By the middle of the 21st century, the U.S. population is projected to reach 400 million

More than 20% of the population will be over 65 years, an increase from 12.5% in 2003

Approximately half the U.S. population in 2050 will be white; the largest increases will be seen in Hispanic and Asian populations.
Getting a Bit More Specific

In 2002, spending for health care in the United States was $1.6 trillion (adjusted for inflation)

this is a fivefold increase from 1970

The projections for prevalent cases of Alzheimer’s disease will more than double by 2030
The More Details the Better

<table>
<thead>
<tr>
<th>Disease burden: Absolute numbers and death rates</th>
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</thead>
<tbody>
<tr>
<td>• cardiovascular disease</td>
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<tr>
<td>• Cancer</td>
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<td>• diabetes</td>
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</tbody>
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<table>
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<tr>
<th>Age-specific mortality rates provide additional insights</th>
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<tr>
<td>• infant deaths</td>
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<td>• congenital anomalies</td>
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<td>• short gestation</td>
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<tr>
<td>• sudden infant death syndrome (SIDS)</td>
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</tbody>
</table>
Stratify Data by Race and Ethnicity

Blacks suffer higher rates of death for almost all leading causes.

Hispanics and American Indians have lower death rates than whites (for the leading causes of death):
- Except for diabetes in Hispanics and unintentional injury in American Indians.

Asians have the lowest rates for all major causes of death except cerebrovascular disease.
Presentation of Data Matters

If we...

- Combine injuries across all causes (motor vehicle injuries, homicide, suicide, etc.)
- Combine cancer across all sites

Then....injuries would become the leading cause of premature mortality
Hospitalization Data

Hospitalization rates can proxy disease burden

Leading cause of hospitalization: Heart disease (followed by childbirth, psychoses, pneumonia, cancer, and fractures)

Data advantage: easy to obtain; useful

Data disadvantage: biased indicators of burden for the majority of conditions
Summary Measures of Health

- Physical functioning
- General health perceptions
- Mental and emotional well-being
- Social functioning
Quality of Life Measure

Quality-of-life measures are especially critical for conditions that cause considerable suffering but limited numbers of deaths.

Quality-adjusted life years (QALY) combines quality and quantity of life (in years).
Cost Data

Cost of illness information is available

Considerable variability in methods and data sources make comparisons difficult

Medical Expenditure Panel Survey (MEPS): provides estimates of national health care spending among the noninstitutionalized U.S. population
2000 MEPS data: heart disease is the most costly condition, followed by trauma, cancer, pulmonary disease and mental disorders.

The estimates do not provide a comprehensive measure of economic burden:
- The MEPS data do not include indirect costs and productivity loss.
Caution

A reliance on a single measure of public health burden can be misleading

Ex - suicide and homicide do not appear as a leading causes for total mortality, but these events are very important as causes of premature death

Ex - depression may not be the cause of death, yet it responsible for the fourth largest source of disability
Caution

Even the best measures of burden cannot capture certain public health practice

- emergency preparedness
- effective preventive practices (e.g., immunization or fluoridation)
- environmental quality (e.g., air- and water-quality monitoring), mental health, and socioeconomic status are limited in scope and precision
  - Ex, in most states, departments of the environment are administered separately from departments of health and public health
Gathering Data

Measures should detect absolute or a relative change in health status over time

Measures should be valid
  • Does the indicator measure what it purports to measure?

Measures should be able to evaluate major health policy changes
  • Ex: if taxation on tobacco is increased, youth initiation may be a more immediate measure of effect

Measures should be stable over time and equivalent across settings
  • Ex: self-rated health, while useful from a societal standpoint, may not be comparable from one population to another