



American Board
of Internal Medicine

Systems-based Practice, Practice- based Learning, Microsystems and Residency Training: An Introduction

University of Wisconsin

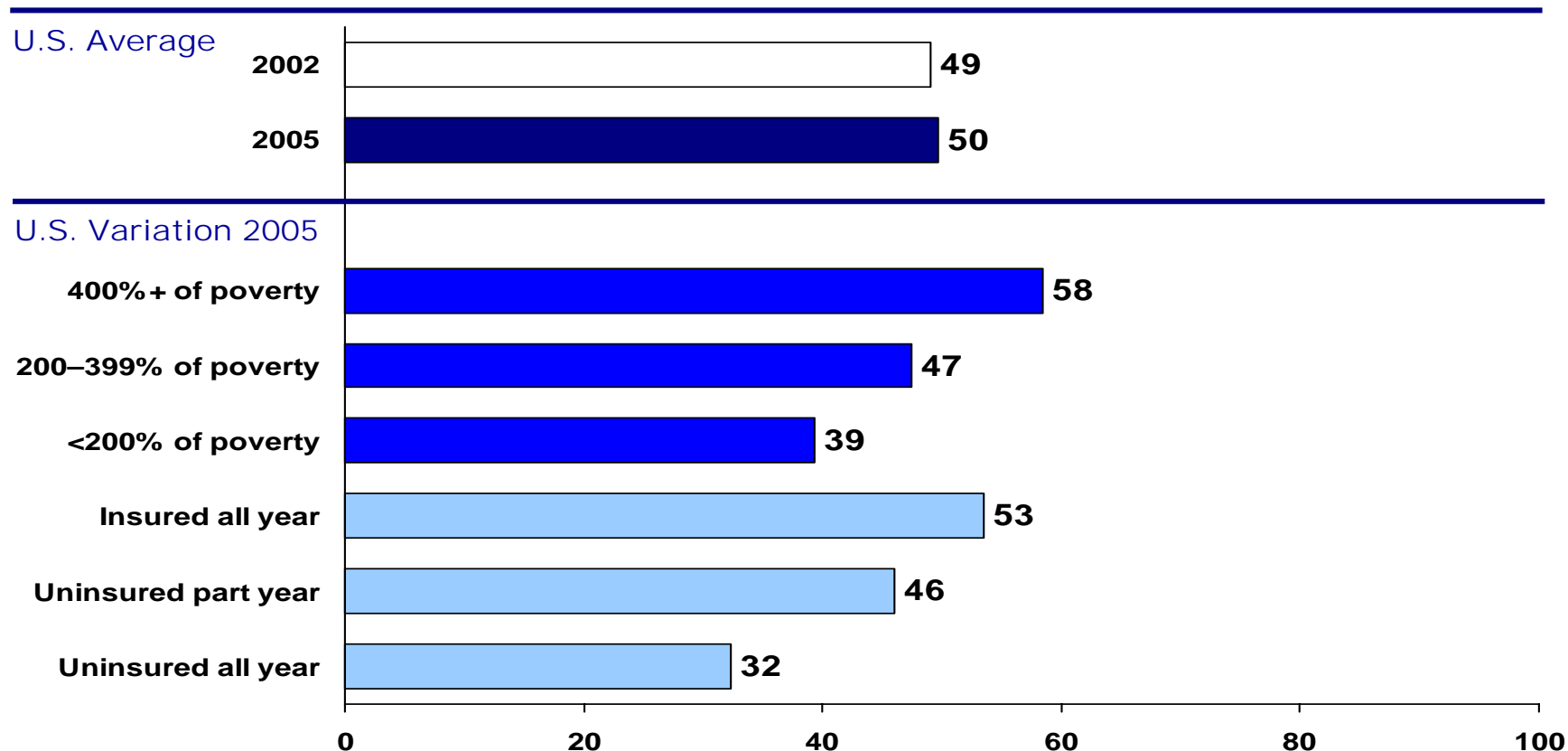
July, 2009

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*



* 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.

Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2008.

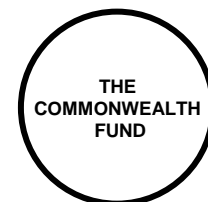
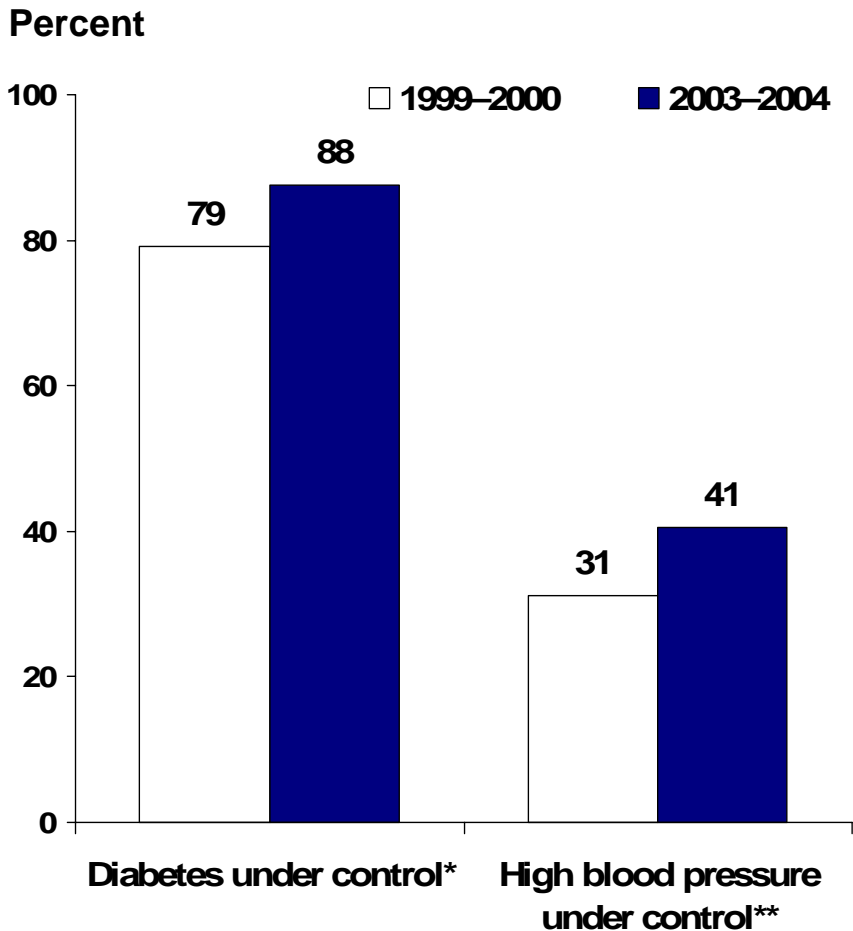
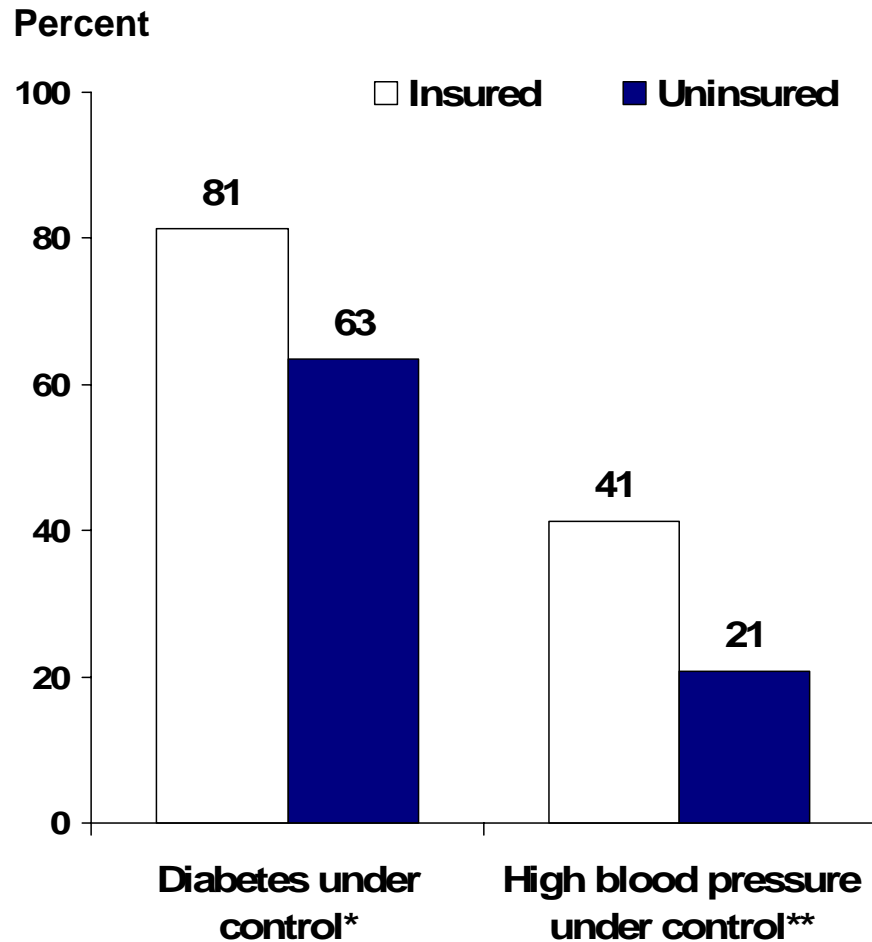


