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# The Challenge of Comorbid Conditions in Seniors with Heart Disease

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High rates of comorbidity present a challenge in providing care to elderly Medicare managed-care enrollees. Comorbidity or the presence of coexisting illness strongly influences utilization, costs, and outcomes of health care. Ischemic heart disease (IHD) and congestive heart failure (CHF) are leading causes of morbidity and mortality among Medicare beneficiaries. Both have been the targets of successful quality-improvement initiatives by the Centers for Medicare and Medicaid Services (CMS).<sup>1</sup> Medicare's HEDIS® (Health Plan Employer Data and Information Set) has targeted hypertension, diabetes, and smoking cessation—all of which are important risk factors for IHD and CHF. The impact of disease management programs on outcomes for these conditions is being evaluated in CMS demonstration projects.<sup>2</sup> Additional improvements in quality and outcomes of care for beneficiaries with these conditions may be achieved by improving management of common coexisting illnesses. The large sample size of the Medicare Health Outcomes Survey (HOS) affords an unprecedented opportunity to look at the prevalence and patterns of coexisting illness among enrollees with IHD and CHF.

The HOS instrument contains items for assessing physical and mental health status, chronic conditions, clinical symptoms, and demographic information.<sup>3</sup> The following figures are based on the responses of 167,854 community-dwelling indi-

viduals aged 65 or over who are enrolled in Medicare managed care and participated in the HOS Cohort I Baseline Survey. The sample is 58% female and includes 31,315 respondents with IHD and 11,239 respondents with CHF. Enrollees with IHD or CHF have lower incomes and lower levels of education than

## CHF Hospitalization Linked to Glucose Levels

In a recent issue of *Circulation*,<sup>1</sup> Held and colleagues reported results of a study demonstrating that a fasting plasma glucose level is an independent predictor of hospitalization for CHF in high-risk subjects. These data provide theoretical support for possible direct beneficial effects of glucose lowering in reducing the risk of CHF.

The researchers used data from the Randomized Assessment Study in ACE Intolerant Subjects with Cardiovascular Disease (TRANSCEND) and the Ongoing Telmisartan Alone and in Combination with Ramipril Global Endpoint Trial (ONTARGET) trials, which enrolled 31,546 high-risk subjects with 1 coronary, peripheral, or cerebrovascular disease, or diabetes mellitus with end-organ damage. The association between fasting plasma glucose and risk of hospitalization for CHF were assessed. After adjustment for age and gender, an increased fasting plasma glucose level of 1 mmol/L was associated with a 1.10-fold-increased risk of CHF hospitalization. This same association was seen after adjustment for smoking, previous myocardial infarction, hypertension, waist-to-hip ratio, creatinine, diabetes, and use of aspirin, beta-blockers, or statins.

These data underscore the need to closely monitor blood glucose levels not only in high-cardiovascular-risk patients with diabetes, but also in those high-risk patients who may also be at risk for diabetes disease because of hyperglycemia.

### References

1. Held C, Gerstein HC, Yusuf S, et al. Glucose levels predict hospitalization for congestive heart failure in patients at high cardiovascular risk. *Circulation*. 2007;115:1371-1375.

the overall M+C enrollee population, placing them at increased risk for encountering both financial and nonfinancial barriers to care and poorer outcomes.

Enrollees with IHD and CHF also report higher levels of comorbidity and a higher prevalence of common chronic conditions. Nine out of 10 enrollees with these conditions report having 3 or more chronic conditions with a mean of 5 chronic conditions (Figure 1).

Diabetes is one of the most prevalent comorbidities in this group of individuals. One quarter of men and one third of women with IHD or CHF also have diabetes (see *CHF Hospitalization Linked to Glucose Levels*).

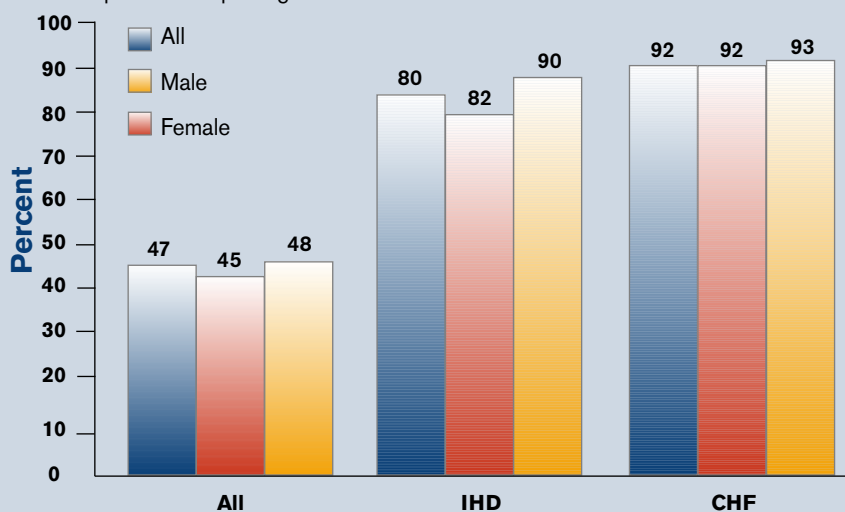
About 66% of male and 75% of female Medicare managed-care enrollees with diabetes report also having hypertension (Figure 2). There is a high prevalence of chronic nonfatal disabling conditions that can affect outcomes and

