

# Epidemiology of Multimorbidity in Older Adults with Cardiovascular Disease



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## KEYWORDS

• Older adults • Multimorbidity • Cardiovascular disease • Chronic conditions

## KEY POINTS

- Multimorbidity, the presence of 2 or more chronic conditions, is the most common disease process impacting older adults.
- The prevalence of multimorbidity increases with age such that it is prevalent in more than 70% of adults aged 75 years and older.
- Assessment of multimorbidity should also include presence of geriatric syndromes.
- Multimorbidity is common in the presence of cardiovascular disease, especially heart failure, where 50% of Medicare beneficiaries have 5 or more coexisting chronic conditions.
- Multimorbidity has a substantial impact on disease management, quality of life, health care costs, and health care use.

## INTRODUCTION

The proportion of adults aged 65 and over is increasing rapidly and older adults will comprise approximately 19% of the US population by 2030, including 19 million adults over the age of 85.<sup>1</sup> The result of this remarkable demographic shift imposes significant implications for overall future health care management where age is a driving factor in a multitude of disease processes, including cardiovascular disease (CVD), and contributes the most substantial risk. In 2013, CVD was responsible for more than 17 million deaths globally, an increase of 5 million (40%) annually since 1990, despite increasing advances in cardiovascular treatments and health care delivery.<sup>2</sup> The overwhelming driver of this increase can be attributed to population aging (55%) and to a

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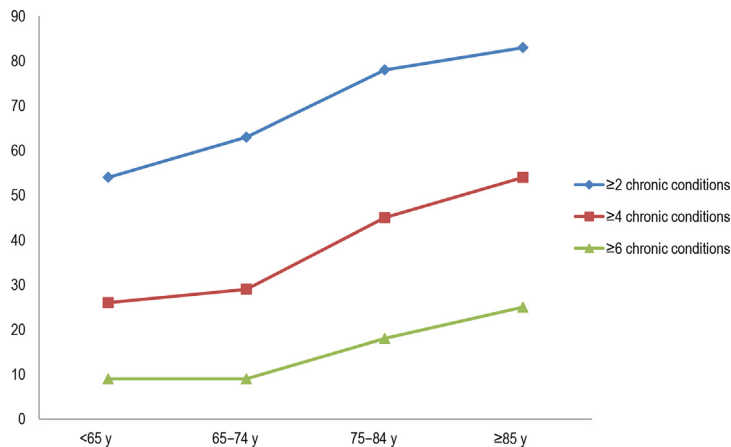
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lesser extent population growth (25%). In the United States, CVD affects approximately 40 million individuals over the age of 65 and remains the leading cause of morbidity and mortality.<sup>3,4</sup>

The increasing prevalence of coexisting disease processes in this aging population further adds to the complexity and challenges facing patients with CVD and the providers that care for them. The diagnosis and management of CVD in older adults requires an in-depth understanding of the interplay between patient heterogeneity, the accumulation and activity of chronic and acute conditions, functional status, pharmacology, and social factors. However, the use of single disease practice guidelines remains as the standard of care across health care settings, irrespective of age and presence of multiple coexisting chronic conditions.<sup>5,6</sup> In fact, the most common chronic coexisting condition in older adults is the presence of multimorbidity, the coexistence of 2 or more chronic conditions.<sup>7</sup> The concept of multimorbidity differs from the familiar framework of comorbidity in that at any 1 time several conditions may be equally important and overlapping in management strategies and require comparable intensity and simultaneous management strategies to achieve optimal patient-centered outcomes and quality of life. This article examines the epidemiologic relationships and importance of multimorbidity in older adults with CVD.

PREVALENCE OF MULTIMORBIDITY

Multimorbidity rapidly increases with age such that it is prevalent in more than 70% of individuals 75 years or older.<sup>8</sup> The accumulation of chronic conditions as a result of genetics, lifestyle choices, environmental factors, treatment of prior conditions (eg, heart failure as an adverse consequence of chemotherapy regimens), and aging itself culminates in a vastly heterogenic older population of adults that require balancing the management of multiple medical problems. By the age of 65 years more than 60% of adults will have 2 or more chronic conditions, more than 25% will have 4 or more chronic conditions, and almost 10% will have 6 or more (Fig. 1).<sup>8</sup> These rates increase by each decade and result in more than 50% over individuals 85 years and older



**Fig. 1.** Percentage of Medicare fee-for service beneficiaries by number of multiple chronic conditions and age (2010) showing increasing prevalence of multimorbidity with increasing age. (Data from Centers for Medicare & Medicaid Services. Chronic conditions overview. Available at: [https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/CC\\_Main.html](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/CC_Main.html). Accessed November 25, 2015.)

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