

# Quality of Care

**HS 100**

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# Quality of Care: Definition

*“the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge”*

Institute of Medicine (Lohr, 1990)

# Quality of Care: Conceptual Framework

- **Structure**
  - Characteristics of physicians and hospitals
  - Context in which care and services are provided
- **Process**
  - Components of the encounter between a physician or another health care professional and patients
- **Outcomes**
  - Changes in patients health status as a result of health care

Reference: Donabedian, A. (1996). Evaluating the quality of medical care. *Milbank Memorial Fund Quarterly* XLIV (3) 166-206.

# Structure

- Provider qualification and credentialing
  - Training of the providers
- Licensure of facilities
- Availability / resource adequacy
  - Equipment of the facility in which are provided

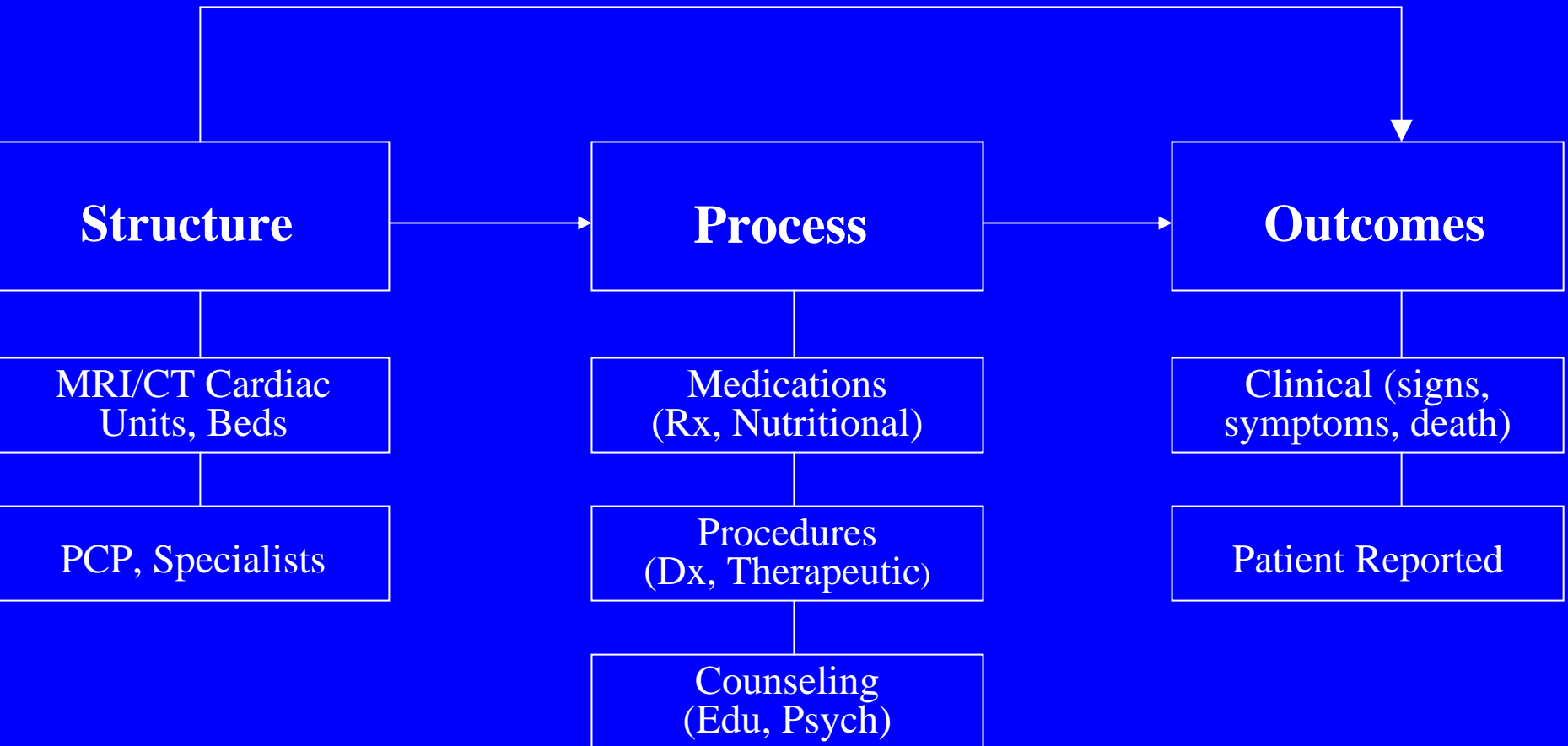
# Process

- Addresses what was done
  - Was the correct (appropriate) action taken?
  - Was it skillfully done?
- Diagnosis, treatment, follow-up, preventive services

