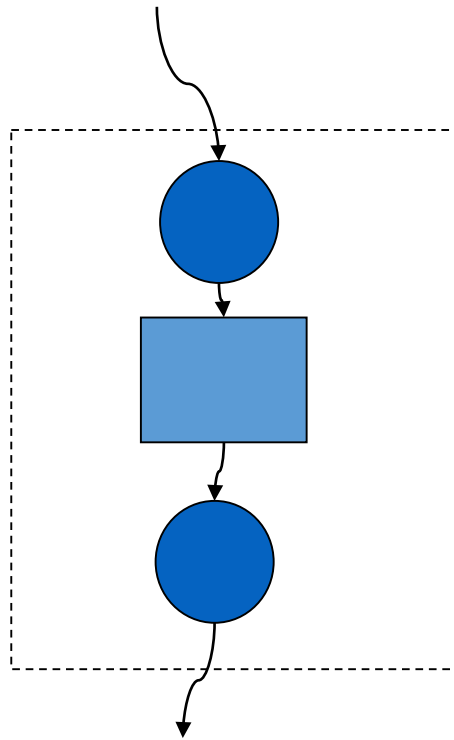
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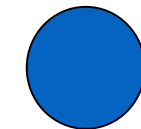
Resorting

Integrated

Example: Intermountain Healthcare



- Identified 62 standard processes—90 percent of inpatients
- Standard processes built into its electronic health record
- Physician encouraged to override standard care as needed
- Overrides are recorded, analyzed, and used to improve standard process



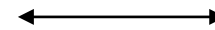
Custom



Standard



Sorting



Resorting

Financial Implications of EBM

- Savings in the system can be achieved by consistent, high-quality outpatient treatment and disease management, which prevents unneeded hospitalizations
- AHRQ has identified a set of care-sensitive conditions, which are measured with prevention quality indicators (PQIs)

Federal Initiatives Using PQIs

Federal Initiatives Using AHRQ QIs*	Indicator Module			
	Inpatient (IQI)	Patient Safety (PSI)	Pediatric (PDI)	Prevention (PQI)
	HAC Reduction Program	✓	✓	
Hospital Inpatient Quality Reporting Program	✓	✓		
Hospital VBP		✓		
Shared Savings Program				✓
Partnership for Patients	✓	✓	✓	
Healthcare Innovation Awards (CMMI)		✓	✓	✓
Hospital Compare	✓	✓		
ACO: Accelerated Development Learning Sessions (CMMI)		✓	✓	
Home and Community Based Services		✓		✓

* A sample of CMS and CMMI initiatives that use the AHRQ QIs.

Source: Reprinted from AHRQ (2015).

Note:

AHRQ = Agency for Healthcare Research and Quality

CMMI = Center for Medicare & Medicaid Innovation

CMS = Centers for Medicare & Medicaid Services

Hospital VBP = Medicare Hospital Value-Based Purchasing program

IQI = inpatient quality initiative

PDI = pediatric initiative

PQI = prevention quality initiative

PSI = patient safety initiative

QI = quality initiative.

Chronic Care Model

- Population-based outreach
- Treatment plans sensitive to patient preferences
- Evidence-based medicine used with automated clinical decision support
- CCM now widely deployed—managing diabetes
- Team care—patient-centered medical homes

Patient-Centered Medical Homes

1. Comprehensive care—meeting large majority of patient needs through diverse team of care providers
2. Patient-centered—relationship-based care through understanding of unique patient needs and support of self-managed care by patient
3. Coordinated care—spans all elements of broader health care system
4. Accessible services—shorter waiting times for urgent needs, 24/7 access to care, access tailored to patients' preferences
5. Quality and safety—commitment shown through use of EBM, decision support tools, performance, and patient satisfaction measurement and improvement

EBM and Comparative Effectiveness Research

- ACA—Patient-Centered Outcomes Research Institute
- Advances the quality and relevance of diagnostic and treatment alternatives for common conditions
- Relates research findings to patient subpopulations
- Effectively disseminates these findings to practitioners

Tools to Expand the Use of EBM

- Public reporting
- Pay for performance
- Clinical decision support

Public Reporting

- CMS reporting
 - Hospitals
 - Long-term care
 - Medical groups
- Community-based systems

Issues in Public Reporting

- Risk adjustment for “sicker patients”
- Patient compliance
- Measurement of individuals or clinics
- Use by general public to make buying decisions

Impact of Public Reporting on the Healthcare System

- Reduction in mortality and pain, increased patient satisfaction
- Addition of new services, increases in quality improvement activities
- Little or no impact on selection of providers by patients
- Improvements more likely to occur in providers with initially low scores

Pay for Performance

- Gives providers additional payments based on their care's compliance with clinical EBM goals
- Goals measured by either process or outcome
 - While preferred by providers, outcome is more difficult to measure due to varying results
 - Process measures backed by EBM are often used to assess performance
- Implemented to improve health outcomes and lower costs

