The Implications of Future Demographic Change on the Incidence of Diseases/Disorders in the United States of America (USA)

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In this paper we examine the implications of future demographic change on incidence of diseases and disorders in the United States. We have examined changes in key demographic parameters such as, population size, distribution, and composition, on the incidence of diseases/disorders by type within a single state. Our intent is to examine how such changes will likely affect the magnitude, type, and location of demand for health services in the United States in the future.

Future trends in the size, composition and distribution of the population of the United States may impact the incidence of various types of diseases and change the level or location of demand for health care services. Foremost among such demographic changes are the slowing rate of population growth, the shift in the age structure of the population, and the relatively rapid rate of growth of the minority population. Coupled with shifts in the internal distribution of population among different types of areas within the Nation, these patterns may have important

consequences for health care systems in the United States (U.S. Department of Health and Human Services, 1985).

At present, the population of the United States is increasing at a rate of less than one percent per year, compared to an annual rate of nearly 2 percent in the 1950s, and the total population is expected to increase from 281.4 million in 2000 to 458.2 million in 2050 (Spencer, 1984, 1986, 1989). The median age of the population of the United States was 30 in 1980, increased to 36 in 2000 and may be 40 by the end of the first quarter of the 21st century (Spencer, 1986). The population in such key health-care groups as those persons 65 years of age or older may increase from 11 percent in 2000 to 20 percent by 2050. Of the 176.8 million persons projected to be added to the U.S. population between 2000 and 2050, more than half (92.6 million) are projected to be Hispanic. Seventy-two percent of the net growth in the U.S. population between1990-2000 was due to minority population, and the minority population may become majority by 2040. Equally important is the geographical distribution of the population. In 2000, 14.9 percent of the Hispanic population lived in the Northeast region, while 43.5 percent lived in the West region. The elderly population of the United States is disproportionately located in rural areas, while minority group members are increasingly concentrated in metropolitan areas. This paper will provide an example of how these future demographic changes are likely to impact on diseases/disorders in U.S. We will also use decomposition techniques to examine the relative impact of population growth, aging, and changes in race/ethnicity composition of the population on diseases/disorders in the United States, an important input for the formulation of nationwide health policies.

Methods

  The analysis will be performed in four stages. First, we will use the Census Bureau's projected population by age, sex, and race/ethnicity from 2010 to 2050 at the national level. Second, we will compute age, sex and race/ethnicity-specific prevalence rates of diseases/disorders from the Behavioral Risk Factor Surveillance System (BRFSS) by the Centers for Disease Control and Prevention (CDC). Third, we will apply these to rates to the projected population to compute projected disease/disorders by age, sex, and race/ethnicity from 2010 to 2050. The fourth stage consists of the decomposition of the results into effects that are associated with changes in population growth (referred to as rate effect), age structure, and race/ethnicity composition. These procedures will be discussed in greater detail in the final paper.