# Outcome

- Definition (dictionary):
  - “*an end result or a consequence*”
- Definition (Donabedian):
  - “*result of process actions*”
- Definition (context of health & illness):
  - “*an end result or a consequence*” “*that can be either positive or negative ranging from complete health to death (or worse)*”

# Quality of Care: Conceptual Framework



# Pitfalls in Comparing Quality of Care

- Goal: comparing providers or hospitals fairly
- Outcomes may not reflect only quality of care
- Differences in the initial health status of the patient population may bias the comparison: Selection
- Case mix adjustment is critical
- Three key issues in case-mix adjustment
  - Severity of illness
  - comorbidity
  - technically difficult

# 1999 IOM Report: To Err is Human

- Context
  - Medical Errors 44,000- 98,000 annually
    - Exceeds deaths due to car accidents and breast cancer
  - Cost 17-29 billion/yr in hospitals nationwide
- Reasons
  - Decentralized health care delivery system
    - Multiple providers, different setting leads to access to incomplete information
    - Little financial incentive to improve safety & quality
- Recommendations
  - Create national center for patient safety
  - National public mandatory reporting system
  - Enforcing standards (i.e. lic., cert., accr)
  - Implementing safety systems (i.e. computer system)

Reference: <http://nap.edu/books/0309068371/html/>



# Confronting Quality Problems

- **Variation of Services:** There are significant variations in the practice of medicine across the United States, among regions, and even within communities.
- **Underuse of Services:** The failure to provide a needed service can lead to additional complications, higher costs, and premature deaths.
- **Overuse of Services:** Unnecessary services add costs and can lead to complications that undermine the health of patients.
- **Misuse of Services:** Errors in health care delivery lead to missed or delayed diagnoses, higher costs, and unnecessary injuries and deaths.

# 2001 IOM Report: Crossing the Quality Chasm

- Context

- Advancing medical science & technology
  - Health care system fallen short in ability to translate knowledge to practice
- Public's health care needs to be changed
  - Americans living longer
  - Aging population leads to increase in incidence & prevalence of chronic disease
  - Delivery of care complex & uncoordinated
    - “Patient handoffs”

Reference: <http://www.nap.edu/books/0309072808/html/>



# National Healthcare Quality Report

- Congress gave Agency for Healthcare Research and Quality (AHRQ) a mandate to report annually to nation about health care quality
- Identified 6 dimensions of quality
- Developed preliminary set of quality measures for each dimension

# Six Aims for Improvement Identified in Quality Chasm

- **Effective:** Providing services based on scientific knowledge to all who could benefit, and refraining from providing services to those not likely to benefit
- **Efficient:** Avoid waste, including waste of equipment, supplies, ideas, and energy
- **Equitable:** Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location and SES
- **Safe:** Avoiding injuries to patients from the care that is intended to help them
- **Patient-centered:** Providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions
- **Timely:** Reducing waits and sometimes harmful delays for both those who receive and those who give care

