

The Boomers Are Coming: A Total Cost of Care Model of the Impact of Population Aging on the Cost of Chronic and Acute Conditions in the United States

Nancy Garrett
E. Mary Martini
Tammie Lindquist
Louise Anderson
Elaine Moses

Copyright 2005 by the Society of Actuaries.

All rights reserved by the Society of Actuaries. Permission is granted to make brief excerpts for a published review. Permission is also granted to make limited numbers of copies of items in this monograph for personal, internal, classroom or other instructional use, on condition that the foregoing copyright notice is used so as to give reasonable notice of the Society's copyright. This consent for free limited copying without prior consent of the Society does not extend to making copies for general distribution, for advertising or promotional purposes, for inclusion in new collective works or for resale.

Purpose

The purpose of this study is to estimate the impact of population aging on medical costs over the next five decades in the United States. Specifically, we focus on the impact of aging on the chronic and/or expensive conditions most often included in disease management programs: coronary artery disease, congestive heart failure, diabetes, asthma, obstetrics, psychiatry and chemical dependency.

This study goes beyond previous macro-economic studies by modeling the effects of aging on medical costs at a clinically meaningful level of detail.

Methods and Process

Our approach to modeling the impact of population aging on health care costs is to apply estimated age-, gender- and condition-specific annualized costs to the projected U.S. population in each age and gender group for future years, through 2050. This provides an estimate of future health care costs, assuming that the age, gender and disease cost profiles remain the same and holding other factors that could affect costs constant.

The primary data sources are pooled claims and membership for 2002 and 2003 for HealthPartners, a large Midwestern health plan with approximately 650,000 members. Secondary sources are U.S. annualized medical costs for 2003 and U.S. Census Bureau demographic projections for the next three decades. The populations used to create age-specific per capita costs will include all commercial, Medicaid and Medicare + Choice members. We make the assumption that age-specific cost profiles by condition within this health plan are representative of the general population.

Using the Episodes Treatment Group (ETG) grouper from Symmetry, we group medical claims, pharmacy claims and demographic information into 574 clinically meaningful units that represent complete episodes of care. We aggregate selected ETGs into the conditions reported in this study.

Results

Using data from a large health plan for all types of health services, we find that the projected change in costs from 2000–2050 due to aging of the population alone is an 18 percent increase over the next five decades, or 0.5 percent annually. Aging will have a greater impact on diseases where the ratio of costs for older vs. younger ages is

greater, such as congestive heart failure. In addition, we project that the aging of the population will actually reduce costs for some conditions.

Conclusions

Aging will have more of an impact on care for specific chronic diseases. These projections can inform health policy and planning as providers of health care, health plans and disease management vendors anticipate meeting the U.S. health care needs of the future.

Note

This is draft that has not yet undergone peer review for publication. Findings and conclusions are subject to change.

Funded in part by HealthPartners Research Foundation, grant #03-091