Exhibit 5. Chronic Disease Under Control: Diabetes and Hypertension

National Average



By Insurance, 1999-2004



* 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.

Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2008.

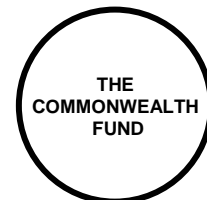
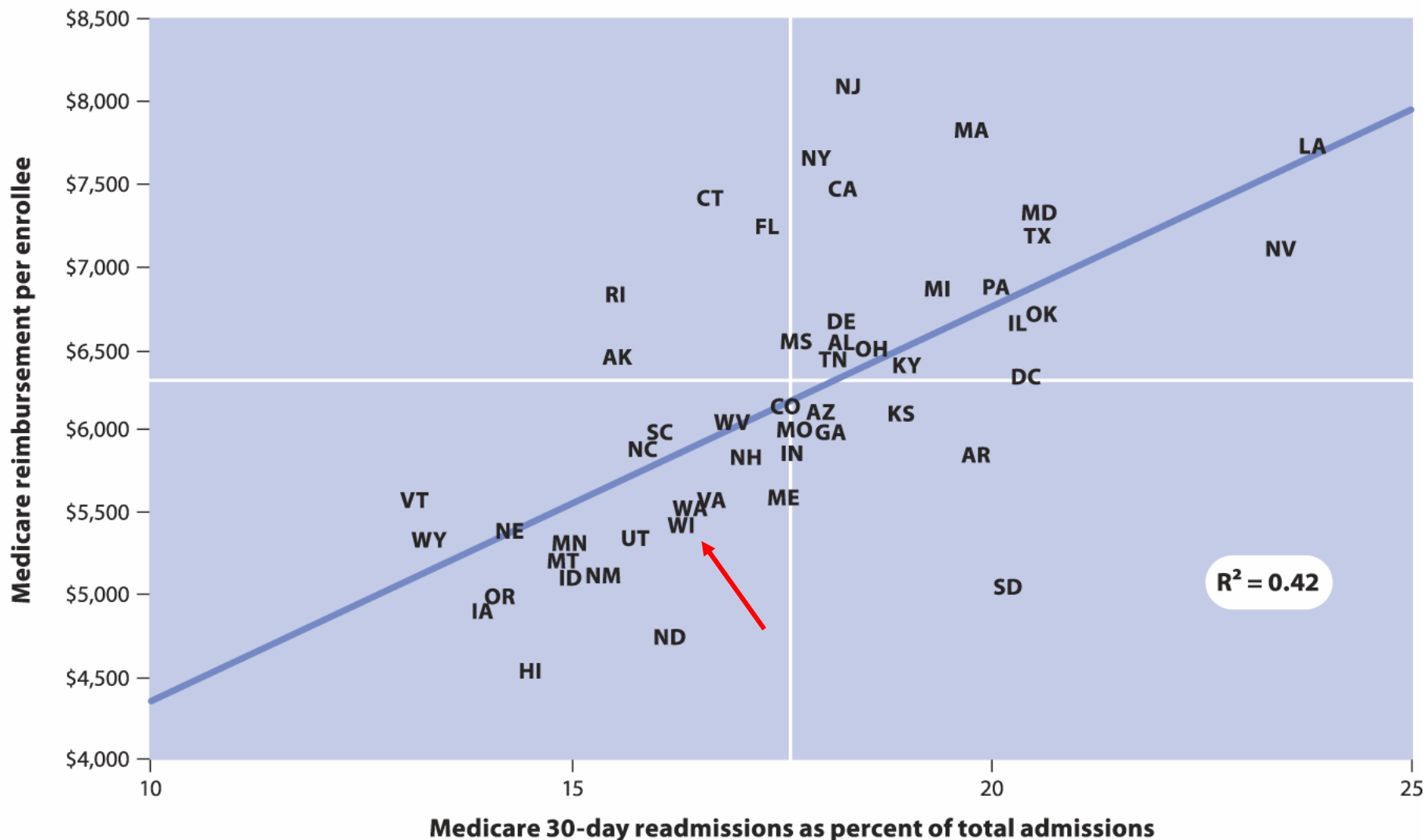


Exhibit 7. Medicare Reimbursement and 30-Day Readmissions by State

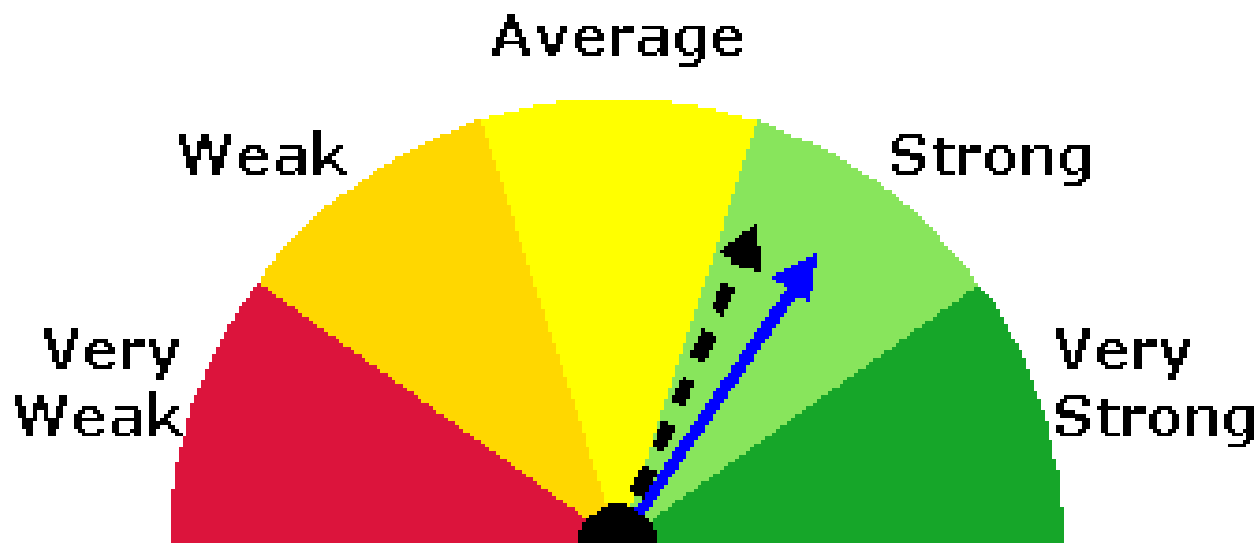


R² = 0.42



Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2008.

