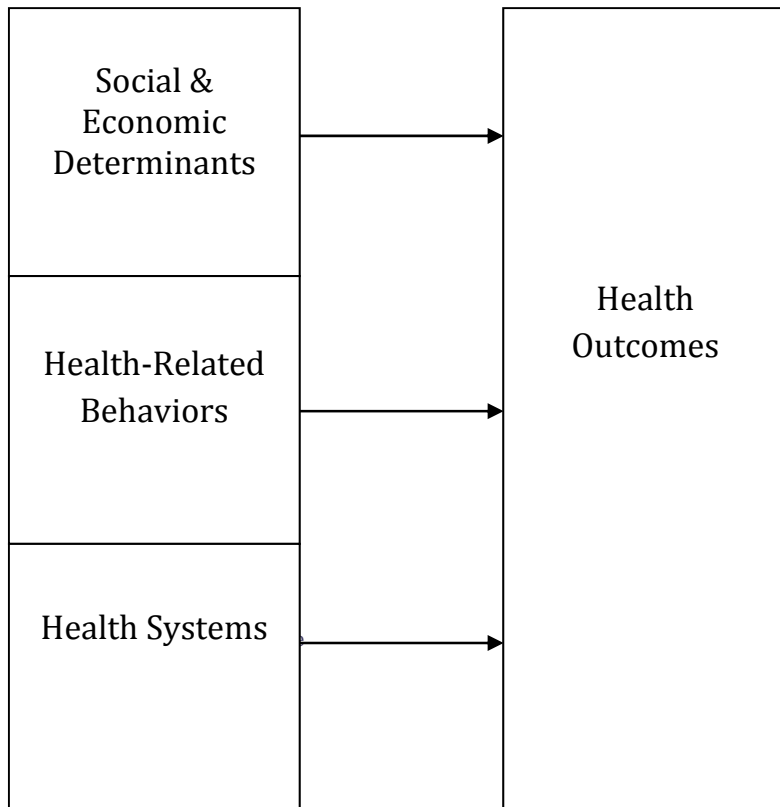


Why are some populations healthier than others?

Figure 1 adapted from the Institute of Medicine, shows the three major modifiable influences on population health.²

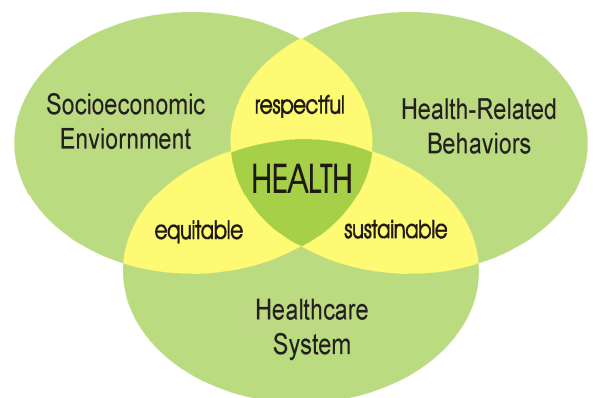
POPULATION HEALTH FRAMEWORK

Figure 1



“Social and economic determinants of health refer to both specific features and pathways by which societal conditions affect health and that potentially can be altered by informed action” (Krieger, N. (2001) Journal of Epidemiology and Community Health, 55, 693-700.³

Figure 2



Social and economic determinants of health include key elements of the social, economic and physical environment which influence health such as education, income, income disparity, social support, discrimination and living conditions.

Health related behaviors include tobacco use, diet and exercise, alcohol and drug use and responsible sexual activity.

Health systems include access to care and quality of care.

