Summary Measure of Population Health for the Health System Measurement Project

Erin Miller

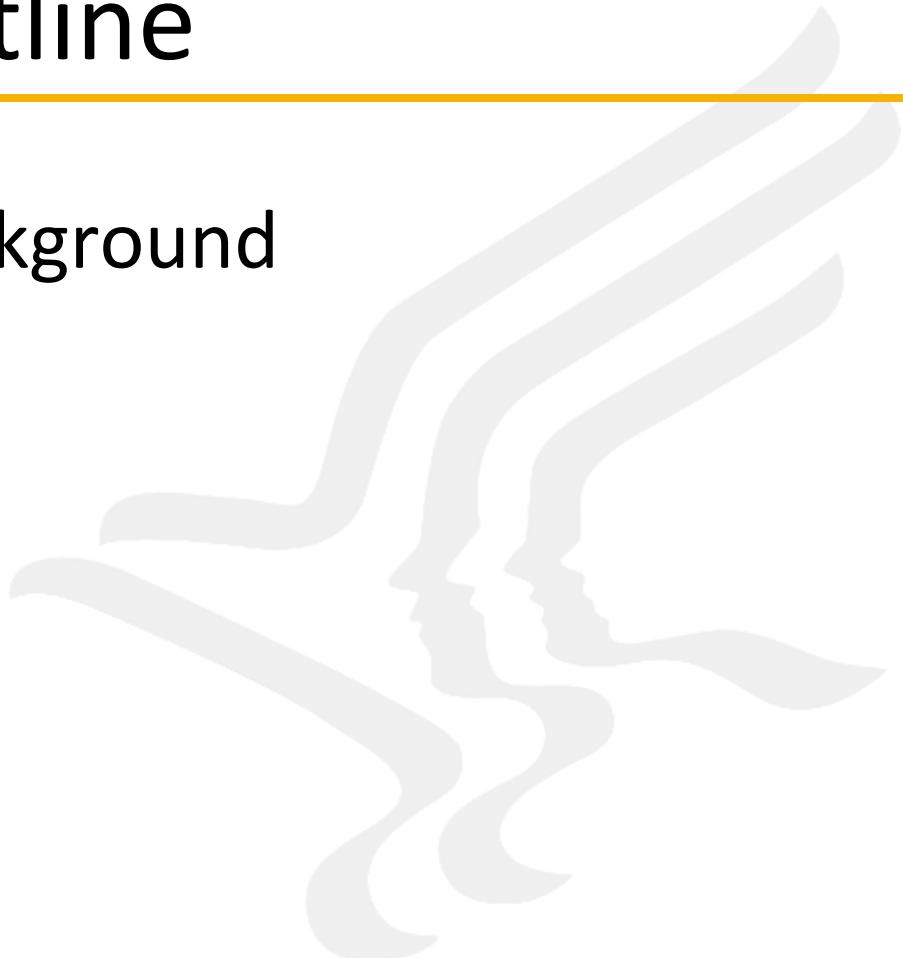Office of the Assistant Secretary for Planning and Evaluation

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Outline

- The question and background
- Options considered
- Chosen measure

Policy Question

- Needed an outcome-oriented "global measure of health status" for the Health System Measurement Project
- Project already includes additional population health measures (7 others)

healthmeasures.aspe.hhs.gov

Health System Measurement Project

Topical Areas

Access to Care
Access to health care improves health status and quality of life. Today, however, many Americans have inadequate access to care. This dashboard tracks changes in access to care.

Cost & Affordability
The cost of health care should be affordable to American families, businesses, and taxpayers. This dashboard reports on trends in health care costs and on the efficiency and competitiveness of the delivery system.

Coverage
Health insurance coverage gives Americans and their health providers protection against the financial risk associated with the costs of health care. This dashboard tracks measures related to insurance coverage and the financial protection it provides.

Health Care Workforce
Access to health services and the quality of those services are closely linked to supply of trained health care providers. Training and retaining primary care providers is particularly important. This dashboard tracks key workforce measures including access to health care providers and the number of primary care providers.

