

# HS-214 Course Overview

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- Health status, quality of life and health services:
  - needs, outcomes and policy
- Conceptualizing health: HRQOL
- Measuring health: HRQOL
  - reliability, validity, responsiveness
- Applications in health services research

# Key Problems with US Health Care System

- Access to care
  - ~ 44 million people without health insurance
- Cost of care
  - 1999 expenditures ~ \$1 trillion
- Effectiveness (quality) of care
  - not all care delivered is beneficial
  - not all needs are met

# Why is Health Status Important?

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- Reflects need for services
- Effective services improve health outcomes

# Defining Health Needs

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- Defines objectives of health care
- A lack (illness) of desired goal (health)
- Implies a means of attaining goal
- Necessarily implies value judgment

# Types of Health Needs

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- Perceived (Individual)
- Evaluated (Professional)
- Normative (Expert/Empirical)
- Need ~ Demand

# Defining Health Outcomes

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- Health and Disease vs. illness
- Related to Needs
- Function of Use and Process
- Focus is on Intervention
  - Policy
  - Community-Based
  - Clinical

# History of Health and Quality of Life Concepts: A Paradigm Shift

- Changes in survival, epidemiology
- Limits of medical technology
- Public health and policy: populations
  - social indicators of health status, QOL
- Chronic disease treatment: individuals
  - measures of function and well-being
- Cost-containment and consumerism
  - demonstration of health care value

# WHO Definition of Health (1949)

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

# Goals of Care System

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- Provide equitable, cost effective care
  - Maximize access to needed care
  - Minimize costs
  - Maximize effectiveness (quality)

# Health Services Research: Improving Health Systems

## ■ Criteria

- Equity - needed care provided
- Efficiency - costs are minimized
- ➔ ■ Effectiveness - quality of care improves health

## ■ Application

- Evaluate policy, interventions, secular trends

# How Do We Know If Care Is Effective?

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- Effective care maximizes probability of desired outcomes
- Outcomes are markers of whether or not care is effective

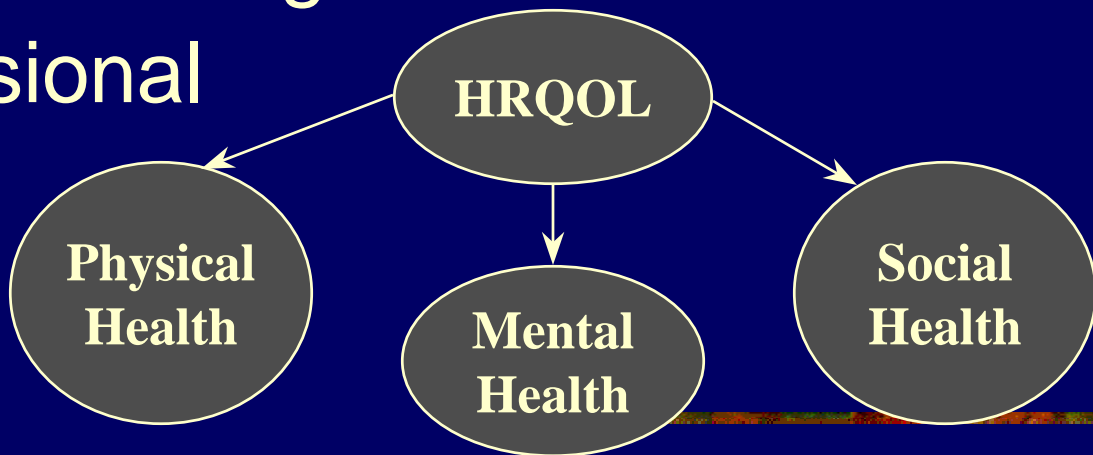
# What Are Health Outcomes?

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



# Definition of Health-Related Quality of Life (HRQOL)

- Ability to engage in daily functions:
  - physical (e.g. self-care)
  - role
  - social
- Perceived well-being vs distress
- Multi-dimensional