Pay-for-Performance Model



Value-Based Purchasing

- Issues with traditional fee-for-service (FFS) system
 - Encourages providers to deliver more, and more expensive, services to maximize reimbursement
 - Facilitates fragmented and uncoordinated care delivery
 - Does not offer incentives for high-quality care
- Transition from FFS to value-based systems is accelerating
 - Value-based payments at 40 percent in 2014, up from 11 percent in 2013
 - Secretary of HHS goals—50 percent of Medicare provider payments value-based by 2018

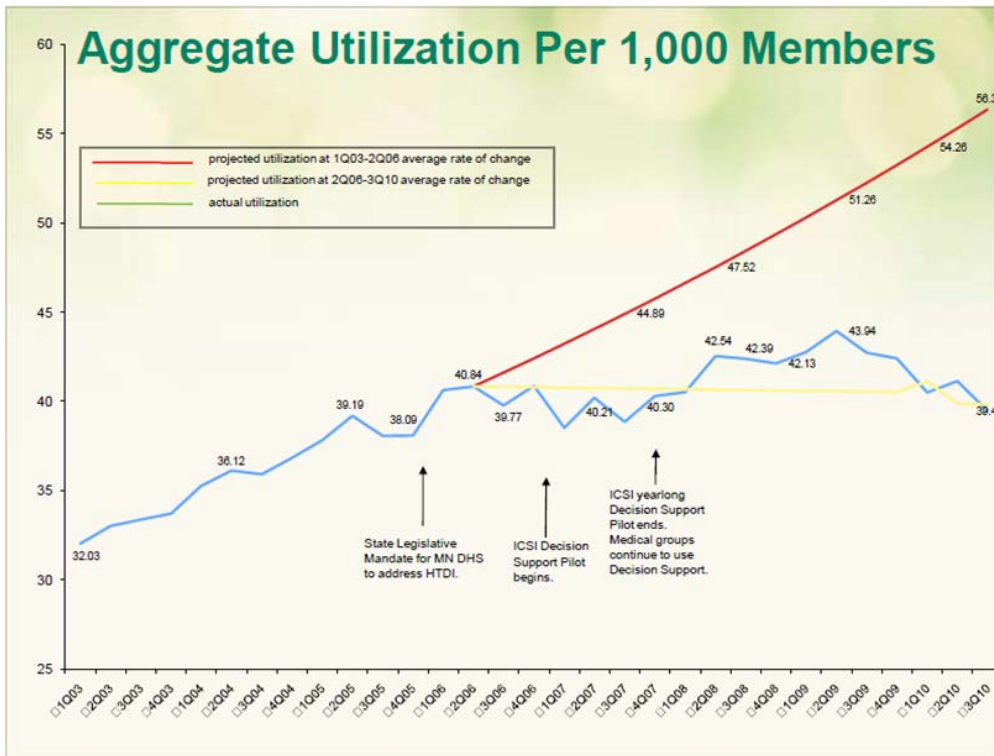
Policy Issues in Value-based Purchasing

- Attribution issues
 - Patients lacking primary care physician
 - Accountability wrongly assigned
 - Costs assigned to physician rather than provider
- Increasing complexity of system
- Clinics changing billing methods to increase Medicare payments

Implications for Operations Management

- Strategy Execution
 - Blended balanced scorecard strategy
- Improved Modeling and Analytics
 - Activity-based accounting
 - Individual predictive patient behavior models
- Innovation Centers

Clinical Decision Support High-Tech Imaging Results

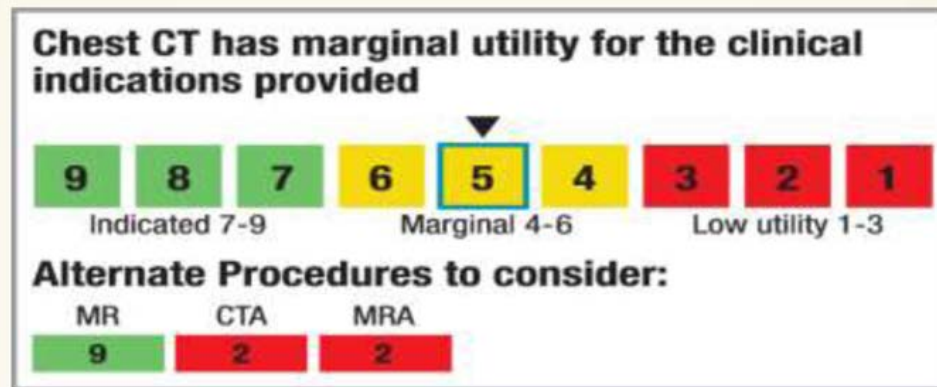


- \$84 million savings based on reduction of HTDI scans against projected trend line without decision support
- 11,000 fewer administrative hours for just one medical group by having electronic decision support accepted vs. calling a radiology benefits manager
- Decreased exposure to radiation—potentially preventing cancers

Clinical Decision Support High-Tech Imaging

Decision Support Process

Provider sees appropriateness of test and higher utility options -- opportunity to engage patient



Summary

- The use of EBM is increasing
- EBM has been demonstrated to increase quality and decrease costs
- Efforts to increase the use of EBM include:
 - Public reporting
 - Pay for performance
 - Clinical decision support

End of Chapter 3