# Effectiveness

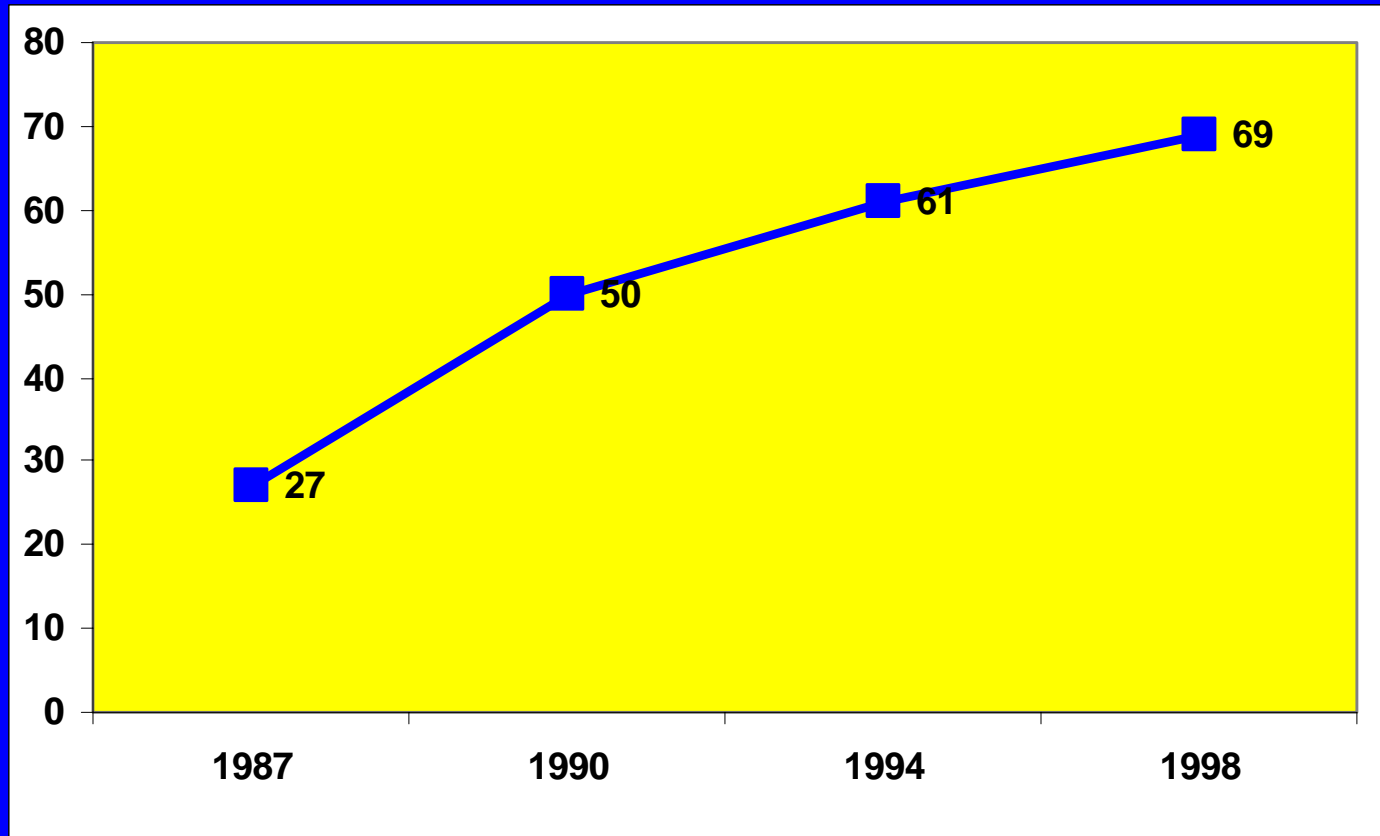
“Effectiveness is probably the component of health care most readily identified because ultimately it represents the “bottom line,” that is, whether care leads to improved outcomes in terms of health status for patients.”

