The “Silver Tsunami:’’
Aging of Baby Boomers creates dangerous wave of heart disease, heart failure

A Report from the National Forum for Heart Disease & Stroke Prevention

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Because four out of five heart disease deaths occur in this age group, the rise in people age 65 and older has fueled a significant increase in the number of heart disease deaths, even in the face of a slowly declining rate of heart disease deaths in the overall population. After reaching a 56-year low of 596,577 in 2011, the annual number of heart disease deaths has increased steadily, reaching 657,457 in 2017.

Leading the way in this dangerous trend is heart failure, the most rapidly growing form of heart disease. Heart failure is debilitating and deadly. It is a chronic, progressive condition in which the heart cannot keep up with its workload. In contrast to the slow decline in the rate of all heart disease, the age-adjusted death rate from heart failure increased by 20% between 2011 and 2017. Among people age 65 and older, there has been a 38% increase in annual deaths due to heart failure as the underlying cause, from 58,309 to 80,480. Heart failure also was a contributing cause to more than 270,000 additional deaths in 2017.

Heart failure already is the leading cause of hospitalization among adults over age 65, and can result in a prolonged period of poor quality of life.

Unfortunately, this overall picture is forecast to worsen. The U.S. Census Bureau projects that from 2017 to 2030, the size of the 65-and-older population will increase an additional 44%, from about 51 million to about 73 million.

Left unabated, the mounting burden of heart failure threatens the health and independence of millions of seniors and will increase Medicare spending by billions of dollars annually. Although we can’t change the demographic trends themselves, we can potentially alter the incidence of heart disease and heart failure. Doing so will require greater attention and urgent action.

**What is the cost burden on Medicare?**

Heart failure is a major driver of healthcare spending and Medicare hospitalizations:

- More than six million U.S. adults have heart failure, and this is projected to increase to eight million by 2030. The total cost of heart failure was estimated to be $30.7 billion in 2012 and is projected to more than double to about $70 billion in 2030 with the estimated total medical costs increasing from $20.9 billion in 2012 to $53.1 billion in 2030.
- Heart failure patients have three times the average per-member, per-month costs compared with the total Medicare fee-for-service population.
- People with heart failure account for 42% of Medicare fee-for-service hospital admissions.
- Medicare beneficiaries with heart failure have a hospitalization rate that is nearly four times higher than the overall Medicare population.
- People with heart failure account for 49% of total Medicare admissions to skilled-nursing facilities.

**FIGURE 1:**

Population growth rate (%), total population and by age group, 1999-2017

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population</th>
<th>&lt;65 Years</th>
<th>≥65 Years</th>
</tr>
</thead>
<tbody>
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<td>6.0</td>
<td>5.3</td>
</tr>
<tr>
<td>2005-2011</td>
<td>5.4</td>
<td>4.4</td>
<td>12.9</td>
</tr>
<tr>
<td>2011-2017</td>
<td>4.5</td>
<td>1.7</td>
<td>22.9</td>
</tr>
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</table>

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What is the long-term trend?
From 2011 to 2017, heart failure deaths also increased in people younger than age 65 — a 59% increase in deaths, from 2,727 to 4,327. Although these numbers are relatively small compared with the total number of heart failure deaths, they may be the “canary in the coal mine,” warning of bigger increases ahead. This trend provides additional evidence that efforts to prevent heart failure must be strengthened.

Are there disparities in heart failure?
There are significant gender and race/ethnicity differences in heart failure rates. Men have a higher rate than women (Figure 2). Among race/ethnicity groups, the age-adjusted mortality rate is highest in non-Hispanic blacks (Figure 2). The number of heart failure deaths increased in all race/ethnic groups from 2011 to 2017 (Figure 3), with significant differences between genders and among race/ethnicity groups.

What is causing the rapid increase in heart failure?
Diabetes and hypertension (high blood pressure), major risk factors for heart failure, are heading in the wrong direction: up. The obesity and diabetes epidemics that began more than 30 years ago have nearly tripled the prevalence of diabetes in the United States, so that approximately 30 million people now have diabetes. An estimated 116 million U.S. adults have hypertension, and we have lost ground on controlling it. Between 2013-2014 and 2015-2016, the percentage of adults with diagnosed hypertension who have it under control fell from 53.9% to 48.3%.

