Assessment of Health Status and Access to Care

M9205
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Health Status

- The degree to which an individual or population has achieved a state of complete physical, mental and social well-being, beyond the absence of disease or infirmity.
Questions:

- how healthy (ill) is this individual
- how healthy (ill) is this group of individuals
- how healthy (ill) is this community
Usually expressed as

- life expectancy
- infant mortality
- disease-specific death rate
- age-specific death rate
Can be asked

- at a single point in time
- at sequential points
- either retrospectively or prospectively
Can be compared

- Across geographic boundaries
- Across age groups
- Across ethnic groups (Bhopal article)
- Across social or cultural groups
- Across health services systems
Going beyond absence of disease

- ADL
- IADL
- SF-36
- YPLL
- QALY
- DALY
Activities of daily living

Example: Medical Outcomes Study scale
- Self care (eating, bathing, toileting, dressing)
- Mobility
- Communication
- Psychosocial adjustment
- Cognitive function

Movement today is toward quality of life measures
IADL

- Instrumental Activities of Daily Living
- Intended to be more sensitive to areas of lesser disability
- Include such things as
  - financial management
  - shopping
  - cooking
  - travel
SF-36

- Developed to compare self-reported health status across groups
- Includes mental & physical health
- Includes
  - physical and social function
  - role limits due to physical function or mental health
  - pain and vitality
  - health perception and general mental health
YPLL (Years of potential life lost)

- Comparisons of populations with different age distributions and causes of death
- All years as equivalent
- 65 used for international comparison
- Number of deaths in a group multiplied by the difference between the midpoint age at death and 65.
YPLL, example

- In a population
  - 5 individuals die at average age 44 of HIV-related causes
  - 10 die at age 61 of heart disease
  - 3 die at 12 of traffic injuries.
YPLL example, cont.

- Comparison
  - $65-44=21 \times 5=105$ YPLL to HIV
  - $65-61=4 \times 10=40$ YPLL to heart disease
  - $65-12=53 \times 3=159$ YPLL to injury
QALY (Quality Adjusted Life Years)

- Used for comparisons of populations with different disease distributions
- Defining ‘quality’ is the problematic issue
- Range of value from 0 (death) to 1 (optimal health) assigned to year, and then summed
QALY, example

- Adult with poor health habits; MI at 48; kidney failure at 55; lives to 68
- Quality of life = 47.6 QALY’s
  - 1-21 x .9 = 18.9
  - 22-48 x .7 = 18.9
  - 48-55 x .6 = 4.8
  - 56-66 x .4 = 4.4
  - 67-8 x .3 = .6
and another example

- Child born with cardiac irregularity; repaired by age 4; return of heart problems at 50; lives to 65

- Quality of life = 55 QALY’s
  - \(1-4 \times 0.4 = 1.6\)
  - \(4-50 \times 0.9 = 41.4\)
  - \(51-65 \times 0.8 = 12.0\)
DALY

- Similar to QALY, but with focus on disability.
- Uses similar scaling to identify degree of disability
Application to a population

- need to identify the midpoint of the population on any scale used
- or construct more complex measures around differing subgroups in the population
Why would you want to know any of these?

- to decide on needed program inputs
- to decide on relative impact of programs
- to establish program priorities
Basic issues:

- dimensions of health to be measured
  - physical health or mental health
  - self-report or external evaluator
  - based on use of services or other observation
Limits of understanding of health status

- birth and death records?
- hospital admission/discharge records?
- insurance billing records?
- household survey?
Desired access policy

- Services are available
- Services used based on health status
- Services are not differentially limited by race, age, gender, income, other unrelated factors
Access may be

- potential
  - system components in place
  - means of financing available
- realized
  - aware of need for services
  - transportation/language barriers removed
  - financial mechanism functioning
Access can be differentiated by

- equitability based on social or economic characteristics
- effectiveness in choices made among array of services
- efficiency in managing appropriate investment or achieving satisfaction
Perspectives

- consumers
- providers
- payment
- services
Consumers

- personal resources
  - income
  - insurance
- geography/regionality
- social class/ethnicity/age/gender
Providers

- hospital bed ratio
- provider/population ratio
- provider mix
- willingness to treat
Payment

- per capita expenditures
- insured population
- claims filed
Services

- occupancy rates/sites of service
- diseases reported/stage of disease identified
Demographic Differences

*(MMWR)*

- Routine monitoring
- ‘Reportability’
- Use of rates
Generic vs. Disease-specific Measures (Wolinsky)

- Problem statement
- Standard for comparison
- Strength of conclusions
  - generic more comprehensive
  - specific better psychometrics
- New questions about SF-36
MOS 36 Short Form
(Russo et al)

- Application of tested tool to new population
- Sample size?
- Test/re-test as method
- Written/oral as method?
- Discriminate validity
Primary care and hospital readmissions (Weinberger)

Hypothesis: that a program of increased access to primary care for selected veterans at risk of hospital readmission would reduce the rate of readmission and days of hospitalization during the 6 months after discharge.
Nine sites

- Suburban Chicago
- Brooklyn
- Cincinnati
- Columbia, SC
- Durham NC
- Indianapolis
- Leavenworth, Kansas
- Loma Linda, Calif
- Philadelphia
Primary care and readmissions, cont.

- Eligible patients
  - diagnosis of diabetes, COPD, CHF at or before index admission
  - NOT already receiving continuous care at a primary care clinic (and other reasons)
Primary care interventions

- 3 days prior to discharge, RN visit for plan-99%
- 2 days prior, physician visit-74.5%
- 1 week of discharge, follow-up visit-62.5%
- 2 days post discharge, phone call by RN-87.3%
- Visit-82%; plan updated-94f%
- Visit missed: reminder and protocol 50% or less
Impact on readmissions

Intervention
Control

Impact on readmissions
Social geography of AIDS (Singer et al)

- Goal: develop methods that permit effective identification, systematic description and detailed comparison and analysis of local drug-using populations, risk behaviors and social influences.
Social geography of AIDS
(Singer et al)

- Qualitative methods
- Sample
- Triangulation of results
Barriers to Care
(Phillips et al.)

- Examination of
  - barriers to care by groups other than white
  - whether barriers vary between type of plan for each group
  - characteristics of families that face barriers
Barriers to Care
(Phillips et al.)

- Medical Expenditure Panel Survey (MEPS)
- Sampling and exclusions
- Applications
  - quality measures
  - differential barrier reduction
RX to OTC Switch
(Gurwitz, McLaughlin, Fish)

- Descriptive study
- Impact of national policy change
- Site is single group model HMO in Massachusetts
RX to OTC Switch
(Gurwitz, McLaughlin, Fish)

- Time series analysis
- Definitions
- Impact on insurer
- Impact on individuals