Education Positively Influences Health

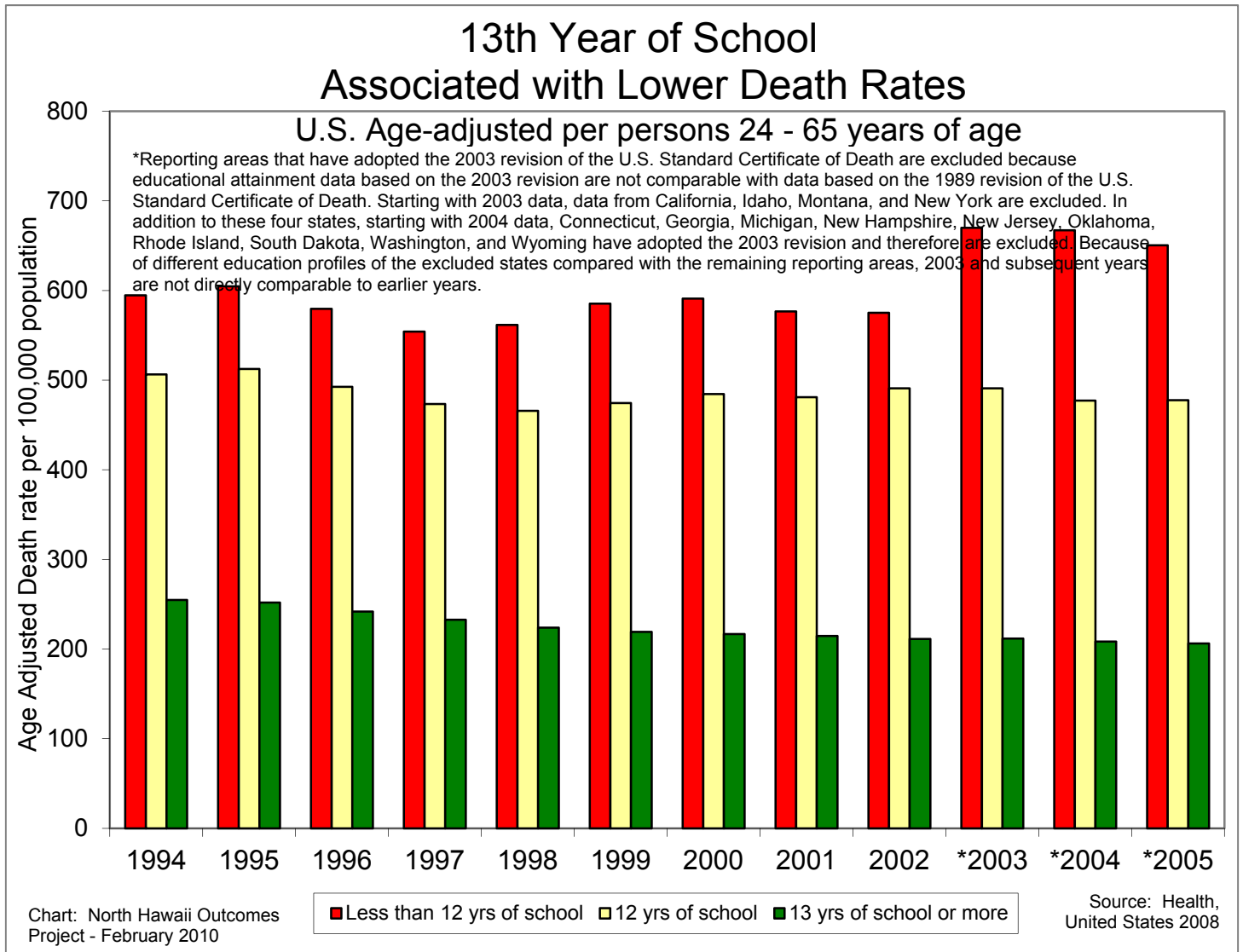
Education is one of the most powerful social and economic determinants of health. The 13th year of school graph below shows the health protective effect of the 13th year of school. A 13th year of school includes one year of college, military or vocational school. The data in Figure 3 is from the U.S. Census (1995-2005) for adults 24 – 65 years of age.

The red bar shows the death rate for U.S. people with less than 12 years of school is roughly 550 deaths per 100,000 age-adjusted population.