Other factors could be contributing to the increase in heart failure deaths, but no national data are available for those factors. For example, we have no data for how often treatment guidelines are followed, the impact of the Hospital Readmission Reductions Program, and the adverse impact of social determinants of health on at-risk groups — all of which could contribute to the rise in heart failure deaths.

There are two major forms of heart failure. In one, the function of the left ventricle, the main pumping chamber of the heart, is normal (known as heart failure with preserved ejection fraction); in the other, it is decreased (heart failure with reduced ejection fraction). There are innovative treatments for heart failure with reduced ejection fraction, but there is no proven disease-modifying treatment for heart failure with preserved ejection fraction.

How complete are national statistics for deaths from heart failure?
Death certificates do not distinguish between the two major types of heart failure. And in many cases, deaths attributed to heart failure as the underlying cause do not even identify the presence of heart failure, so the full burden of heart failure cannot be accurately measured. As heart failure increases in visibility as a contributor to heart disease deaths, it may more often be coded as the underlying cause of death — but even that will make the interpretation of trends difficult. For these reasons, it is important to work toward improvements in our surveillance systems to improve accuracy of the available data.
What role can the National Forum play?
The National Forum convened the Stronger Hearts™ Partnership, a panel with diverse expertise led by Clyde W. Yancy, M.D., chief of cardiology at Northwestern University’s Feinberg School of Medicine, to develop a strategy to improve outcomes for people with heart failure. The partnership created a free, 24/7 helpline that provides consumer-friendly information about heart failure and connects patients to providers of social determinants of health (SDOH) services, such as housing, transportation, and healthy foods. The Stronger Hearts™ Helpline was pilot tested in San Bernardino County, CA. An evaluation of the helpline found that people with heart failure often have significant unmet SDOH needs which undermine their medical care, consigning them to a cycle of worsening health punctuated by hospitalizations.

What must be done to reverse these negative trends?
1. **Promote cardiovascular health and increase adherence to the American Heart Association’s “Life’s Simple 7” at all ages.** Greater adherence to the “Life’s Simple 7” guidelines, which are based on optimizing behaviors (healthy diet, physical activity, normal body mass index, not smoking) and physiological measures (blood pressure, cholesterol, blood glucose), is associated with a lower risk of heart disease including heart failure. In people with heart failure, physical activity has been shown to improve quality of life and to decrease hospitalizations. Less than 10% of people in the U.S. over age 40 have ideal cardiovascular health. The vast majority of people could benefit from using Life’s Simple 7.

2. **Early identification and control of cardiovascular risk factors.** Given the rising trend of heart failure developing at younger ages, the identification and treatment of hypertension and other heart failure risk factors in early adulthood is critical, particularly for blacks, who bear the greatest burden of heart failure.

3. **Healthcare providers should use algorithm approaches to cardiovascular risk factor management whenever they are available.** Algorithm approaches provide detailed instructions about which drug(s) and what doses to use to begin treatment of uncontrolled risk factors such as hypertension — as well as how to increase doses and change drugs in a stepwise manner until control is obtained. Hypertension treatment algorithms have been shown to result in control rates well over 80%.

4. **Strengthen national cardiovascular disease-surveillance capability through the collection, interpretation, and dissemination of national- and state-level data on heart disease (including heart failure) and its causes, prevention, detection, treatment, outcomes, and disparities.** Scientifically sound policies and effective programs depend on meaningful, reliable, and timely data, both in their development and in evaluation of their health impact. Currently available data, though useful, are too limited to meet the needs of today and the future. Congress should fund the U.S. Department of Health and Human Services (HHS) to develop a comprehensive cardiovascular disease surveillance system.

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The “silver tsunami” presents a major challenge to our efforts to control heart disease and associated mortality. Not only is the number of heart disease deaths increasing substantially in older age groups, there also is a disturbing increase at younger ages. Innovative and effective approaches for surveillance, prevention, and treatment are urgently needed to address the expanding burden of heart disease mortality, particularly for the growing epidemic of heart failure.

**REFERENCES**


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