AHRQ Quality Dashboard: Wisconsin 2008



**Performance Meter:
All Measures**

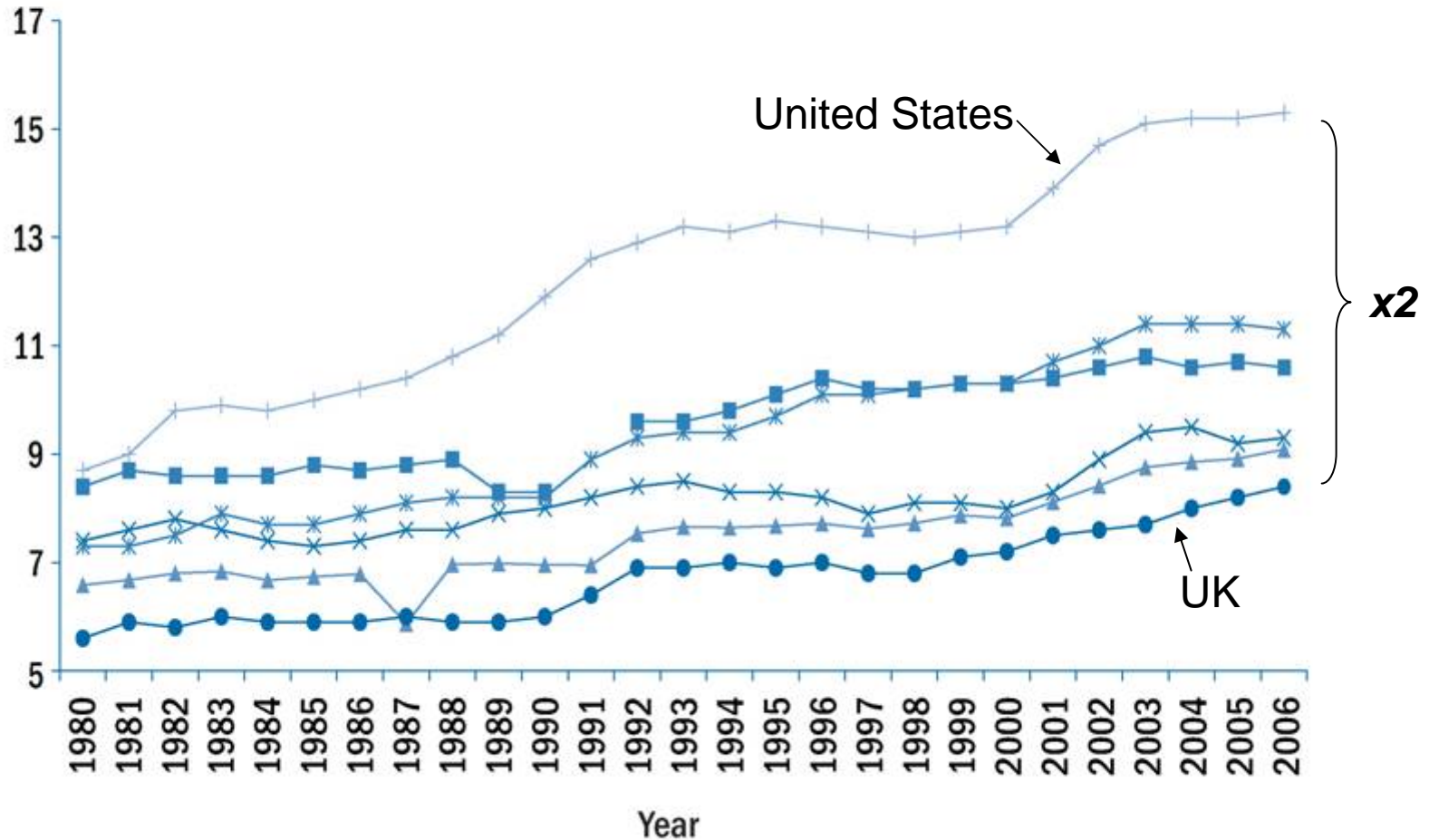
Accessed:

<http://statesnapshots.ahrq.gov/snaps08/dashboard.jsp?menuld=4&level=0&state=WI>

Figure 3. Health Expenditures as a Percentage of GDP, 1980–2006

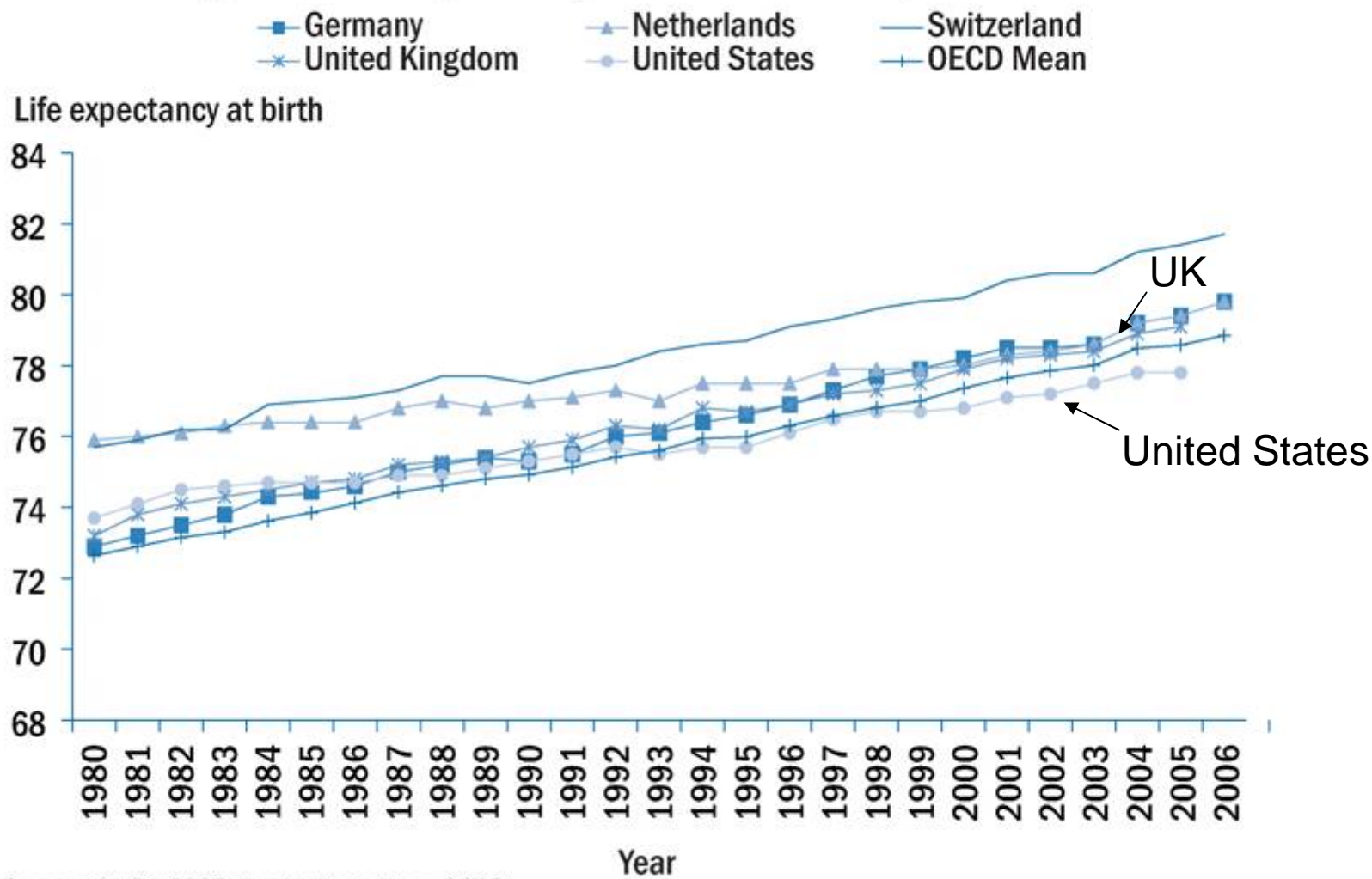
- Germany
- ▲ OECD Mean
- ✕ Netherlands
- ✱ Switzerland
- United Kingdom
- + United States

Health expenditures as % of GDP



Source: OECD 2008 Health Data (June 2008).

