NATIONAL HEALTH POLICY FORUM

Medical Care for the Elderly Living at Home:

Home-Based Primary Care (HBPC) and Hospital-at-Home Programs

FORUM SESSION ANNOUNCEMENT

A DISCUSSION FEATURING:

Bruce A. Leff, MD
Professor of Medicine
Division of Geriatric Medicine
Johns Hopkins University School of Medicine

Thomas Edes, MD, MS
Director, Geriatrics & Extended Care
Office of Clinical Operations
U.S. Department of Veterans Affairs

Bruce Kinosian, MD
Associate Professor of Medicine
Hospital of the University of Pennsylvania
Senior Fellow
Leonard Davis Institute of Health Economics

FRIDAY, JULY 22, 2011

11:45AM–12:15PM—Lunch

12:15PM–2:00PM—Discussion

LOCATION

Reserve Officers Association
One Constitution Avenue, NE
Congressional Hall of Honor
Fifth Floor
(*Across from the Dirksen Senate Office Building*)

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THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON DC

National Health Policy Forum

2131 K Street, NW
Suite 500
Washington, DC 20037

T 202/872-1390
F 202/862-9837
E nhpf@gwu.edu
www.nhpf.org

Judith Miller Jones
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Carol V. O'Shaughnessy
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OVERVIEW

Patient-centered care, care coordination, avoidable hospitalizations, and preventable use of emergency rooms: these are key watchwords among health care policymakers and practitioners as they look to control costs and improve patient care. One of the many approaches to address these issues is a throwback to an earlier era of medicine: home-based medical care, which includes home-based primary care (HBPC) programs and more intensive hospital-at-home programs. Various types of home-based medical programs exist, and sorting out the differences among them and the patient populations they target can be confusing. Some health care systems have adopted these approaches as a strategy to serve high-need and high-cost elderly patients who are not adequately served by the current medical system. A provision in the Patient Protection and Affordable Care Act of 2010 (PPACA) requires the Centers for Medicare & Medicaid Services (CMS) to conduct a demonstration program, known as Independence at Home, to test home-based primary care models; it is scheduled to begin in 2012. This Forum session will review the range and types of home-based medical care, evidence about their cost and care effectiveness, and barriers to wider adoption.

SESSION

In times past, when family members were sick, a caring physician (black bag in hand) would visit his patients at their bedsides at home. Today, the practice of providing care at home to patients with complex and disabling chronic illnesses through home-based primary care (HBPC) programs and to those with acute illnesses through hospital-at-home[1] programs is receiving renewed attention. Research has shed some light on the effectiveness of these programs, but barriers to wider adoption exist and more testing is planned. Careful targeting of patients who can be served through these programs appears to be a critical factor in achieving good outcomes for patients and reducing overall costs of care.

RANGE OF HOME-BASED CARE MODELS

Home-based medical care for the elderly and other adults with disabling conditions can include a range of programs, from those that

provide physician- or nurse practitioner–directed primary care to more intensive hospital-at-home services. HBPC programs target people with multiple, complex and disabling chronic conditions who cannot easily access physicians' offices or clinics. Hospital-at-home programs are specifically designed to substitute or avoid hospitalization for patients with acute conditions whose needs can be met at home. While these programs focus on patients whose care needs vary along a continuum from chronic and disabling to acute, they share some of same principles. Both provide longitudinal care to complex, high-cost patients; use interdisciplinary medical care teams, comprised of physicians, nurses, social workers, pharmacists, and other medical personnel; implement home care plans based on patient needs to reduce preventable hospitalizations, nursing home admissions, and emergency room visits; provide and/or coordinate in-home medical and social supports; use mobile medical technology and electronic medical records; and support family caregivers.

Veterans Administration Home-Based Primary Care

The Veterans Administration (VA) has been providing HBPC programs since the early 1970s. Over time, variation occurred among the programs around the country, and in the mid-1990s the VA developed standards to make the programs more uniform. Standards include providing physician-led longitudinal, comprehensive primary care to veterans with complex chronic diseases for whom routine clinic-based care is not effective; promoting veterans' maximum level of health and independence; and reducing the need for hospitalization, nursing home admission, and emergency room and outpatient clinic visits. Standards also specify team composition and roles, target population, and the type and number of staff appropriate for patient care. Under this model, the HBPC team becomes the patient's primary provider, either through the medical director alone or in collaboration with a nurse practitioner or physician assistant. The team is responsible for providing close monitoring, early intervention, and symptom monitoring to prevent a chronic illness from becoming an acute health care issue.[2]