Health Information Technology
Health information technology allows health care providers to better manage patient care through the secure use and sharing of health information. This dashboard tracks the use of electronic prescribing and the adoption of electronic health records by physicians and hospitals.

Innovation
Innovation, knowledge development, and continuous improvement should be fundamental to the U.S. health care system. This dashboard tracks a set of short, intermediate, and long-term indicators that reflect new ideas, processes, and technologies for improving health outcomes.

Population Health
The health system should help Americans live longer, healthier lives. Health risk behaviors are a critical factor in determining people's health. This dashboard includes measures of population health outcomes and of critical health risk behaviors.

Prevention
Prevention is often the most effective way to improve health and control health care costs. This dashboard tracks preventive interventions that address some of the leading causes of morbidity and mortality in the United States.

Quality
Americans' health care should be safe, coordinated, evidence-based, responsive to patient preferences, and continuously improving. This dashboard includes measures that capture multiple dimensions of quality, including outpatient care, inpatient care, and nursing facilities.

Vulnerable Populations
Disparities in health care access and outcomes are widespread. This dashboard tracks measures associated with health disparities.

Health System Measurement Project

Population Health

The health system should help Americans live longer and spend more of their lives free of disabilities and limitations. Health risk behaviors are a critical factor in determining people's health. This dashboard includes measures of population health outcomes and of critical health risk behaviors. The national summary data for the measures that comprise this dashboard are presented below.

Birth Weight, Low
HIV, Knowledge of Infection
Limitation of Activity
Weight, Healthy, Children
Weight, Healthy, Adults
Smoking Prevalence, Adults
Smoking Prevalence, High School Students
Expected Years in Good Health

Percentage of Infants Born at a Low Birth Weight

Low birth weight is a risk factor for poor lifetime health outcomes.
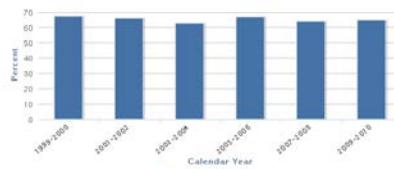
See this measure in detail »
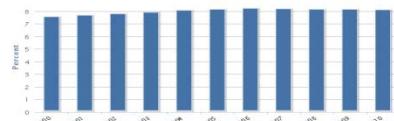
Percentage of People with at Least One Activities of Daily Living (ADL) Limitation

This measure identifies people who need the help of others to address personal care needs, such as eating, bathing, dressing or getting around inside their home.

See this measure in detail »
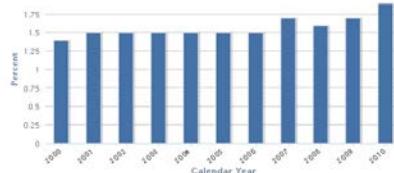
Percentage of Children with a Healthy Weight

Childhood obesity is closely related to adult obesity and, in adulthood, obesity contributes to leading causes of death, including heart disease, stroke, diabetes, and some cancers.

See this measure in detail »

Percentage of Adults with a Healthy Weight

Obesity contributes to leading causes of death, including heart disease, stroke, diabetes, and some cancers.

See this measure in detail »
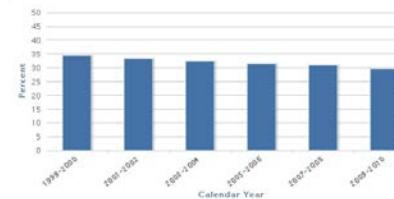
Percentage of U.S. Adults Who Smoke Cigarettes

Tobacco use is the leading preventable cause of U.S. death, disease and disability. Each year, more than 440,000 people die and 8.6 million suffer from serious illnesses from smoking or exposure to secondhand smoke. In addition, tobacco use costs the U.S. $193 billion annually in direct medical expenses and lost productivity.

See this measure in detail »
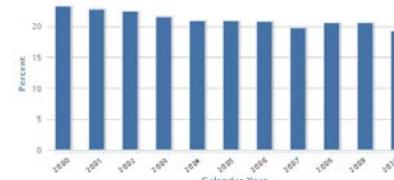
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Percentage of People Who Did Not Receive or Delayed Needed Care Due to Cost in the Past 12 Months

Postponing or not getting needed medical care due to cost is a measure of the affordability of care that has been monitored by HHS for many years.