Figure 6. Life Expectancy at Birth over Time, 1980–2006

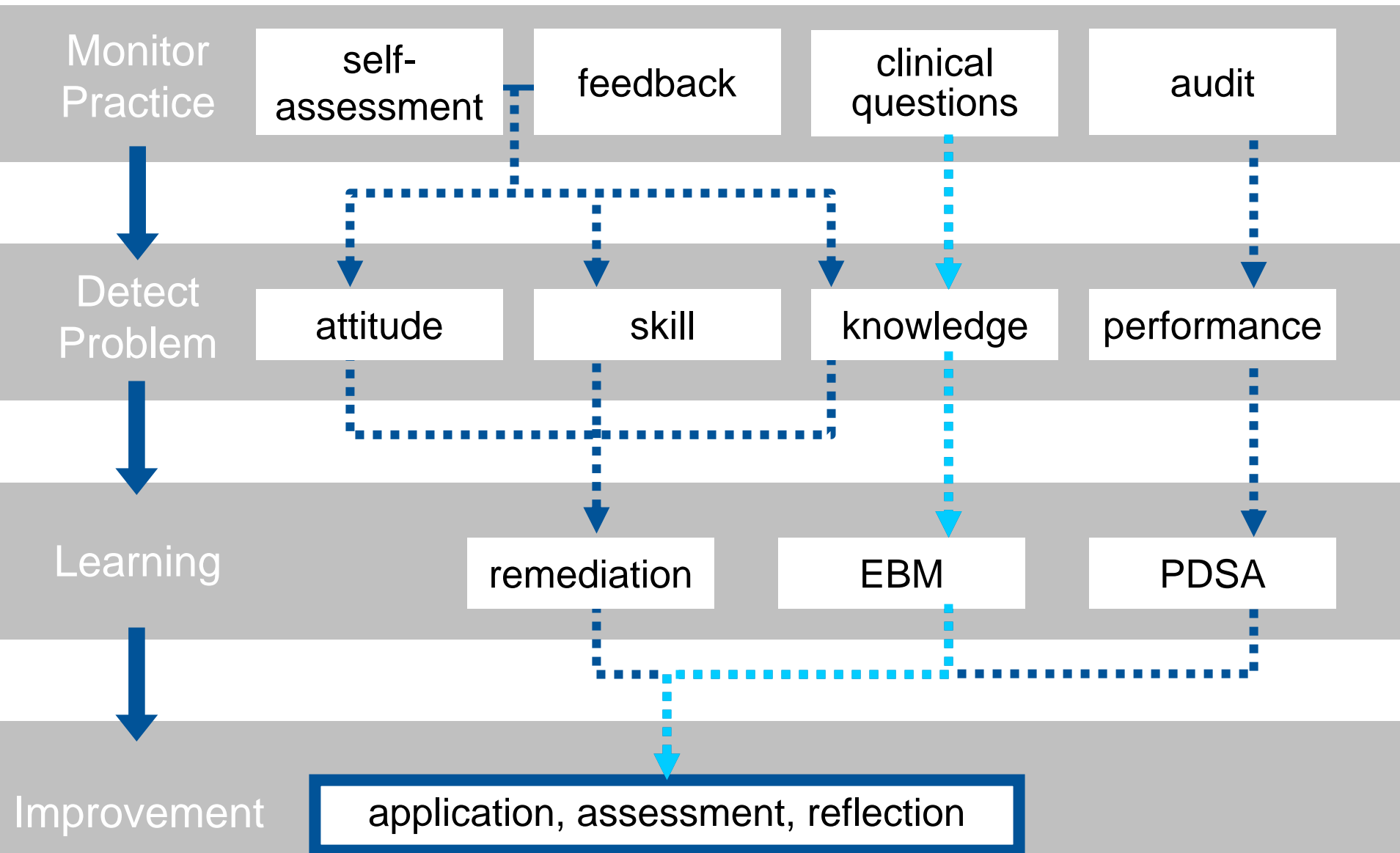


Source: OECD 2008 Health Data (June 2008).

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



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

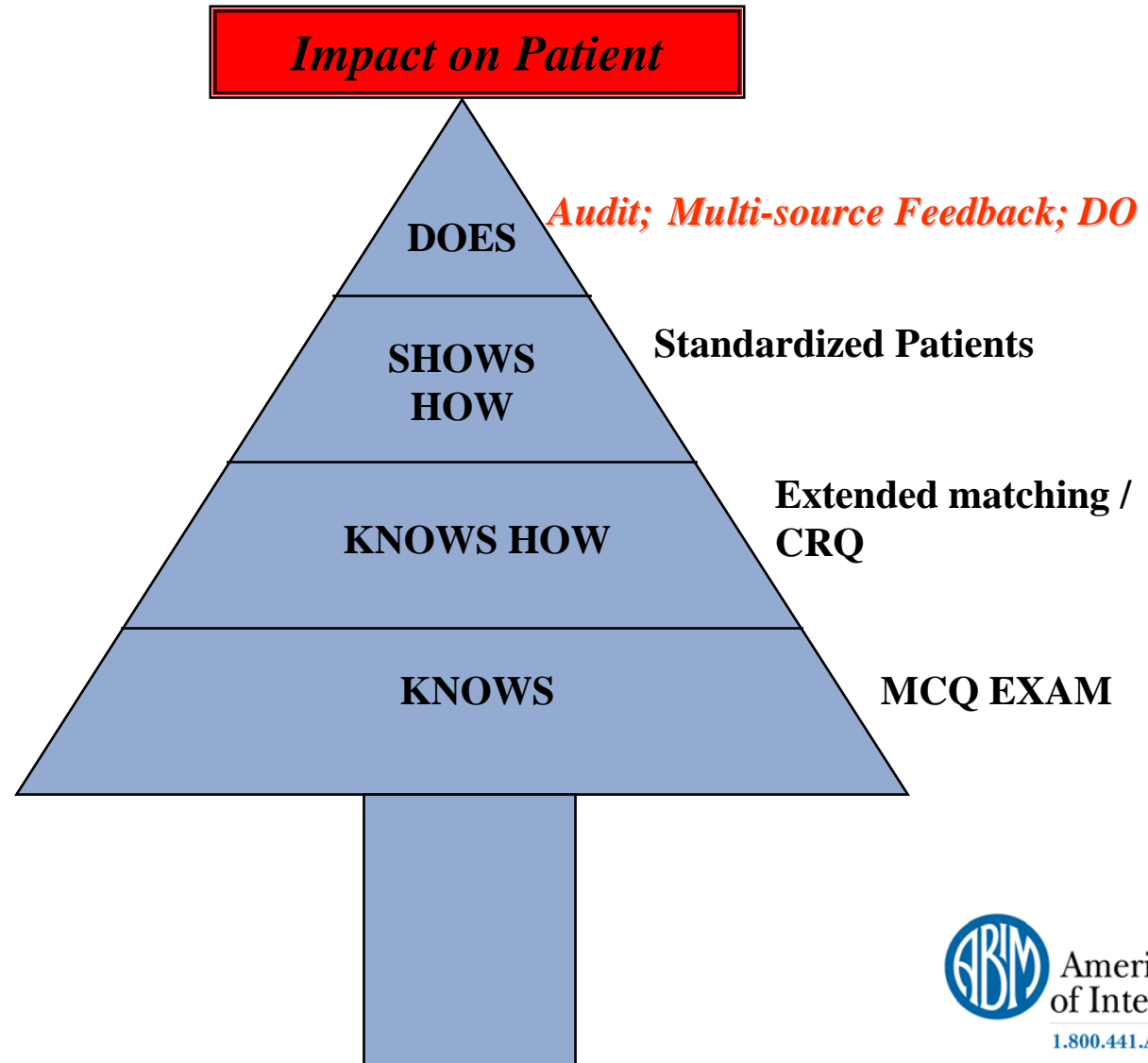
- **T**eamwork
- **A**dvocacy
- **C**oordination
- **T**echnology use in practice
- **I**mprovement tools/skills
- **C**ost
- **S**afety

