Are Americans Getting Sicker?

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Alternate Title

An Examination of Trends in the Morbidity Status of the U.S. Population:
A Comparative Analysis of 20\textsuperscript{th} Century Morbidity Rates and 21\textsuperscript{st} Century Morbidity Rates
A Century of Improving Health Status

The 20th century characterized by:
• A decline in overall mortality
• A decline in infant and maternal mortality
• Increasing life expectancy
• The elimination of many common diseases
A Century of Improving Health Status: Overall Mortality

Fig. 9.1  All cause mortality
Note: Death rates shown are adjusted to the standard population of the United States in 1940.
A Century of Improving Health Status: Infant and Maternal Mortality


- Infant Mortality
- Maternal Mortality
A Century of Improving Health Status: Life Expectancy

A Century of Improving Health Status: Elimination of Disease

The 21st Century:
A Reversal of Fortunes?
Measuring Morbidity Change: Methodological Issues

• Population to be considered
• Morbidity measurement
• Data availability
• Other issues
Measuring Morbidity Change: Methodological Issues

- Population to be considered
  - Total population
  - Relevant sub-groups
    - Adults
    - Children
    - Seniors
  - Only native-born citizens
Measuring Morbidity Change: Methodological Issues

- Morbidity measurement
  - Global indicators
  - Aggregate indicators
  - Specific diseases
- Relative importance
Measuring Morbidity Change: Methodological Issues

- Data availability
  - No central repository of health data
  - Inconsistency of data collection
  - Completeness of data collection
  - Time period covered
Measuring Morbidity Change: Methodological Issues

- Other issues
  - Data quality
  - Questionnaire consistency
  - Population/age range covered
  - Actual rates vs. reported rates
Measuring Morbidity Change: Methodological Issues

- Determining trend direction
  - Trend reversal
  - Trend stagnation
  - Slowing rate of change
  - Comparative performance
Measuring Morbidity Change: Research Plan

- Specifying desired indicators
- Identifying available data
- Selection of most appropriate/complete data
- Creating a patchwork quilt of various rates
Measuring Morbidity Change: Research Plan

As is often the case in health demography:
We do the analysis with the data we have…rather than the data we would like to have.
Measuring Morbidity Change: Research Plan

Technical note:

Intended to compare 1900-2000 period with 2000-2010 period
Observed direction changes typically occurred in the 1990s
Measuring Morbidity Change: Findings

Global indicators:
- Self-reported health status
- Mortality
Measuring Morbidity Change: Findings

Self-reported health status

Until the mid-1990s:

- Steady increase in “very good” and “excellent” responses
- Steady decrease in “fair” and “poor” responses
Measuring Morbidity Change: Findings

Self-reported health status
From the mid-1990s on:

- Decline in “very good” and “excellent” responses
- Increase in “fair” and “poor” responses
Measuring Morbidity Change: Findings

Self-reported health status*

- Reporting “very good” or “excellent”
  1997 – 68.5%  
  2011 – 61.1%

- Reporting “fair” or “poor”
  1997 – 9.2%  
  2011 – 12.8%

*Age-adjusted
Measuring Morbidity Change: Findings

Self-reported health status

• Decline essentially across all demographic categories
• Some variation for specific subgroups
• The young-old and middle-old were outliers
Measuring Morbidity Change: Findings

Mortality trends
• Continued overall decline (but leveling off)
• Negative trends for some subgroups
• Negative trends for some causes
Measuring Morbidity Change: Findings

Mortality trends
Negative trends for some subgroups
  • Poorly educated white women
    • Decline of 5 years life expectancy (1990-2008)
  • Poorly educated white men
    • Decline of 3 years life expectancy (1990-2008)
Measuring Morbidity Change: Findings

Life expectancy trends: 1985-2010

U.S. women dropped from:

- 14\textsuperscript{th} place to 41\textsuperscript{st} place among the world’s countries
- Middle of the pack to dead last among developed countries
Measuring Morbidity Change: Findings

Mortality trends

• Increased rate for maternal mortality
• From low of 0.7/100,000 to 2.1/100,000 (1987-2010)
Measuring Morbidity Change: Findings

Maternal Mortality Rate: 1950-2010
Measuring Morbidity Change: Findings

Aggregate indicators: Acute conditions:

• General decline but fluctuating
• Current rate – modern high
Measuring Morbidity Change: Findings

Aggregate indicators: Chronic conditions:

• Steady increase in population affected (1995-2010): 41.7% - 47.0%

• Steady increase in the number per person
Measuring Morbidity Change: Findings

Chart 1: The Number of People with Chronic Conditions is Rapidly Increasing

Measuring Morbidity Change: Findings

Aggregate indicators: Disability

• Increase in the proportion with disability
• Increase in the proportion with multiple disabilities
• Increased proportion of seniors requiring personal assistance requirements
Measuring Morbidity Change: Findings