Data Source: National Health Interview Survey (NHIS) - Family, Adult and Child Questionnaires

Metrics Calculation

Delay in Access Due to Cost (unmet medical need) is based on a positive answer to either of the following two questions: During the past 12 months, was there any time when a person needed medical care but did not get it because the person could not afford it? During the past 12 months, has medical care been delayed because of worry about the cost?

**Click here for Additional Information**

See this measure by

National Summary
Coverage Overview
Private Coverage
Ethnicity
Race
Age Group
Disability Status
Education Level
Self-reported Health Status
Income Level
Medicaid Coverage
Medicare Coverage
Metropolitan Status
Number of Chronic Conditions
Other Public Coverage
Region
Sex
State

Filter this measure where

Calendar Year is ✓ 2000 ✓ 2001 ✓ 2002 ✓ 2003 ✓ 2004 ✓ 2005 ✓ 2006 ✓ 2007 ✓ 2008 ✓ 2009 ✓ 2010

Percentage of People Who Did Not Receive or Delayed Needed Care Due to Cost in the Past 12 Months

Last updated 11 Apr 2012
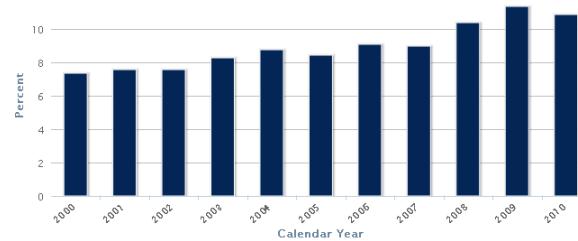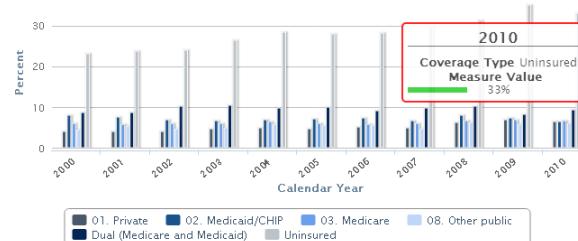
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Percentage of People Who Delayed Care Due to Cost by Coverage Overview

Last updated 11 Apr 2012

2010
Coverage Type Uninsured
Measure Value
33%

Coverage Type is
✓ 01. Private
✓ 02. Medicaid/CHIP
✓ 03. Medicare
✓ 08. Other public
✓ Dual (Medicare and Medicaid)
✓ Uninsured

Legend: ■ 01. Private ■ 02. Medicaid/CHIP ■ 03. Medicare ■ 08. Other public ■ Dual (Medicare and Medicaid) ■ Uninsured

Download these data

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Additional Information

Inclusion Criteria: All persons in the family were included. All estimates meet the criteria of less than or equal to 30% relative standard error. Estimates may have been suppressed if there were additional concerns over statistical reliability.

This measure is calculated by CDC/NCHS from the NHIS.

Background

- "All measures of population health involve choices and value judgements in both their construction and their application" [1]

- Had been a challenge for the group working on the National Prevention Strategy

  - Prevention plan used:

    - infant mortality,

    - proportion who live to 25, 65, and 85,

    - and proportion in good or better health ages 0-24, 25-64, 65-84 and 85+

- We wanted to combine into a single measure the expectancy and quality of life

Field and Gold, Ed, "Summarizing population health: Directions for the Development and Application of Population Metrics," Committee on Summary Measures of Population health, Institute of Medicine, 1998

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Measure Requirements

- Relatively easy to explain to the public

- 10 years of trend data

- Available annually

- Ability to break out data by demographic characteristics is valued

Considered Measures

1. Life expectancy
2. Measures that combine mortality with one measure of morbidity
   a. Expected years of life in good or better health
   b. Expected years of life without activity limitations
   c. Percent in good or better health (with and without activities limitation in age groups)
3. Measures that combine mortality with two measures of morbidity, weighted
   a. Disability or quality adjusted life expectancy
   b. Expected years in good or better health and free of activity limitation (defined by HALex)
4. Measure that combines mortality with two measures of mobidity, unweighted