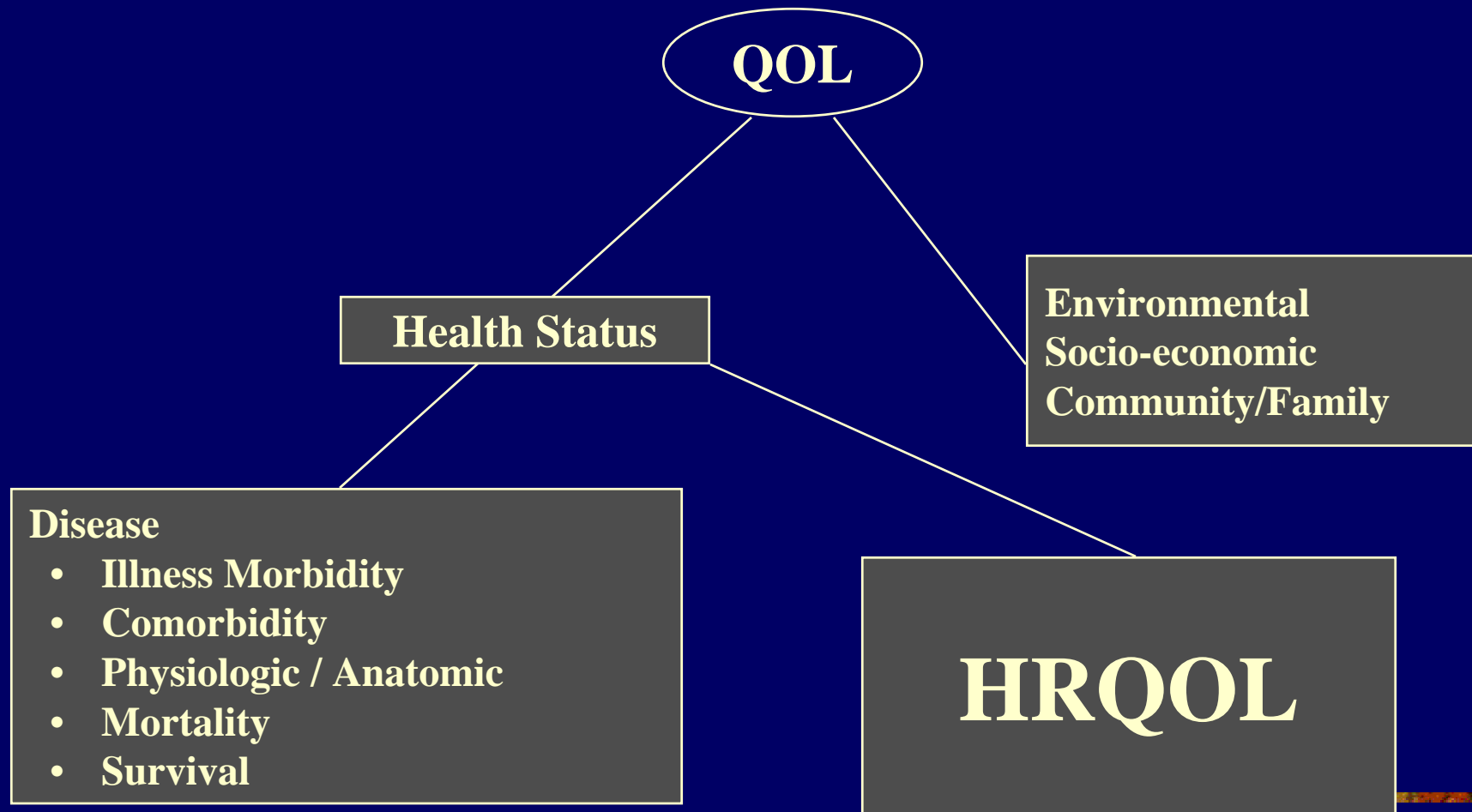


# HRQOL is not

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- Quality of environment
- Political freedom
- Adequate housing
- Level of income

# QUALITY OF LIFE: HEALTH STATUS & ENVIRONMENTAL FACTORS



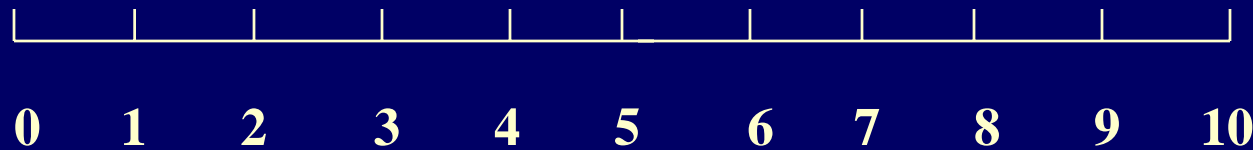
# Valid Measurement of Health is Critical