Mark, Gruppen, Simpson, AAMC 2003

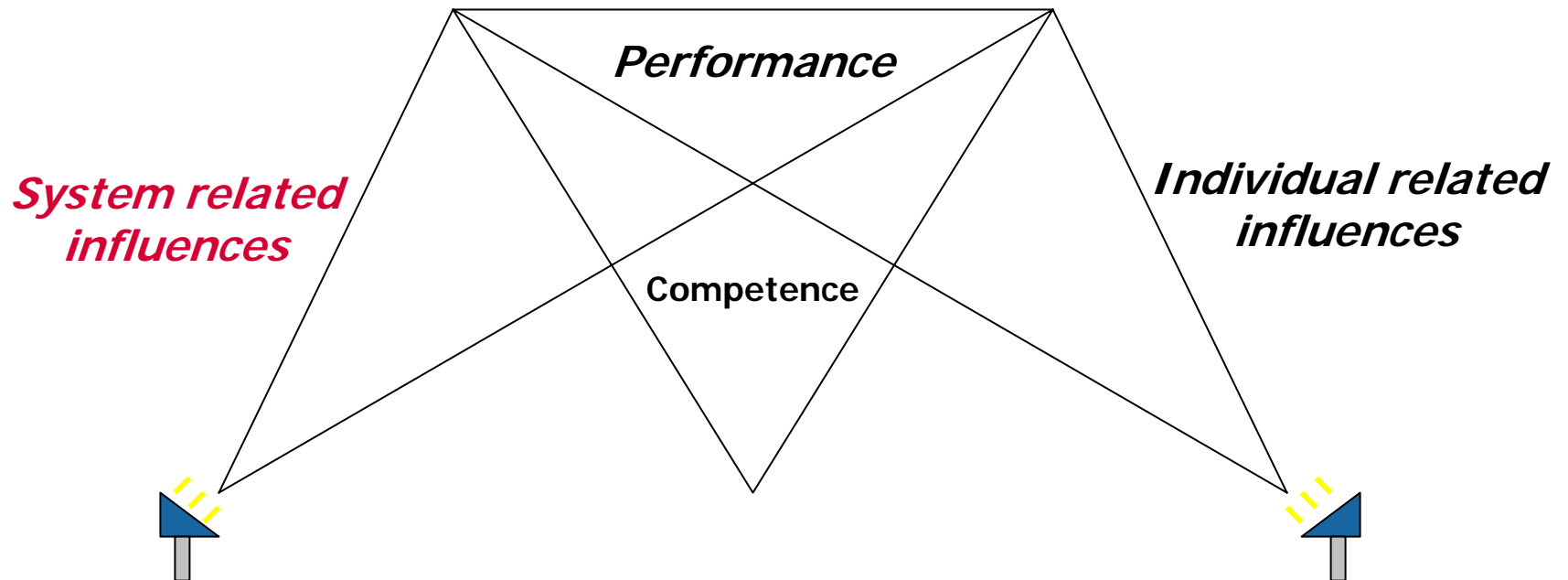
Systems-based Practice: Challenges

- 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

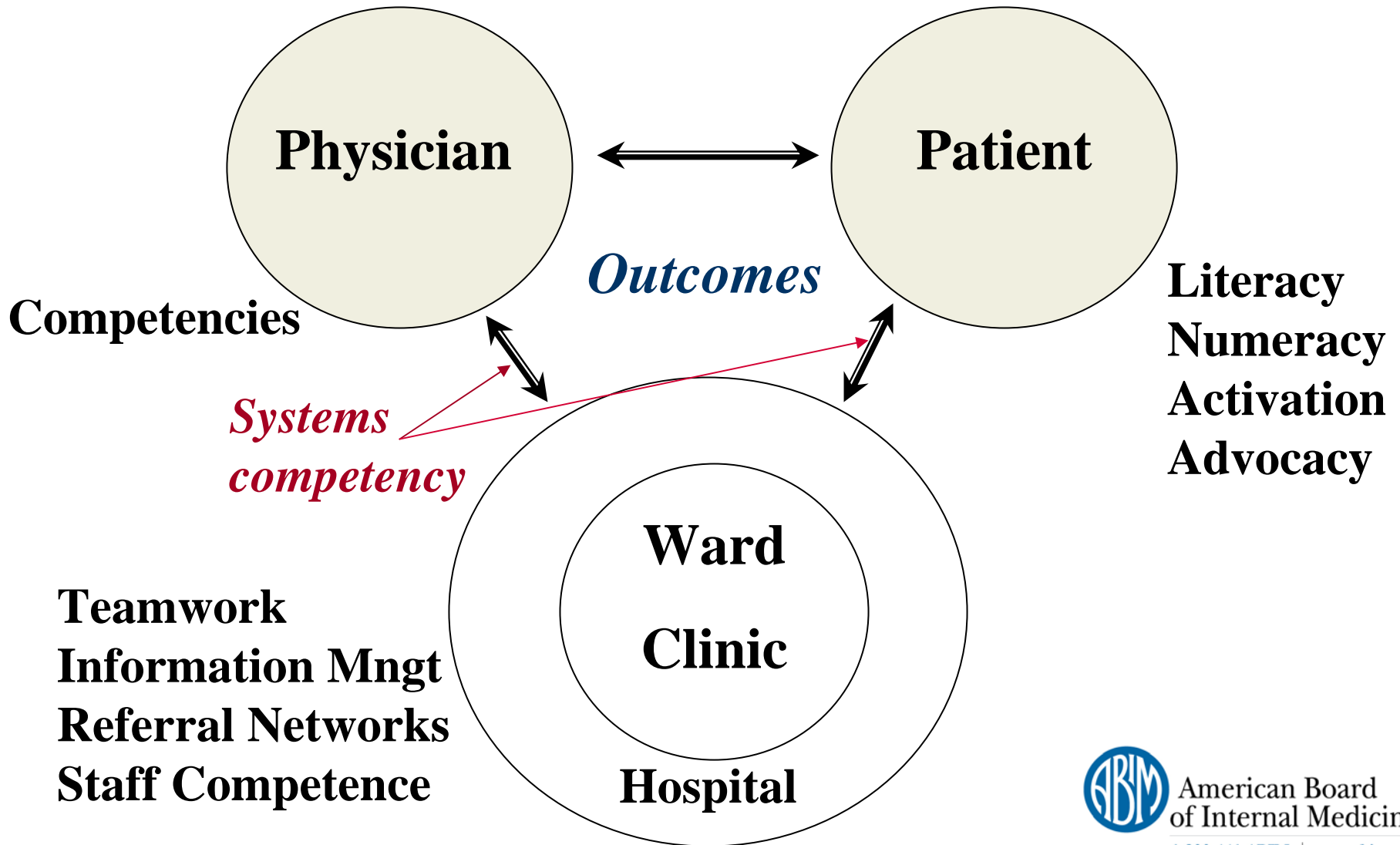


Cambridge Model



Rethans, Norcini, et al, 2002

Quality of Care Triad



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