The yellow bar shows a small decrease in the death rate to approximately 450 per 100,000 for the population with 12 years of school. Each year has a similar pattern and shows death rates are significantly lower for populations with a 13th year of school (green bar), dropping to approximately 200 per 100,000 age-adjusted U.S. populations.

Over time death rates for those with a 13th year appear to be improving while death rates for those without a high school degree are getting worse.

Figure 3



Hawaii Study Shows Powerful Influence of Effective Reading Skills by Grade Four



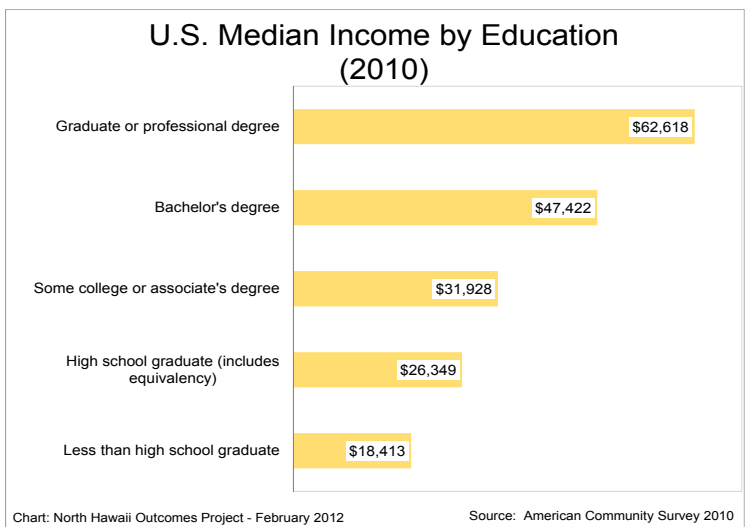
The Children of Kauai Resiliency and Recovery in Adolescent and Adulthood study by Werner, 1992,⁴ showed one of the most powerful predictors of successful adult adaptation among the high risk children of Kauai was effective reading skills by grade four. Conversely, inadequate reading skills by grade four were associated with increased risky behavior.



Figure 4

Higher Education Linked with Higher Income, Nationally

One of the many ways education influences health is through income. As education increases, so does median income (see Figure 4).



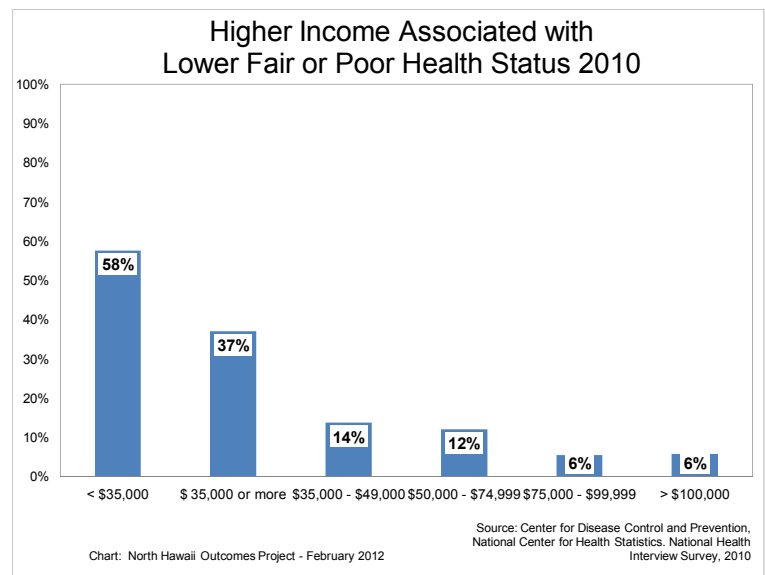
Higher Income Associated with Lower Fair / Poor Health

The U.S. Census (2010) data shows the direct relationship between household income and self-reported health status; as personal income goes up, poor health status goes down (see Figure 5). It is likely that lower income impacts health through multiple paths including living conditions and opportunities for healthy behaviors, as well as access to quality healthcare.