Considered Alternatives 1

- Expected years of life

Advantages:

- Most commonly used summary measure
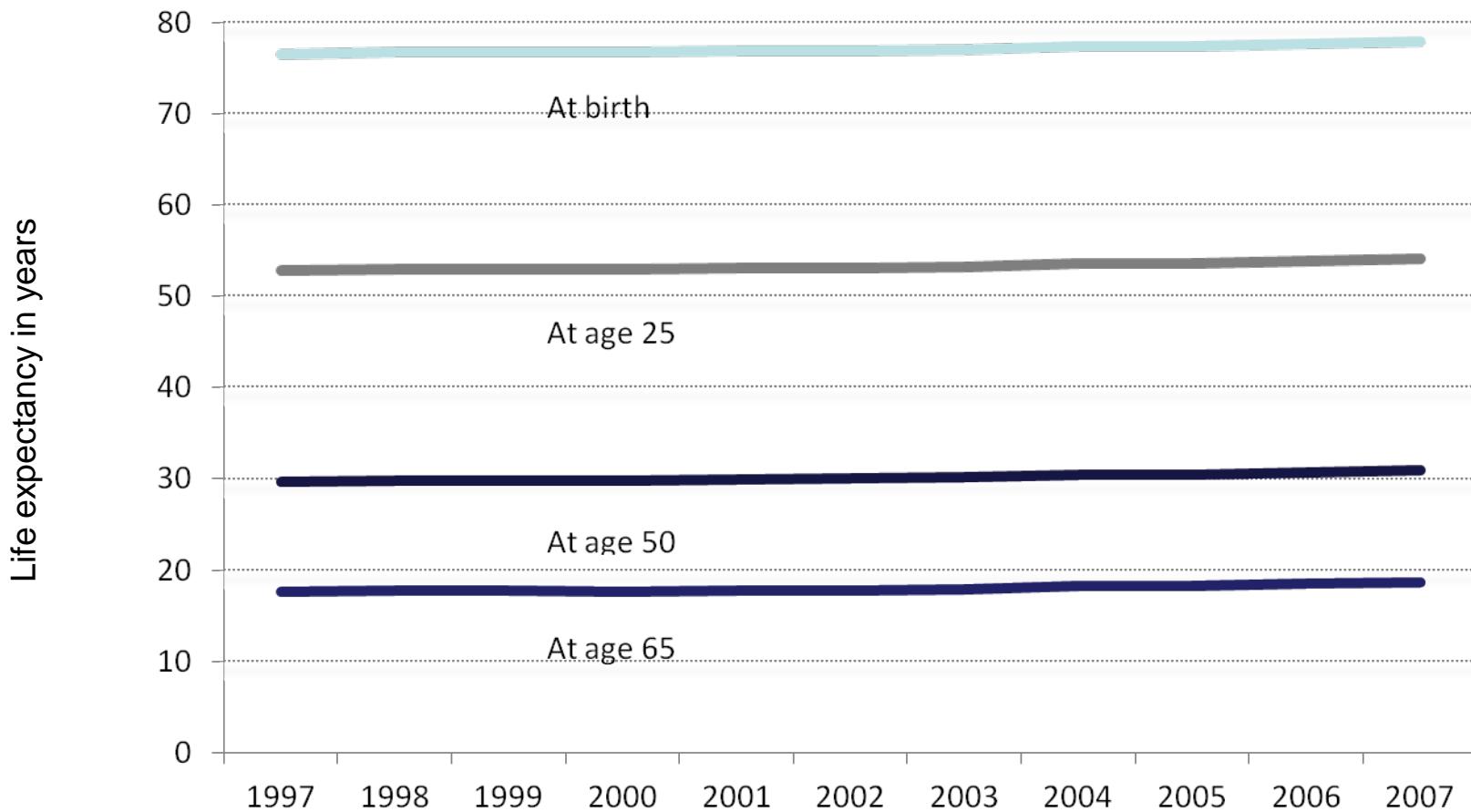- Relatively easy to understand
- Easy to compare across time