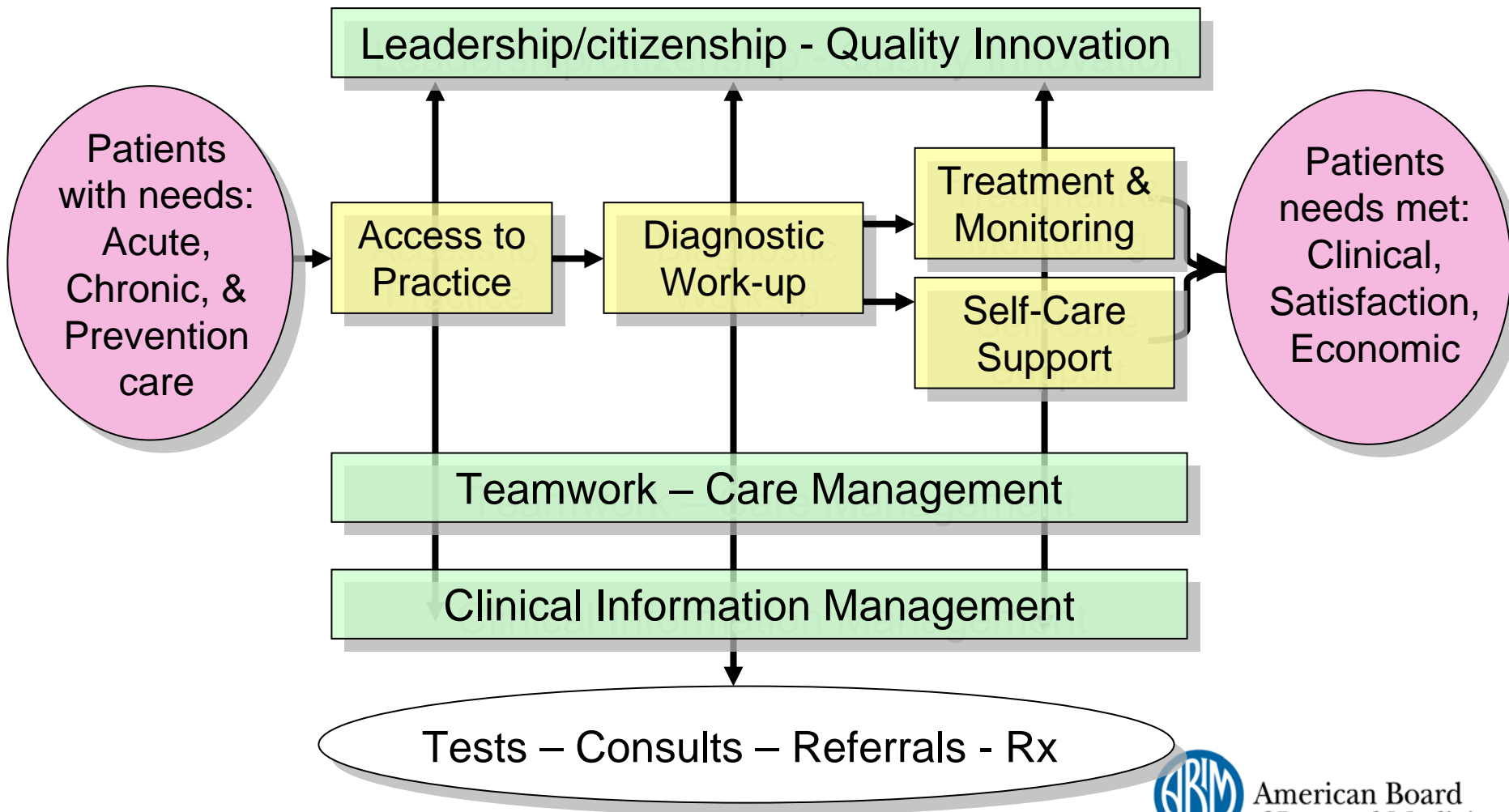
Donaldson and Mohr, 2003

Microsystems: Where Residents Work and Learn

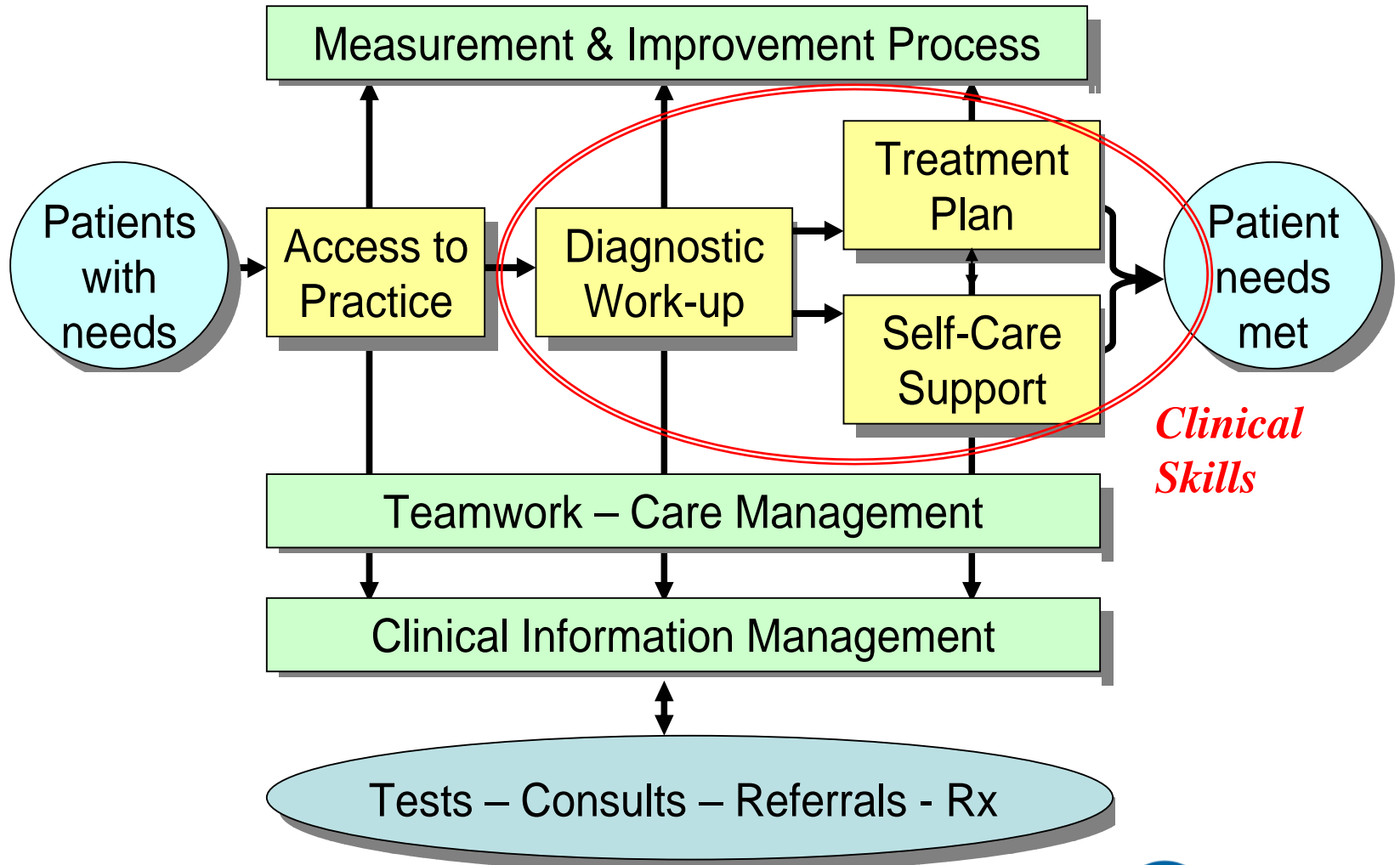
- Hospital inpatient units (“wards”)
- Intensive care units
- Emergency departments
- Longitudinal ambulatory clinics
- Radiology suites, pathology lab, etc.