Patients served through VA HBPC, on average, have eight chronic conditions, take more than 12 medications, and have two or more limitations in activities of daily living (ADLs). HBPC programs operate from nearly every VA medical facility in the United States and have rapidly expanded from about 7,000 patients in 2000 to about 25,000 today.[3]

An analysis of costs has shown that enrollment in VA HBPC resulted in a 59 percent reduction in hospital bed days, an 89 percent reduction in nursing home bed days, and a 21 percent reduction in 30-day hospital readmission rates. Factors associated with reductions in inpatient days were the program's targeting of patients who had multiple comorbidities and multiple prior hospitalizations, home visits by the interdisciplinary team, team experience, and small caseloads.[4] Whether similar cost savings can be shown in non-VA fee-for-service health care needs further study.

Other HBPC Programs

Outside the VA system there are a growing number of HBPC programs, sometimes referred to as "house calls" programs. According to the American Academy of Home Care Physicians, HBPC programs exist in 44 states and the District of Columbia.[5] A broad range of non-VA HBPC programs exists, and practices vary in the populations and services they provide. Most programs serve Medicare beneficiaries with complex medical problems and multiple chronic conditions. Some focus on the Medicaid population or patients with private insurance.[6] Comprehensive data on the number of patients served through these programs and on cost effectiveness are not readily available. Although some research has shown that house calls programs have resulted in reduced patient hospital days and emergency room visits, other research found mixed results on cost savings. For example, one study of a HBPC program that delivered care under a fee-for-service care model to people living independently in clustered housing found that while emergency room and hospitalization costs declined, increased costs for Medicaid long-term services and supports, medications, and home health services negated the cost reductions.[7]

Hospital-at-Home Programs

Hospital-at-home programs are intended to serve as substitutes for hospital care for patients with acute illnesses who can be cared for at home. However, as with HBPC, a broad range of programs are available, including early discharge programs and outpatient infusion centers for home-based patients. Variation in both program purpose and patient characteristics has led to difficulty in evaluating their effectiveness.[8]

Although more experience with these models exists abroad, development and testing of hospital-avoidance or -substitution models within the United States has primarily been conducted by Johns Hopkins researchers and has been limited to integrated care systems. In one study conducted at three Medicare managed care plans and a VA medical center, patients who were about to be admitted to the hospital were given the option to be treated at home. They were to be treated for one of four target illnesses: pneumonia, exacerbation of chronic heart failure or chronic obstructive pulmonary disease, or cellulitis. Patients who chose home treatment were not admitted and were sent home with daily physician care, one-on-one nursing supervision for an initial period at home, and other intensive medical support. The results showed that patients received quality care at home, had fewer clinical complications and experienced higher satisfaction. They also showed that average amounts paid for these patients were lower than amounts paid for patients with similar characteristics and conditions who were treated in the hospital.[9] A meta-analysis of ten randomized trials of hospital-avoidance models came to similar conclusions.[10]

Despite the potential promise of hospital-at-home models, some analysts caution that evidence may be insufficient to determine the health or economic benefits of this care.[11] In addition, some warn that patients to be served in this model need to be carefully selected. Experts note that there are a number of difficulties in disseminating the hospital-at-home model, including barriers created by the lack of insurance for the full range of services needed.[12]

INDEPENDENCE AT HOME DEMONSTRATION

The Patient Protection and Affordable Care Act of 2010 (PPACA) included a provision to test a payment incentive and service delivery model for HBPC, known as Independence at Home (IAH). The demonstration aims to reduce preventable hospitalizations and readmissions and emergency room visits, improve patient outcomes, and reduce health care costs. IAH demonstration practices must use physician- or nurse practitioner–led HBPC teams, including physician assistants, pharmacists, and other health and social services staff who are available 24 hours a day, seven days a week to carry out home-based care plans. Practices must use electronic medical records, remote monitoring, and mobile diagnostic technology. They must have experience providing HBPC and have the capacity to recruit at least 200 eligible beneficiaries. Patients eligible for the demonstration are

Medicare beneficiaries who are entitled to Part A and enrolled in Part B, but not enrolled in Medicare Advantage plans or Programs for All-Inclusive Care for the Elderly (PACE). They must also have two or more chronic conditions and two or more ADL limitations, and must have been hospitalized and received acute or sub-acute rehabilitation services within the past 12 months. The demonstration is limited to a total of 10,000 Medicare beneficiaries.