Institute of Medicine, 2001b

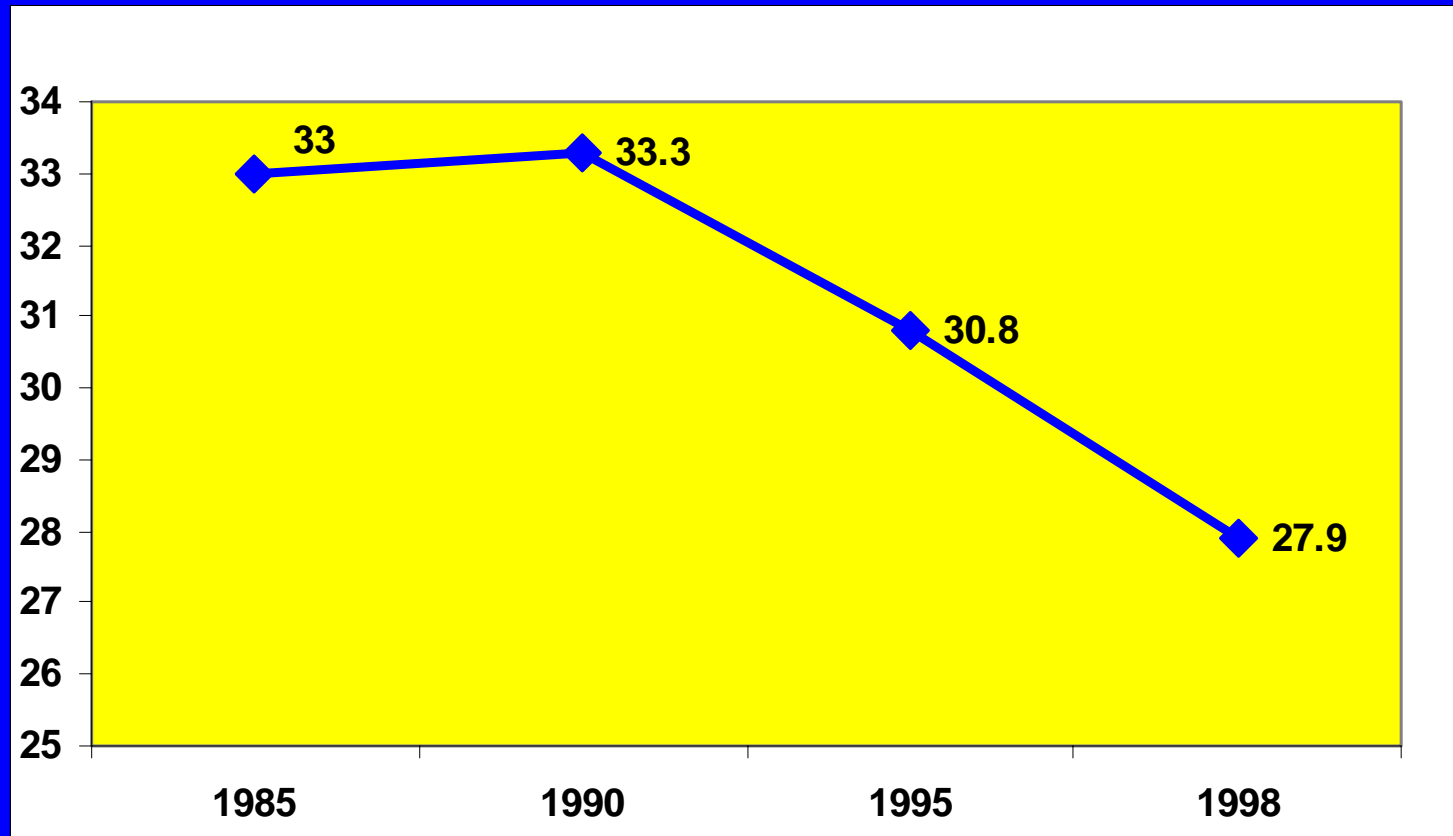
# Effectiveness: Process - Outcome link

- **Screening for Breast Cancer**
  - **Process:** % of women (age 40 and over, 50-69) who report they had a mammogram within past 2 years
  - **Outcome:** % of breast cancers diagnosed at late stage
- **Heart Disease: Treatment for Acute MI**
  - **Process:** % of AMI patients administered beta blocker within 24 hours of admissions
  - **Outcome:** AMI Mortality (within 30 days of admission)

# Process: % women age 50+ who had a mammogram in past two years



# Outcome: Breast cancer death rate (per 100,000 women, all ages)



Reference: Leatherman Speech. Quality of Health Care in the United States. May 10<sup>th</sup>, 2003

([www.allhealth.org](http://www.allhealth.org))