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

Clinical Microsystem

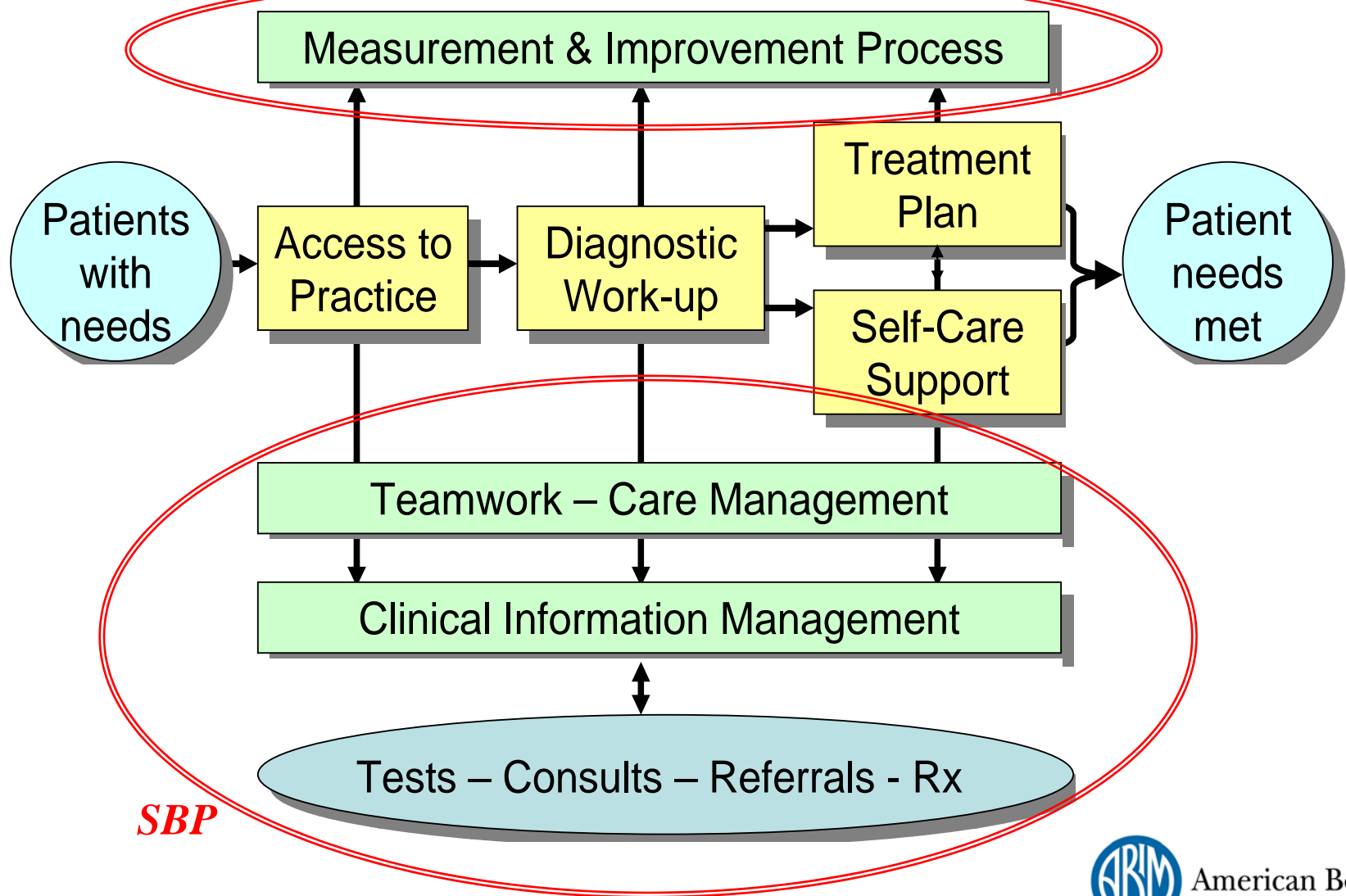


Clinical Microsystem



Clinical Microsystem

PBL&I



SBP

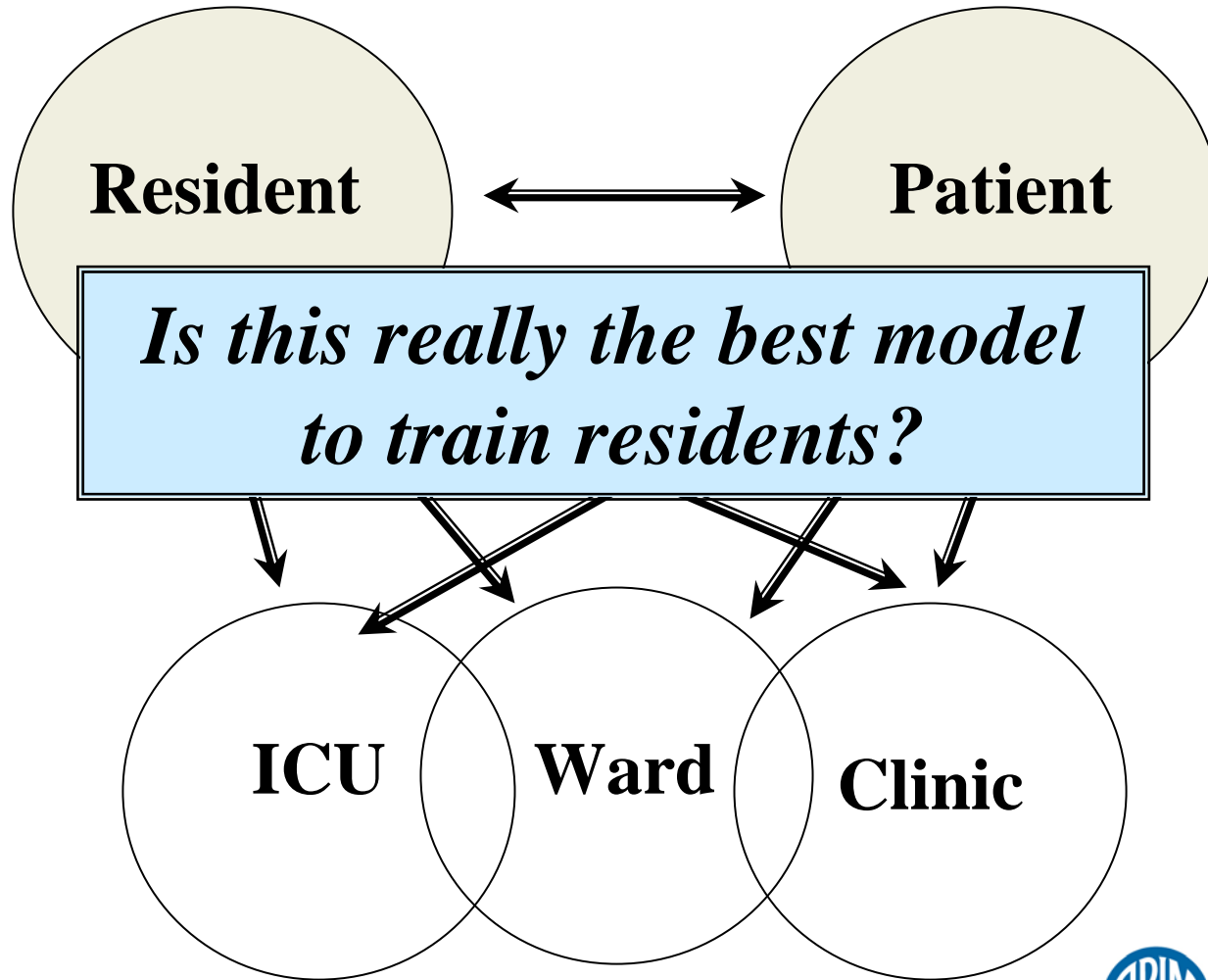
Small Group Exercise

- 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

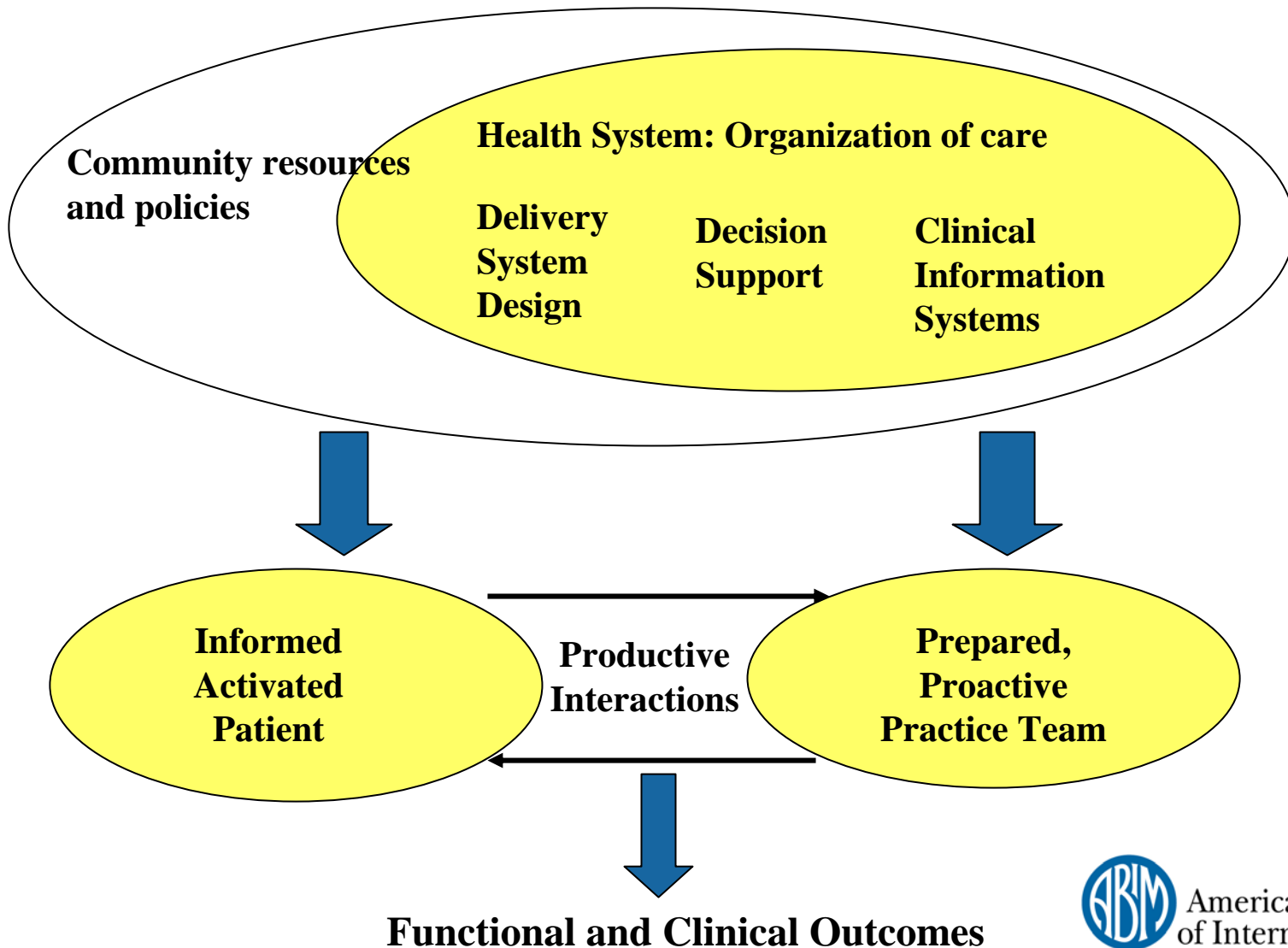