Limitations:

- Most recent medical intervention improves quality of life more than length of life
- Frequency of injury

Total life expectancy at birth, age 25, 50 and 65 for the total U.S. population: 1997 - 2007

Life expectancy in years

At birth

At age 25

At age 50

At age 65

Data from NCHS

Considered Alternatives 2

- Expected years of life in good or better health

- Expected years of life without activity limitations

- Percent in good or better health (with and without activities limitation in age groups)

Advantages:

- Combining morbidity and mortality better reflects excess burden of poor health among vulnerable populations [2]

- Consistent and approximately unbiased even without longitudinal data

Limitations:

- Close to what we wanted, but not as broad – liked HALex concept (see Alternatives 3…)

[2] Wood, Sutton, Clark, McKeon, and Bain, " Measuring inequalities in health: the case for healthy life expectancy ," Journal of Epidemiology and Community Health , May 2006, 60, 1089-1092.

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Figure 2. Expected years in good or better health at birth, age 25, 50, and 65 for the total U.S. population, 1997 - 2007
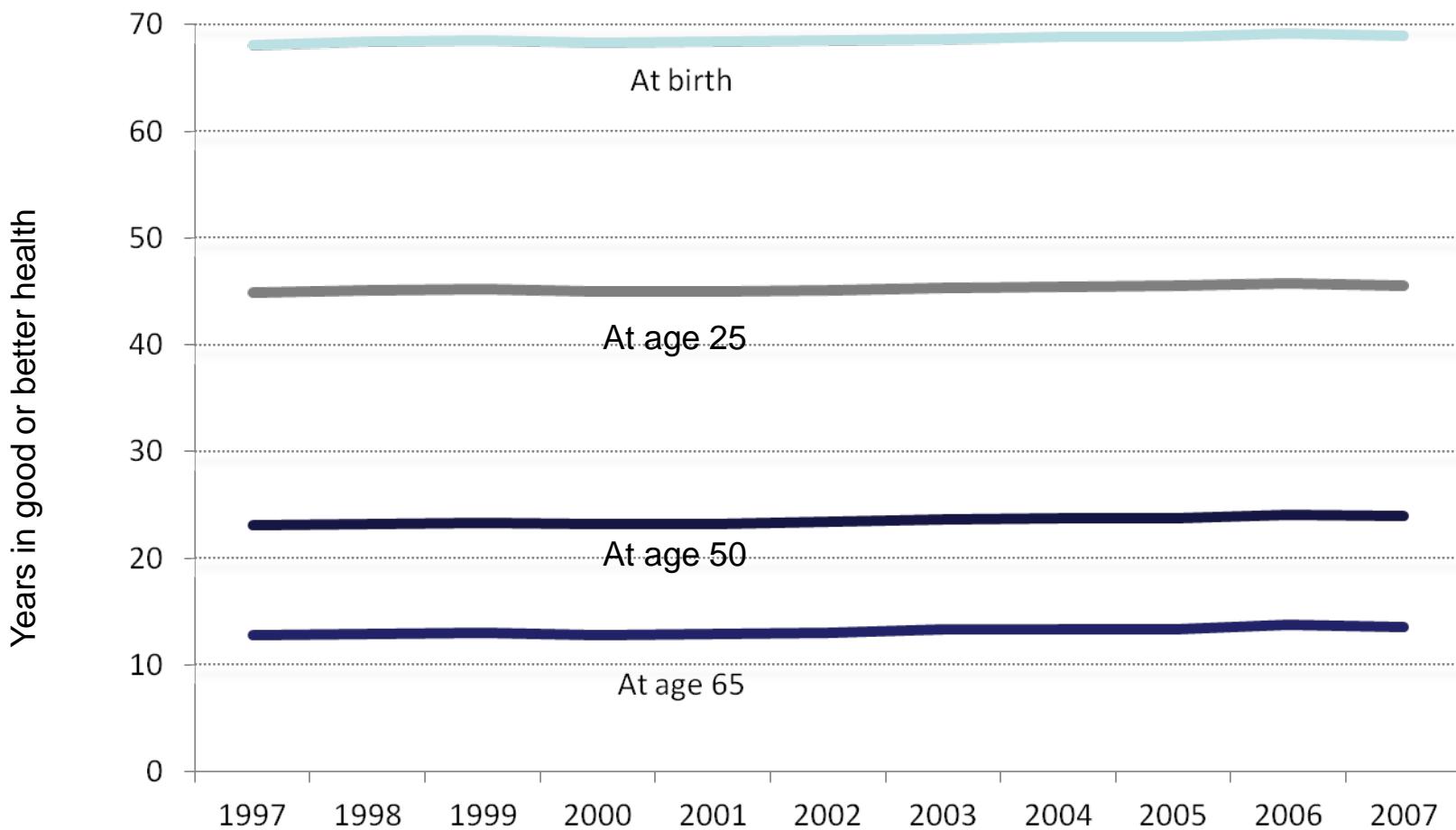
Data from NCHS

