Objectives

- Brief overview – state of affairs
- Define a Microsystem and its importance in teaching and assessment
- Small group exercise
  - Perform an assessment of a microsystem in your residency
Exhibit 4. Receipt of Recommended Screening and Preventive Care for Adults

Percent of adults (ages 18+) who received all recommended screening and preventive care within a specific time frame given their age and sex*

<table>
<thead>
<tr>
<th>U.S. Average</th>
<th>2002</th>
<th>49</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005</td>
<td>50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U.S. Variation 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>400%+ of poverty</td>
</tr>
<tr>
<td>200–399% of poverty</td>
</tr>
<tr>
<td>&lt;200% of poverty</td>
</tr>
<tr>
<td>Insured all year</td>
</tr>
<tr>
<td>Uninsured part year</td>
</tr>
<tr>
<td>Uninsured all year</td>
</tr>
</tbody>
</table>

* Recommended care includes seven key screening and preventive services: blood pressure, cholesterol, Pap, mammogram, fecal occult blood test or sigmoidoscopy/colonoscopy, and flu shot.

Data: B. Mahato, Columbia University analysis of Medical Expenditure Panel Survey.

Exhibit 5. Chronic Disease Under Control: Diabetes and Hypertension

National Average

- High blood pressure under control**: 31% in 1999–2000, 41% in 2003–2004

By Insurance, 1999–2004

- Insured
  - Diabetes under control*: 81% in 2003–2004, 63% in 1999–2000
  - High blood pressure under control**: 41% in 2003–2004, 21% in 1999–2000

* Refers to diabetic adults whose HbA1c is <9.0.
** Refers to hypertensive adults whose blood pressure is <140/90 mmHg.

Data: J. McWilliams, Harvard University analysis of National Health and Nutrition Examination Survey.
Exhibit 7. Medicare Reimbursement and 30-Day Readmissions by State

AHRQ Quality Dashboard: Wisconsin 2008

Accessed: http://statesnapshots.ahrq.gov/snaps08/dashboard.jsp?menuId=4&level=0&state=WI
Figure 3. Health Expenditures as a Percentage of GDP, 1980–2006

Health expenditures as % of GDP

Year

Source: OECD 2008 Health Data (June 2008).
Figure 6. Life Expectancy at Birth over Time, 1980–2006

Source: OECD 2008 Health Data (June 2008).
PBL and I

- Two major themes:
  - Effective application of EBM to patient care
    - Diagnostics, therapeutics, etc
    - Includes clinical skills!
  - Quality improvement
    - Individual improvement: reflective practice
    - Systems improvement: active participant
Practice-based Learning & Improvement

Monitor Practice
- self-assessment
- feedback
- clinical questions
- audit

Detect Problem
- attitude
- skill
- knowledge
- performance

Learning
- remediation
- EBM
- PDSA

Improvement
- application, assessment, reflection

Dr. Michael Green, Yale University
Resident “Competence”: PBL&I

- **Customer knowledge**: Able to identify needs within resident’s patient population
- **Measurement**: Use balanced measures to show changes have improved patient care
- **Making change**: Demonstrate how to use several cycles of change to improve care delivery
- **Developing local knowledge**: Apply CQI to discrete population or different subpopulations

_Ogrinc Acad Med, 2003_
Systems-based Practice

- Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.
Resident “Competence”: SBP

- **Health care as system**: Understand and describe the reactions of a system perturbed by change initiated by the resident
- **Collaboration**: Contribute to interdisciplinary effort
- **Social context/accountability**: Demonstrate business case for QI and identify community resources

*Ogrinc Acad Med, 2003*
Mnemonic for SBP

- Teamwork
- Advocacy
- Coordination
- Technology use in practice
- Improvement tools/skills
- Cost
- Safety

Mark, Gruppen, Simpson, AAMC 2003
Systems-based Practice: Challenges

- What the hell is systems-based practice? Quote: “This was never important when I trained. Is this just a fad?”
  - Quick answer to last question: no
- Systems as both competency and context
  - Competency: working effectively with and within systems
  - Context: Effects of systems on performance and learning
Miller’s Assessment Pyramid

- **KNOWS**
- **KNOWS HOW**
- **SHOWS HOW**
- **DOES**

- MCQ EXAM
- Extended matching / CRQ
- Standardized Patients
- Audit; Multi-source Feedback; DO

Impact on Patient
Cambridge Model

System related influences

Individual related influences

Performance

Competence

Rethans, Norcini, et al, 2002
Quality of Care Triad

Physician

Competencies

Systems competency

Literacy Numeracy Activation Advocacy

Outcomes

Patient

Ward

Clinic

Hospital

Teamwork Information Mngt Referral Networks Staff Competence
Micro-system: Definition

- “A small, organized patient care unit with a specific clinical purpose, set of patients, technologies and practitioners who work directly with these patients.”
- **Shares:**
  - Clinical and business aims
  - Linked processes
  - Information
- Produces performance outcomes

*Donaldson and Mohr, 2003*
Microsystems: Where Residents Work and Learn

- Hospital inpatient units ("wards")
- Intensive care units
- Emergency departments
- Longitudinal ambulatory clinics
- Radiology suites, pathology lab, etc.

*How many microsystems does your residents encounter on any given day?*
Clinical Microsystem

Leadership/citizenship - Quality Innovation

Access to Practice

Diagnostic Work-up

Treatment & Monitoring

Self-Care Support

Teamwork – Care Management

Clinical Information Management

Tests – Consults – Referrals - Rx

Patients with needs: Acute, Chronic, & Prevention care

Patients needs met: Clinical, Satisfaction, Economic
Clinical Microsystem

- **Measurement & Improvement Process**
- **Treatment Plan**
- **Self-Care Support**
- **Teamwork – Care Management**
- **Clinical Information Management**
- **Tests – Consults – Referrals - Rx**

**Patients with needs**

- **Access to Practice**
- **Diagnostic Work-up**

**Patient needs met**

**PBL&I**

**SBP**
Small Group Exercise

- Step 1: Using the tool provided, perform a brief assessment of either an inpatient or outpatient microsystem where your residents train
  - How does the current state of this microsystem affect:
    - Teaching? Evaluation?

- Step 2: Discuss with your small group:
  - What you think is working well
  - What aspects could be improved
Success Characteristics: Microsystem

1. Information and information technology
2. Effective leadership of the Microsystem
3. Macrosystem support of the Microsystem
4. Strong patient focus
5. Staff focus on competence and roles
6. Interdependence of the care team
7. Ongoing process improvement
8. Education and training of all staff
9. Performance results
Is this really the best model to train residents?
Your Program’s Microsystems

- How do your residents integrate into the following microsystems:
  - Inpatient ward
  - Outpatient longitudinal clinic
  - Intensive care unit

- How could your residents help to improve your program’s microsystems?
MODEL FOR EFFECTIVE CHRONIC CARE: MACROSYSTEM

- Community resources and policies
- Health System: Organization of care
  - Delivery System Design
  - Decision Support
  - Clinical Information Systems
- Informed Activated Patient
- Productive Interactions
- Prepared, Proactive Practice Team
- Functional and Clinical Outcomes
MODEL FOR EFFECTIVE CHRONIC CARE: MACROSYSTEM

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Questions