Competency Structure of Residency



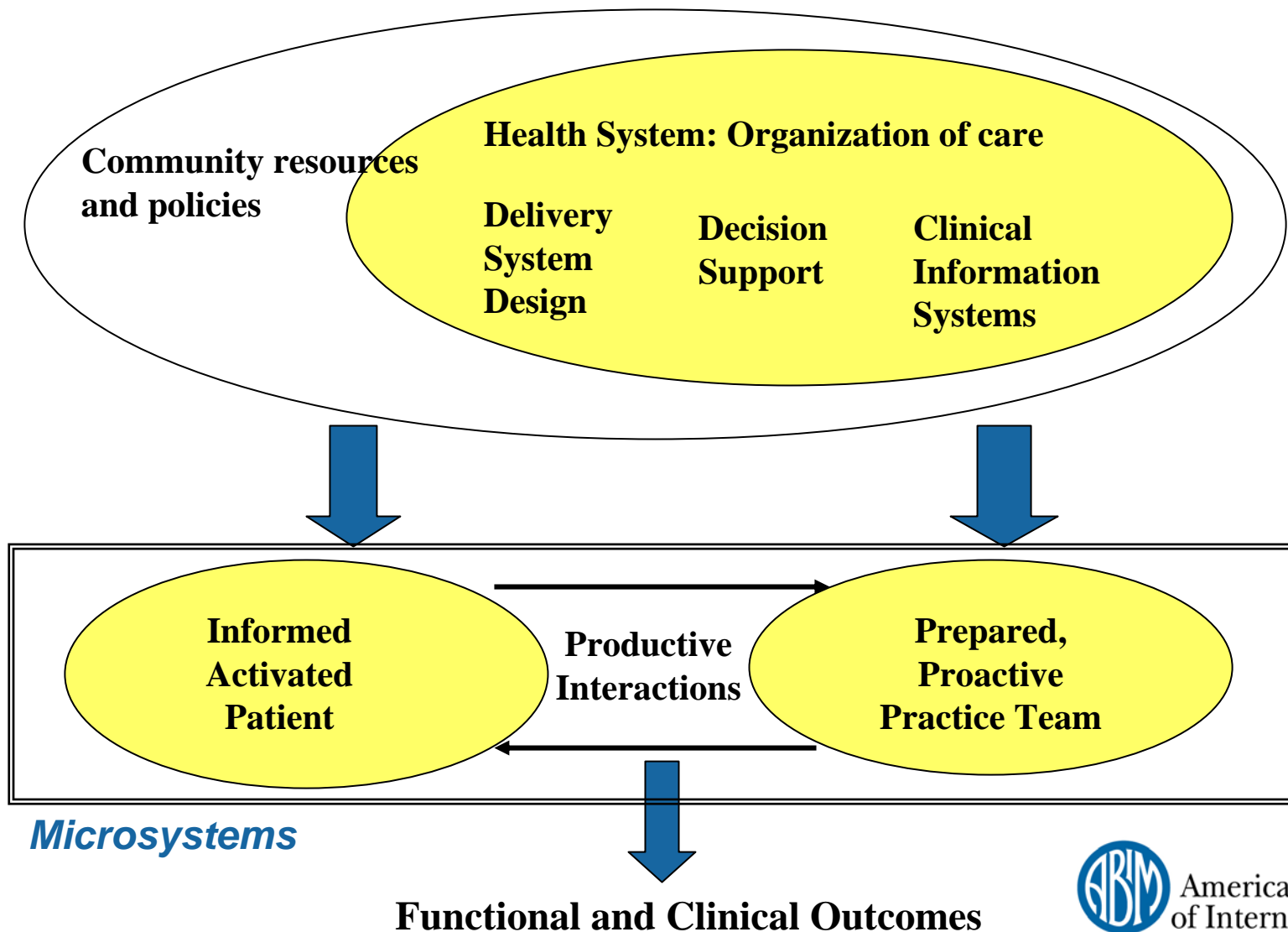
Your Program's Microsystems

- 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



MODEL FOR EFFECTIVE CHRONIC CARE: MACROSYSTEM



Microsystems

Functional and Clinical Outcomes



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Questions