Aggregate indicators: Disability

• Activity limitation: 11.8% - 28.7% (1970-2010)
• Any disability: 27.0% - 30.3% (1997-2009)
Measuring Morbidity Change: Findings

Increased incidence of selected notifiable diseases (1997-2011):

- Mumps
- Malaria
- Legionnaire’s disease
- Pertussis
Measuring Morbidity Change: Findings
Measuring Morbidity Change: Findings

Malaria Incidence, * by year — United States, 1997–2011

* Per 100,000 population.
Measuring Morbidity Change: Findings
Measuring Morbidity Change: Findings
Measuring Morbidity Change: Findings

Persistence of selected notifiable diseases (2011):

- Tuberculosis – 10,528
- Chickenpox – 14,513
- Coccidioidomycosis – 22,634
- Giardiasis – 16,747
- Salmonellosis – 51,887
- Shigellosis – 13,352
Measuring Morbidity Change: Findings

On-going epidemic of sexually transmitted infections (2011):

- Chlamydia – 1,412,791
- Gonorrhea – 321,849
- Syphilis – 46,042
- HIV – 35,266
Measuring Morbidity Change: Findings

Mortality trends
Negative trends for some causes

• Increased mortality rates for:
  • Flu/pneumonia
  • Diabetes
  • Chronic lower respiratory diseases
  • Chronic liver disease/cirrhosis, Parkinson's disease
  • Pneumonitis
Measuring Morbidity Change: Findings

Selected chronic diseases among adults (1979/81-2011):

• HBP: 11.1% - 24.3%
• CHD: 2.4% - 6.3%
• Stroke: 0.9% - 2.6%
• Cancer: 6.5% - 8.0%
• Emphysema: 1.0% - 1.9%
• Asthma: 3.1% - 8.1%
Measuring Morbidity Change: Findings

Provisional explanation:
U.S. population is older on average so we should expect a higher prevalence of chronic disease
Measuring Morbidity Change: Findings

Increased prevalence of chronic diseases: 2001-2010

• Adults (45-64) with 2-3 – significant increase
• Adults (45-64) with 4+ - significant increase
• Adults (65+) with 2-3 – significant increase
• Adults (65+) with 4+ – significant increase
Measuring Morbidity Change: Findings

Increased prevalence of selected chronic diseases among older adults (45-64): 2008-2011

- High blood pressure
- Diabetes
- Asthma
- Cancer
- Depression
Measuring Morbidity Change: Findings

Aggregate indicators of chronic disease among seniors:

<table>
<thead>
<tr>
<th>Category</th>
<th>1998</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 or more</td>
<td>86.9%</td>
<td>92.2%</td>
</tr>
<tr>
<td>4 or more</td>
<td>11.7%</td>
<td>17.4%</td>
</tr>
</tbody>
</table>
Measuring Morbidity Change: Findings

Child health indicators

Significant increases in:

- Physical health problems (especially chronic disease)
- Mental health problems
- Disability
Measuring Morbidity Change: Findings

Child health indicators: Significant increases in:

- Asthma
- Other respiratory illnesses
- Allergies
- Hypertension
- Other heart problems
- Diabetes
Measuring Morbidity Change: Findings

Child health indicators (ages 2-8):
- Any chronic condition:
  - From 12.8% - 26.6% (1988-2006)
- Obesity:
  - From 13.1% - 14.9% (1988-2010)
Measuring Morbidity Change: Findings

Child health indicators:

Mental health indicators:

- Increases in:
  - Autism
  - ADHD
  - Other
Measuring Morbidity Change: Findings

Child health indicators:
• Disability indicators (1984-2004):
  • Activity limitation: 5.1% - 7.0%
  • Needs ADL help: 0.3% - 0.6%
  • Prematurity: 10.6% - 11.5%*

*1990-2012
Measuring Morbidity Change: Conclusions

Are, in fact, Americans getting sicker?
Measuring Morbidity Change: Conclusions

One final complicating factor:
How much of the increase in reported incidence/prevalence be attributed to:

• Better diagnostic tests
• More frequent diagnostic tests
• More frequent physician visits
Measuring Morbidity Change: Conclusions

• Difficult to draw a global conclusion
• Clear evidence of deteriorating health status for some segments of the population
• Increases in many of the conditions with significant implications
• Presence of conditions considered unacceptable for a developed society
Measuring Morbidity Change: Conclusions

At the same time...

• Continued improvement in some indicators
• Continued elimination of some health threats
• Reduction of impact of the major killers
Measuring Morbidity Change: Conclusions

At this point, the jury is still out. Additional research will be required.
Measuring Morbidity Change: Contact Information

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