Figure 3. Expected years without activity limitations at birth, age 25, 50, and 65 for the total U.S. population, 1997 - 2007
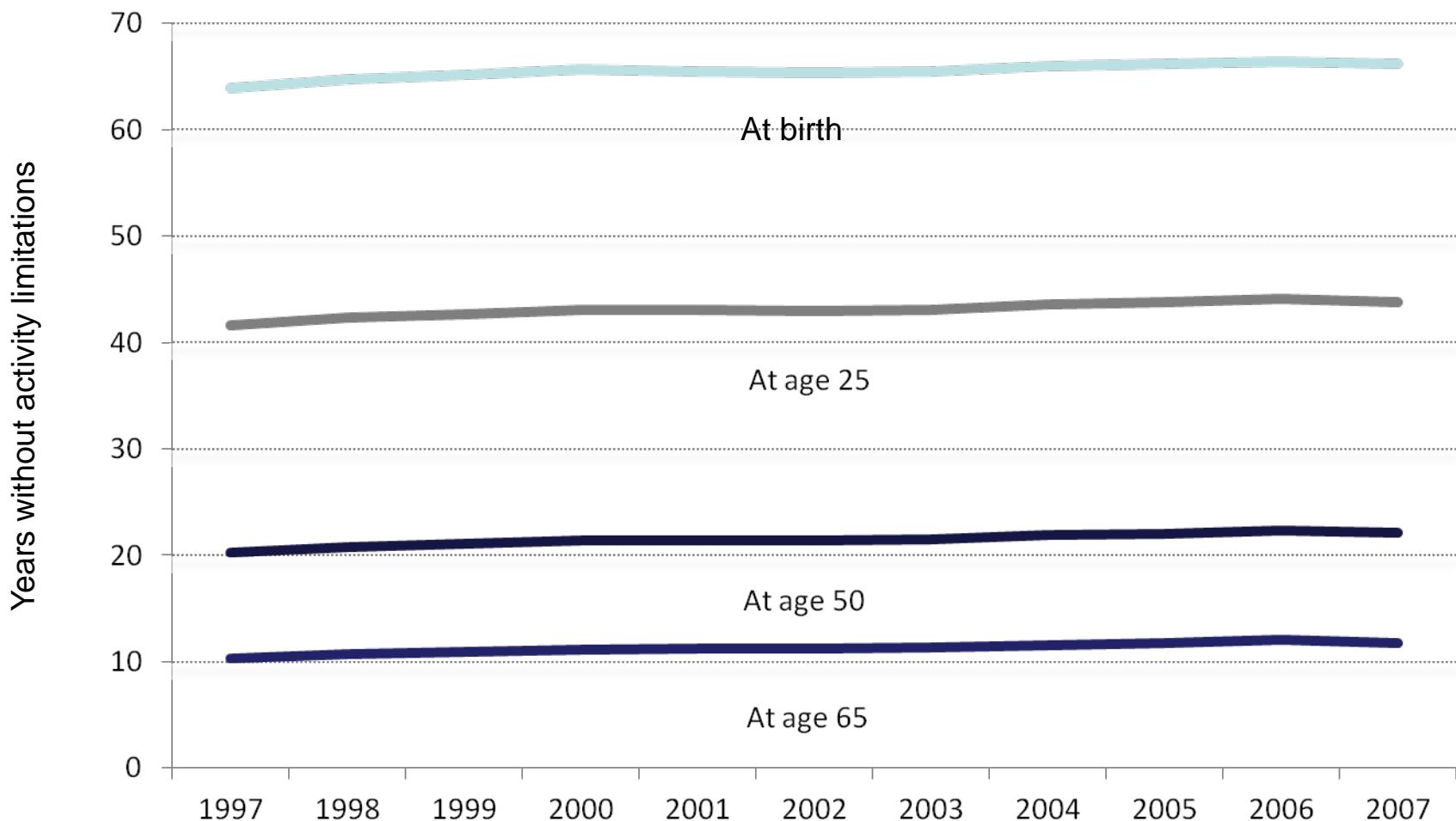
Data from NCHS