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compliance with treatments. These include arthritis and severe low-back pain (which may limit ability to exercise), urinary incontinence, and sensory impairments. The high prevalence of depressed mood underscores the need to also address

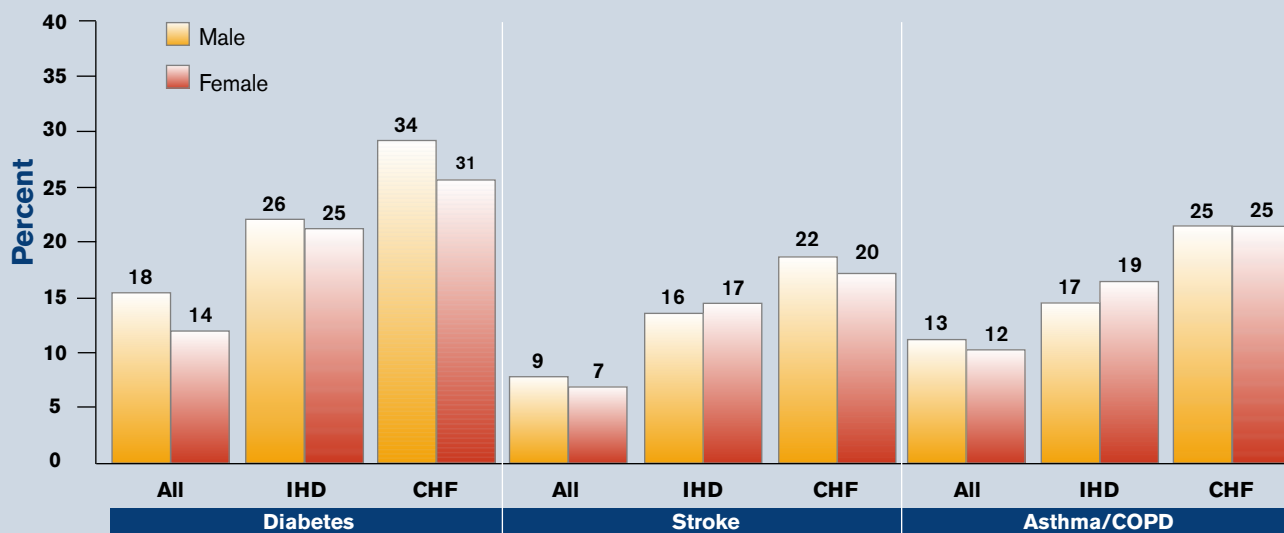
**Figure 1.**

Comorbidity among Medicare managed-care enrollees is common, with 47% of respondents reporting 3 or more chronic conditions.



**Figure 2.**

One quarter of male and one third of female Medicare managed care enrollees reporting IHD or CHF also report a history of diabetes.



## PROVIDER ACTION

### Impact to You

Ischemic heart disease and congestive heart failure are leading causes of morbidity and mortality among Medicare beneficiaries. Comorbidity influences utilization, costs, and outcomes. Under a pay-for-performance system, improving outcomes will be increasingly important.

### What You Need to Know

CMS demonstration projects are evaluating the impact of disease management programs on outcomes.

### What You Need to Do

Become involved in quality improvement initiatives through your local Quality Improvement Organization or by developing your own practices. These initiatives should focus on implementing and evaluating models of care for beneficiaries with heart disease that address the common coexisting illnesses that are present.

mental health issues in these beneficiaries.

Additionally, the burden of coexisting illness varies by sex, race, ethnicity, and socioeconomic status. Female, African-American, Latino, and socioeconomically dis-

advantaged enrollees report a higher burden of coexisting illness, especially diabetes (Figure 3).

Future efforts should focus on implementing and evaluating models of care for beneficiaries with heart disease that address the com-

mon coexisting illnesses present in these patients. Opportunities also exist for prevention. Insights from the HOS survey can inform the development of comprehensive models of care.

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### References

1. Haffer S, Bowen S, Shannon E, et al. Assessing beneficiary health outcomes and disease management initiatives in Medicare. *Disease Management and Health Outcomes*. 2003;11(2):111-124.
2. Jencks S, Huff E, Cuerdon D. Change in the quality of care delivered to Medicare beneficiaries, 1998-1999 to 2000-2001. *JAMA*. 2003;289(3):305-312.
3. National Committee for Quality Assurance. *HEDIS® 2000: specifications for the Medicare health outcomes survey*. National Committee for Quality Assurance: Washington, DC; 2000.

## How to Use HOS Data

HOS gathers valid and reliable health status data in Medicare managed care for use in quality improvement activities, plan accountability, public reporting, and improving health. All managed care plans with Medicare Advantage (MA) contracts must participate.

CMS calculates a performance assessment ranking for MA plans based on the HOS results and other measures and rewards desired health plan performance.

Materials and webinars to assist in using HOS data are available at: [www.hosonline.org](http://www.hosonline.org).

Figure 3.

Diabetes is a common comorbidity among enrollees reporting CHF. There are variations in the prevalence of diabetes by race/ethnicity and socioeconomic status. Forty-three percent of non-Hispanic black or African-American enrollees and 39% of Hispanic enrollees with CHF also report having diabetes.