# Process: % of Medicare MI patients prescribed beta blocker at hospital admissions

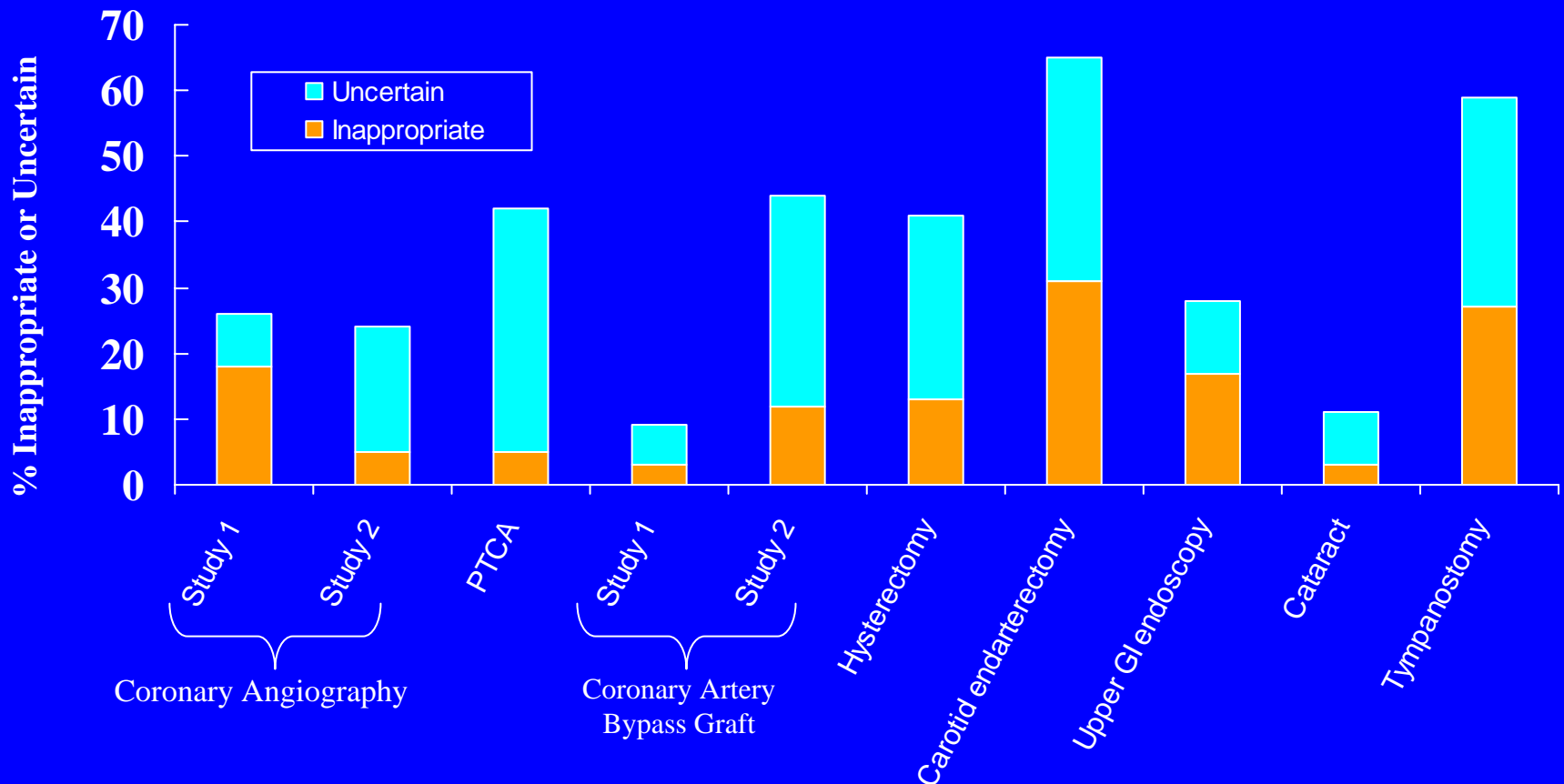
- Strong evidence base that beta blockers should be prescribed to patients who have been hospitalized with MI
- Regional variation significant
  - High: 93% (D.C., Mass.)
  - Median: 72%
  - Low: 47% (Miss.)

Reference: Leatherman Speech. Quality of Health Care in the United States. May 10<sup>th</sup>, 2003

([www.allhealth.org](http://www.allhealth.org))

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# Proportion of Procedures Judged to Be Either Clinically Inappropriate or of Uncertain Value; Summary of Selected Studies



# Access and Timeliness

...the benefits of American medicine are available only to those with access to the health care system.