Considered Alternatives 3

- Disability or quality adjusted life expectancy

- Expected years in good or better health and free of activity limitation (defined by HALex)

Advantages:

- Combines morbidity and mortality with morbidity defined both by health status and limitation

- HALex can be examined by some sociodemographic breakouts

Limitations:

- Difficult to explain to public – esp. the weighting (subjective)

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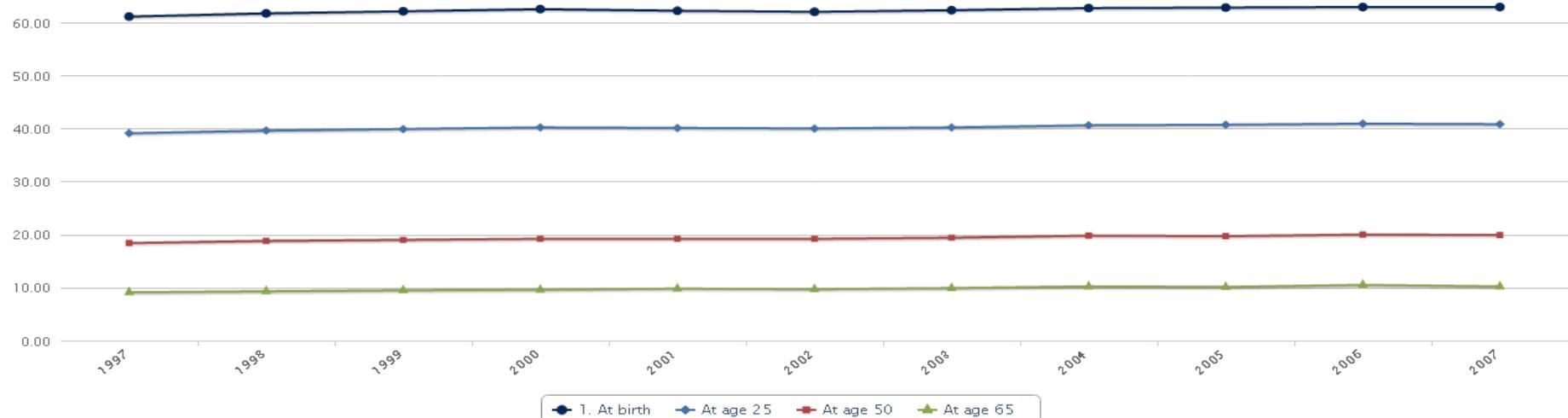# Expected years in good or better health and without activity limitation

Health System Measurement Project

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linebyage
Based on Expected Years in Good or Better Health and without Activity Limitation

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	Measure Value	Year	Age	Race	
1	61.1	1997	1. At birth	All	
2	61.7	1998	1. At birth	All	
3	62.1	1999	1. At birth	All	
4	62.5	2000	1. At birth	All	
5	62.2	2001	1. At birth	All	
6	62	2002	1. At birth	All	
Totals		264264			

Advantages from Policy Perspective

- Includes an element of longevity/survival and quality of life

- Better indicator of overall health than any of the three indicators alone (life expectancy, good or better health, free of activity limitations)