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- Develop/ select HRQOL measures for specific purpose
- Evaluate performance of measures in target group, disease, or context
  - acceptability
  - reliability and validity

# Example of a HRQOL Measure

Overall, how would you rate your current health?  
(Circle One Number)



**Worst possible health**  
(as bad or worse than  
being dead)

**Half-way**  
between worst  
and best

**Best possible**  
health

# Levels of Measurement

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- Nominal
- Ordinal
- Interval
- Ratio

# Criteria for Selecting Measures

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- Acceptability
- Variability
- Reliability
- Validity
- Responsiveness

# Break



# *Part 2 Overview*

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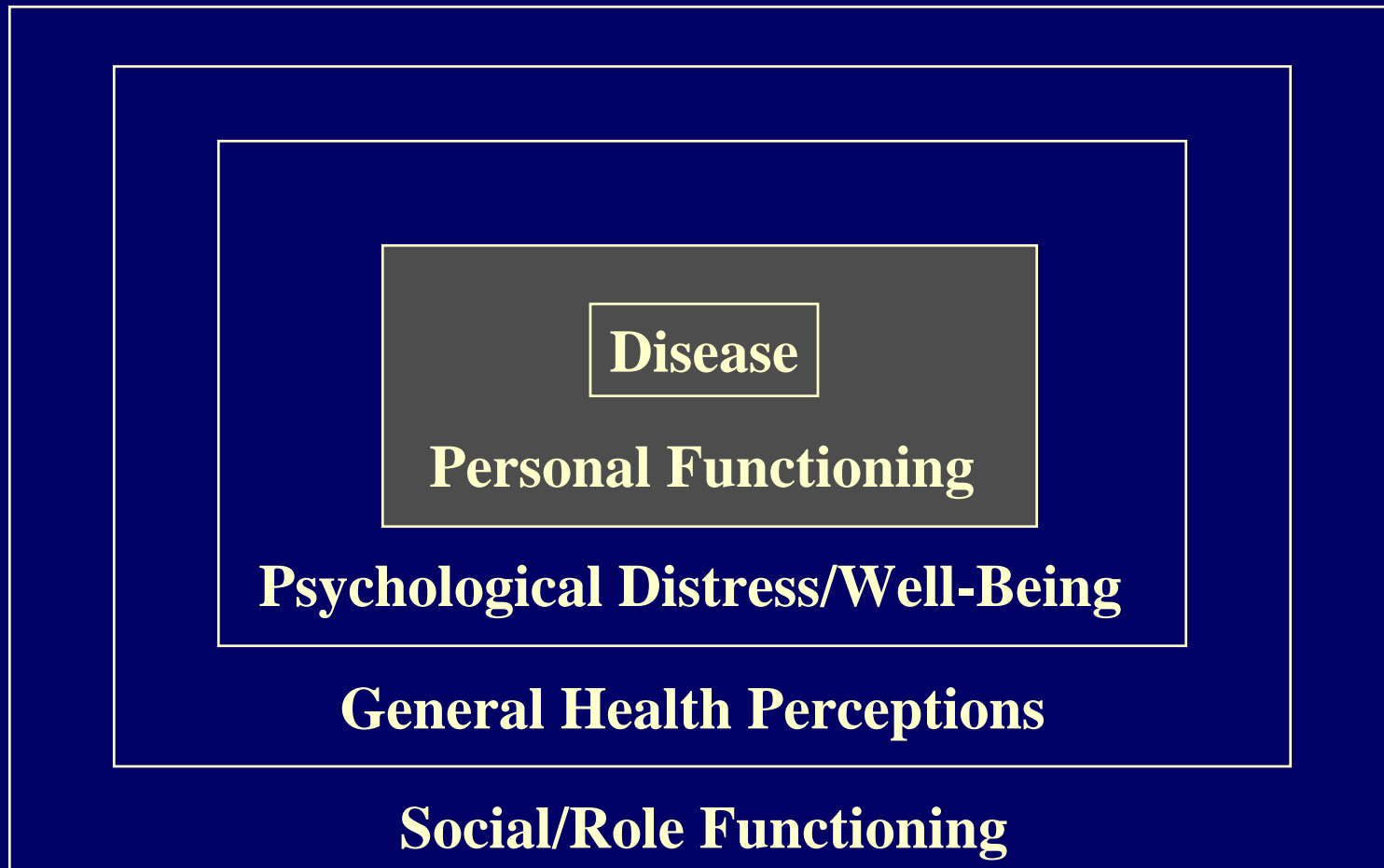
- Conceptualizing HRQOL
- Operationalizing HRQOL