Note:

Improving the health of the people in Hawaii County will ultimately require collaboration to improve public education so youth have effective reading skills by grade four, graduate from high school and complete at least a 13th year of school.

Figure 5



Larger Income Inequality Associated with Higher Death Rates

The Gini ratio (or index of income concentration) is a statistical measure of income equality ranging from 0 to 1. A measure of 1 indicates perfect inequality; i.e., one person has all the income and rest have none. A measure of 0 indicates perfect equality; i.e., all people have equal shares of income. The Census Bureau used grouped data to compute all Gini ratios (U.S. Census, 2010).

Hawaii County has a larger income disparity compared to other counties (see Figure 6).

According to a study by Shi, Starfield, Kennedy and Kawachi⁵ comparing the health of all the counties in the U.S., there is a strong correlation between a large income inequality (Gini coefficient) and poor health, defined by higher death rates overall for stroke and infant mortality.

Protective Factors Associated With Better Population Health

The same study found a higher ratio of primary care physicians to the population was associated with lower death rates. In addition, several studies have shown higher levels of social cohesion are associated with better population health. This further suggests support for community building to increase social cohesion (see Figure 7).

Societal Position at Work Influences Health

For adults, a sense of control at work may be protective, and a sense of lack of control at work may be an additional risk factor for mortality, as shown by the Whitehall Study.⁶ For 25 years, this study tracked death rates of 17,530 male British civil service workers who all had access to free health care. The study found, at both 10 and 25 years, the highest death rates were in the lowest civil service rankings, even when other risk factors were controlled (see Figure 8).

Figure 6

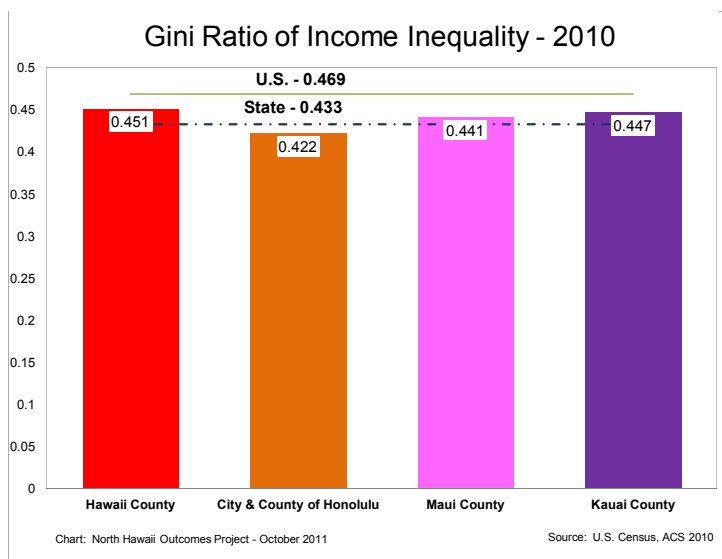


Figure 7

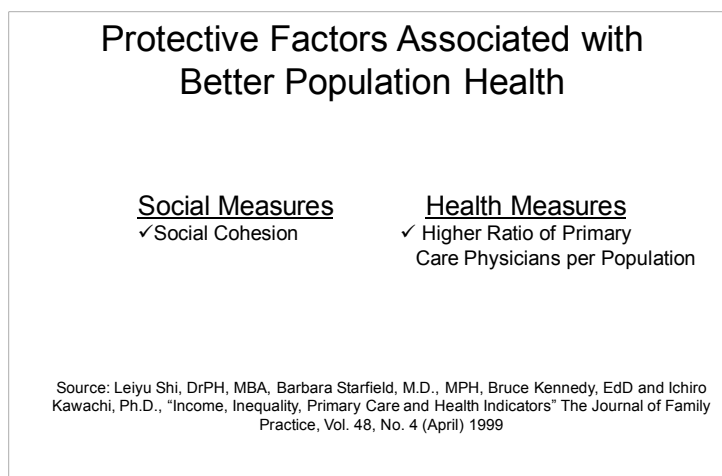


Figure 8