American College for Physician / American Society of Internal  
Medicine, 2000

# Measures: Access and Timeliness

- Basic access
  - % of persons who report that they have a usual source of medical care, by place of care
  - % of families that experience difficulties in obtaining care, by reason
- Getting appointments
  - % of persons who report that they can get an appointment for routine care as soon as they wanted (always, usually, sometimes/never)
- Waiting time
  - Ave. time from arrival to being seen by MD (separate for emergent, urgent,...)
  - % of patients who left without being seen

# Focus on the Patient

“What patients experience, and what they think of that experience, should also matter... because that experience, as much as the technical quality of care, will determine how people use the health care system and how they benefit from it.”

Reiser, SJ JAMA, 1993

# Patient Dissatisfaction Can Lead To...

- Physician shopping
- Turning to non-medical healers
- Willingness to initiate malpractice litigation
- Noncompliance
- Termination of enrollment in pre-paid plans

# Measures: Patient Ratings of Care

- % of patients who report that MD listens carefully
- % of patients who report MD explains things clearly
- % of patients who report that MD showed respect for what you had to say
- % of patients who report that MD spent enough time with them

# Health Disparities

“Differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific populations.”

National Institute of Health

NIH definition of health disparities: <http://healthdisparities.nih.gov/whatare.html>.

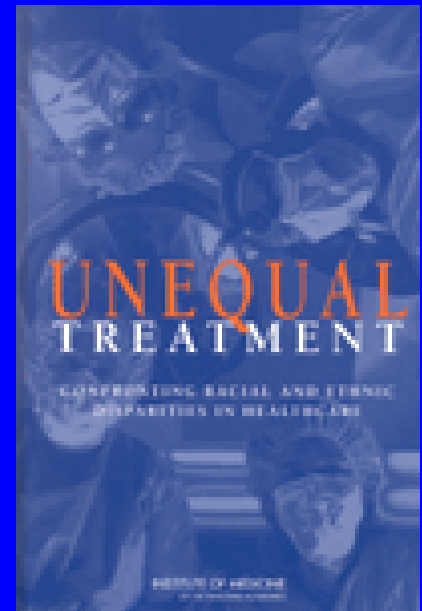
# Health Disparities: Infant Mortality and AIDS Mortality

- Infant Mortality (per 1,000 live births)
  - African Americans: 8.5 deaths
  - Latinos: 4.0 deaths
  - Whites: 3.7 deaths
- AIDS mortality in U.S. (per 100,000 population)
  - African-Americans: 26.6
  - Latinos: 8.9
  - Whites: 3.9

# Health Care Disparities: Treatment

- Lower rates of lung cancer surgery among blacks
- Gender disparity in heart attack treatment
- Racial disparity in pain management

## Criteria for Evaluation: Equity



References: Leatherman Speech. Quality of Health Care in the United States. May 10<sup>th</sup>, 2003  
([www.allhealth.org](http://www.allhealth.org))

<http://books.nap.edu/books/030908265X/html/index.html>  
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# Capacity to Improve