- Easier to explain than HALex

- People can relate to it/understand it

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Major Advantages from Policy Perspective

- Medicaid expansion in Oregon →significant improvement in self reported health and decrease in the number of days with health–related activities limitations[3]

- Health expectancy increase is greatest when mortality and activity limitation are reduced among adults 25-64[4] – insurance expansions of ACA will affect this group

[3] The Oregon Health Insurance Experiment: Evidence from the First Year, Amy Finkelstein, Sarah Taubman, Bill Wright, Mira Bernstein, Jonathan Gruber, Joseph P. Newhouse, Heidi Allen, Katherine Baicker, and The Oregon Health Study Group, NBER Working Paper No. 17190, July 2011

[4] Wagener, Molla, Crimmins, Pamuk, and Madans, "Summary Measures of Population Health: Addressing the First Goal of Healthy People 2010, Improving Health Expectancy" Healthy People Statistical Notes, Number 22, September 2001.

Disadvantages from Policy Perspective

- Does not move much year to year (most longevity measures do not)

- Particularly difficult to move a national measure – data limited by availability in life tables
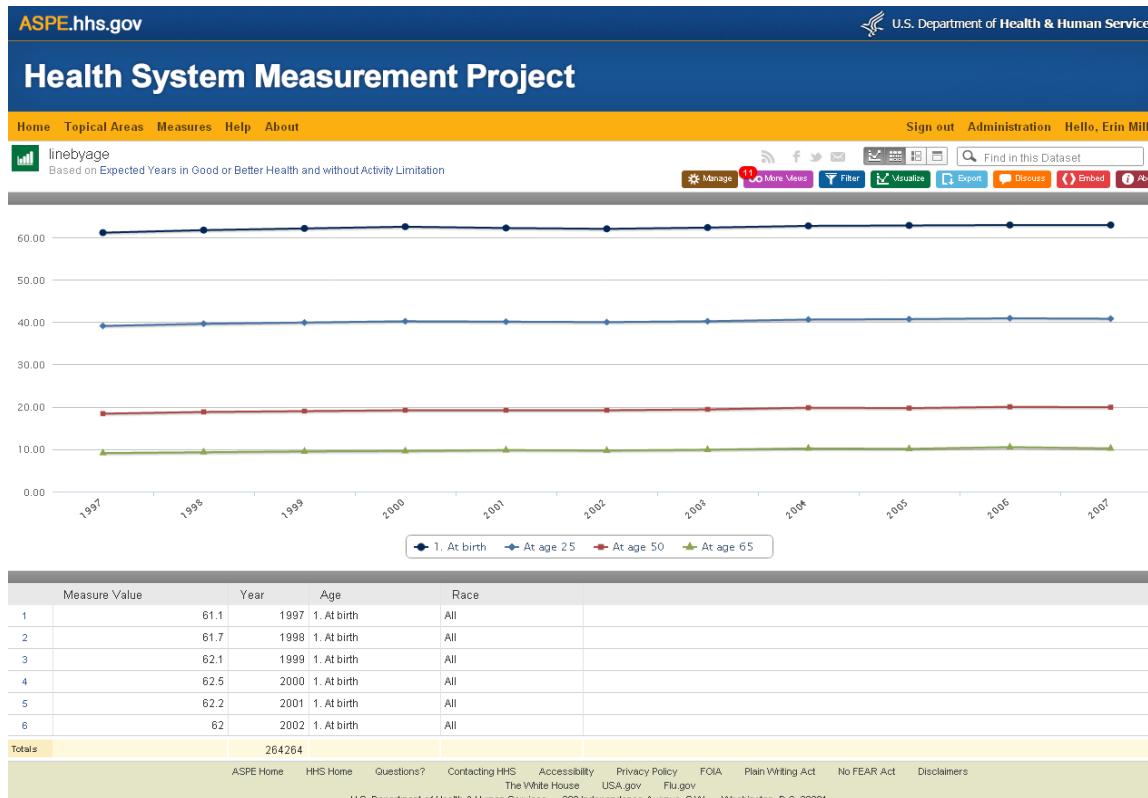
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