Per capita spending targets will be set at the amount of estimated expenditures Medicare would have spent without the demonstration. The legislation also specifies that if practice-level annual expenditures are less than their estimated spending targets, IAH practices are eligible to share in any savings below 5 percent of the spending target as long as they meet other demonstration and quality requirements. The Centers for Medicare & Medicaid Services (CMS) will begin testing this model in 2012.

KEY QUESTIONS

- What types of home-based medical care programs exist? What are the differences between HBPC and hospital-at-home programs? What is the purpose of the IAH demonstration program?
- Which patients are most suitable for HBPC and hospital-at-home programs? How are patients referred to these programs? Is patient experience measured? With what results?
- How do these programs achieve cost savings and reduce hospital admissions and emergency room visits? What impact does rigorous targeting of patients have on cost savings and other impacts? What costs are associated with the team's travel to patients' homes, and how do these costs affect cost savings calculations?
- What effect do these programs have on patient outcomes? What quality measures are used to track HBPC and hospital-at-home programs? What level and types of staffing are necessary to implement HBPC and hospital-at-home programs? What is the optimal practitioner-to-patient ratio? How many HBPC programs are physician-led versus nurse practitioner–led?
- What role do electronic medical records play in these models of care? What specialized equipment and medical technology are necessary to deliver care at home?
- How are HBPC and hospital-at home programs reimbursed? What incentives besides shared savings can be used in fee-for-service payment systems to promote efficiency?

SPEAKERS

Bruce A. Leff, MD, professor of medicine at the Johns Hopkins University School of Medicine, will present an overview of HBPC and hospital-at-home programs and of research on the impact these programs have had on costs and patient outcomes. Dr. Leff will also discuss the IAH demonstration program enacted by PPACA. **Thomas Edes, MD, MS**, director, Geriatrics & Extended Care, Office of Clinical Operations, U.S. Department of Veterans Affairs, will discuss the VA experience with HBPC programs for geriatric patients, including patient outcomes and impact on costs. **Bruce Kinosian, MD**, associate professor of medicine at the Hospital of the University of Pennsylvania, will discuss research on cost savings achieved through the implementation of the VA HBPC program and the implementation of a HBPC program, ElderPac, in Philadelphia.

ENDNOTES

1. Hospital-at-home programs are also sometimes referred to as hospital in home, hospital in the home, and home hospital.

2. Julie Leftwich Beales and Thomas Edes, "Veteran's Affairs Home Based Primary Care," *Clinical Geriatric Medicine*, 25, 1 (February 2009).

3. Phone conversation with Thomas Edes, Director, Geriatrics & Extended Care, Office of Clinical Operations, U.S. Department of Veterans Affairs, May 17, 2011.

4. Beales and Edes, "Veteran's Affairs Home Based Primary Care."

5. Phone conversation with staff of the American Academy of Home Care Physicians, May 19, 2011.

6. American Academy of Home Care Physicians, "Home Care Medicine: A Field Guide," Appendix A.

7. Susan D. Yaggy *et al*., "Just for Us: An Academic Medical Center–Community Partnership to Maintain the Health of a Frail Low-Income Senior Population," *The Gerontologist*, 46, issue 2 (2006), available at http://gerontologist.oxfordjournals.org/content/46/2/271.abstract. For other program descriptions, see also, Susan Okie, "Home Delivery – Bringing Primary Care to the Housebound Elderly," *New England Journal of Medicine*, 359, 23 (December 4, 2008), available at www.nejm.org/doi/full/10.1056/NEJMp0808067.

8. Bruce Leff, "Defining and Disseminating the Hospital-at-Home Model," *Canadian Medical Association Journal*, 180, 2 (January 20, 2009), available at www.cmaj.ca/cgi/content/full/180/2/156.

9. See Bruce Leff *et al*., "Hospital at Home: Feasibility and Outcomes for Program to Provide Hospital-Level Care at Home for Acutely Ill Older Patients," *Annals of Internal Medicine*, 143, no. 11 (December 2005), available with subscription at www.annals.org/content/143/11/798.abstract.

10. Sasha Shepperd *et al*., "Avoiding Hospital Admission Through Provision of Hospital at Home: A Systematic Review and Meta-Analysis of Individual Patient Data," *Canadian Medical Association Journal*, 180, 2 (January 20, 2009), available at www.cmaj.ca/cgi/content/full/180/2/175.

11. Sasha Shepperd, "Hospital-at-Home: The Evidence is Not Compelling," editorial, *Annals of Internal Medicine*, 143, no. 11 (December 6, 2005), available with subscription at www.annals.org/content/143/11/840.extract.

12. Leff, "Defining and Disseminating the Hospital-at-Home Model."