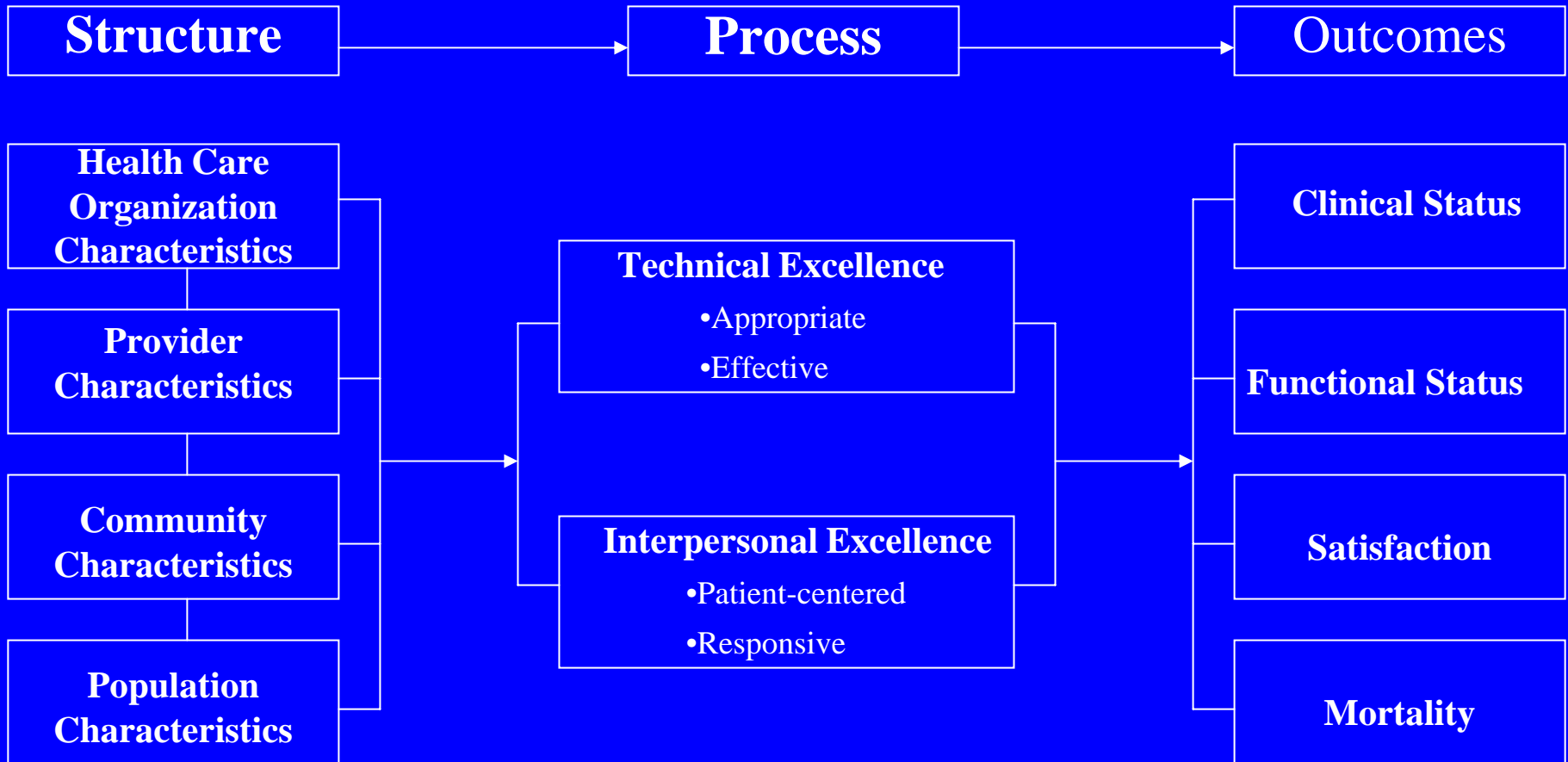
“Our current methods of organizing and delivering care are unable to meet the expectations of patients and their families because the science and technologies involved in health care...have advanced more rapidly than our ability to deliver them safely, effectively, and efficiently...Without substantial changes in the ways health care is delivered the problems resulting from the growing complexity of healthcare science and technology are unlikely to abate, in fact they will increase.”

Institute of Medicine, 2001a

# Capacity to Improve: Safety

- Complications of care
  - Obstetric trauma
  - Failure to rescue
  - Foreign body left in body during procedure
  - Central line infection
- Prescribing medications
  - % of elderly who received potentially inappropriate medications
  - % of patients who report that usual source of care asks about Rx from other providers

# Conceptual Framework for Quality Assessment



# WHO Definition of Health

“Health is a total state of physical, mental and social well-being, and not merely the absence of disease”

WHO, 1949

# What are Health Outcomes?

- Traditional clinical endpoints
  - Death, disease occurrence, other adverse events
  - Clinical measures/biological indicators
    - Blood pressure
    - Blood hemoglobin levels
    - Symptoms, (e.g. fever)
- Health-Related Quality of Life (HRQOL)

# Additional References

Andersen RA, Kominski GF, Rice TH. Changing The U.S. Health Care System. Jossey-Bass Inc. San Francisco. 2001 (154-167)

Kohn LT, Janet MC, Donaldson MS. To Err is Human:Building a Safer Health System. Institute Of Medicine; National Academy Press; Washington, D.C. 1999

Committee on Quality of Health Care in America. Crossing the Quality Chasm: A New Health System for the 21st Century. Institute of Medicine. National Academy Press; Washington, D.C. 2001

Smedley BD, Stith AY, Nelson AR. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care Institute Of Medicine; National Academy Press; Washington, D.C. 2003