# Conceptualizing Health

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- Biomedical Model
- WHO definition: bio-psychosocial model
- HRQOL: consumer perspective
- Domains, dimensions, concepts, items

# Concentric Model of Health Domains (Ware 1984)



# 3 Views of Chronic Physical Illness (WHO, 1980)

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- Impairment (biological)
- Disability (psychological)
- Handicap (social)

# How do you measure HRQOL? (1)

- Define constructs
  - conceptual definition
  - operational definition
    - domains, dimensions, items

# How do you measure HRQOL? (2)

- Operationalize constructs
  - Questions reflect health concept
- Conceptual - operational links
  - Content: breadth and depth
  - Response concepts (options)

# How do you measure HRQOL? (3)

- Standardization
  - Item content and responses
  - Score answers (assigning numbers)
  - Summarize and analyze answers
- Individualization
  - Qualitative

# Advantages of Standardized Measurement

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- Objectivity
- Quantification
- Communication
- Economy
- Scientific generalization

Adapted with permission from Ron Hays @ RAND

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# Example HRQOL Measure: SF-20 (# items)

- Function
  - Physical function (6)
  - Role function (2)
  - Social function (1)
- Well-Being
  - Emotional well-being (5)
  - Low pain (1)
  - Current health (5)

# Measurement Approach Depends on Domain

- Function: potentially observable
  - Self report
  - Observer report
- Well-being: subjective, unobservable
  - Reports
  - Ratings

# Observable Physical Function (self-care) Item

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- How much does your health now limit you in bathing or dressing yourself?

# Example Content of HRQOL Measure (# items) (SF-36)

## Dimension

- Physical Health
  - Physical function (10)
  - Bodily Pain (2)
  - Role limitations / physical health (4)
- Mental Health
  - Emotional distress / Positive affect (5)
  - Role limitations / mental health (3)
- Both
  - General Health (5)
  - Energy (4)
  - Social Function (2)
  - Change in health status

# Range of HRQOL content

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- Positive vs negative well-being states
- Strenuous vs basic activities

# Positive and negative well-being items

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- How much of the time ...
  - Have you felt calm and peaceful?
  - Have you been a very nervous person?

# Example Range of Physical Function Items

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- How much does your health now limit you in these activities?
  - Bathing or dressing yourself
  - Lifting or carrying groceries
  - Running a few miles

# Gradations (range) of Content

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- Fine gradations detect subtle differences among similar subjects
- Broader ranges detect differences between dissimilar subjects
- Measuring both requires many items

# Example Range of Physical Function Items

- How much does your health now limit you in these activities?
  - Bathing or dressing yourself
  - Moving in or out of a bed or chair
  - Walking indoors, e.g., around your home

# Example Range of Physical Function Items

- How much does your health now limit you in these activities?
    - Bathing or dressing yourself
    - Lifting or carrying groceries
    - Running a few miles
- (Limited: a lot, a little, not at all)

# Example Item and Response Options (rating)

- In general, how would you say your health is now:

Excellent, very good, good, fair, poor

# Contrasting Dichotomous and Graded (frequency) Response Options

- Have you felt depressed during the past 4 weeks?

Yes

No

- How often during the past 4 weeks have you felt depressed?

All of the time; Most of the time;  
Some of the time; A little of the time;  
None of the time

# Response Options: Severity vs Duration

- How much does your health now limit you in these activities?

- Running a few miles
- Lifting or carrying groceries
- Bathing or dressing yourself

(Limited: a lot, a little, not at all)

- more than 3 months, less than 3 months, not at all

# Reports vs Ratings

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- Reports: imply “objective” metric
  - level, state, occurrence, frequency
- Ratings: evaluation (judgment)
  - “subjective”, “weights”, “importance”

# Example Rating Item

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- In general, how would you say your health is now:
  - Excellent, very good, good, fair, poor

# Example Report vs Rating Items

- Does your physical health limit you?
  - Yes or No
- Overall, how would you rate your physical health?
  - Excellent, very good, good, fair, poor

# Design Issues

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- Study design
  - intervention
  - follow-up
  - cross-sectional survey
- Sample morbidity
- Acuity/ chronicity of conditions
- Item content

# Health Measurement Terminology

- Scale
- Items
- Instrument
- Scales
- Scores
- Profile
- Index
- Measure