Home Care

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CARE AT HOME IS AN IMPORTant option for patients with acute or chronic health problems.[1] Home care used appropriately decreases hospitalization and nursing home use without compromising medical outcomes. Moreover, patients generally prefer to remain in familiar surroundings. Physician support of home care services honors that preference.

Definition

The term *home care* refers to any diagnostic, therapeutic, or social support service provided at home (BOX).[2] Home health agency care is familiar to most physicians. This includes physical, occupational and speech therapy, skilled nursing, social work, and home health aide services; is focused primarily on postacute care; and usually lasts weeks to months. Home care also encompasses the use of medical equipment, telemedicine monitoring, and portable diagnostic tools. Technologically intensive services range from simple intravenous therapy to multidrug preloaded infusion pumps, hemodialysis, and ventilators. The specialized hospice benefit is another important home-based service. Long-term supportive care is provided mainly by personal care aides and lay caregivers. Payers and regulations vary (TABLE 1).[3-5] Home medical care involves a physician, physician assistant, or nurse practitioner who provides acute or chronic care, which can be preventive, diagnostic, therapeutic, palliative, or rehabilitative.

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According to 2000 US census data, nearly 50 million (19%) noninstitutionalized individuals aged 5 years or older and 14 million (42%) aged 65 years or older had a disability.[6] However, only 1.6 million (4.5%) individuals aged 65 years or older were in nursing homes in 2000.[7] Nationwide in the late 1990s, 9.5 million adults 50 years or older received help with at least 1 activity of daily living, such as bathing, dressing, eating, toileting, transferring, and ambulating, or 1 instrumental activity of daily living, such as managing finances, using the telephone, organizing transportation, planning meals, cooking, or taking medications.[8] Elderly persons will increasingly dominate the US demographic makeup in coming decades, producing concomitant increases in disability and chronic illness.

Funding

In 2000, approximate spending for home care was $30 billion for home health agencies, $3.5 billion for respiratory therapy, $4.5 billion for home infusion, and $2 billion for home medical equipment. Home health agency funds derived from Medicare (28.4%), Medicaid (18.5%), private insurance (23.5%), out of pocket (24.4%), and other sources (5.2%).[9] Private insurance companies typically limit home care coverage to approximately 1% of their budgets.[10]

For Medicare coverage, home care patients must have a skilled need (various nursing services, including patient education by itself; physical therapy, even in the absence of nursing care; or speech therapy). Other services, such as social work and home aides, are covered only when there is also a skilled need. Services must be reasonable and necessary to treat illness or injury. Patients must be homebound. Under Medicare regulations, homebound implies normal inability to leave home (ie, leaving home requires a considerable effort; is usually performed only with supportive devices, special transportation, or another person; and occurs infrequently). Accordingly, patients leaving home for social reasons more than a few times per month are ineligible for Medicare skilled home care. Leaving home for medical care does not affect homebound status. A care plan must be established and approved by a physician, and patients must require skilled care intermittently (not continuously).

Medicaid also covers skilled care for younger individuals and for indigent elderly persons between Medicare episodes. Approximately 4 million elderly persons (10%) have dual coverage from Medicare and Medicaid.

Personal care, a critical component of paid long-term home care, is funded largely by Medicaid, Medicaid waivers, state block grants, and out-of-pocket payments. States' per capita expenditures for these services vary widely.[11] Personal care aides are critical to maintaining patients at home who are frail and debilitated, but availabil-

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Box. Examples of Services Available at Home*

- Professional
  - Physician
  - Nurse
  - Dentist
  - Podiatrist
  - Optometrist
  - Rehabilitation therapists: physical, occupational, speech, respiratory
  - Psychologist
  - Dietitian
  - Pharmacist
  - Social worker
- Diagnostic
  - Phlebotomy/laboratory
  - Radiograph examination
  - Electrocardiogram
  - Holter monitoring
  - Oximetry
  - Doppler ultrasound
  - Point-of-care tests
- Supportive
  - Home health aides
  - Personal care assistants
  - Homemakers
  - Home-delivered meals
- Medical equipment
  - Infusion (hydration, chemotherapy, blood transfusion, antibiotics, nutrition, analgesics, and other medications)
  - Ventilators
  - Dialysis
  - Medical alert devices
  - Beds, wheelchairs, commodes, lifts

*Adapted with permission from Cassel et al.[2]

ity of a qualified, dedicated workforce is becoming a major problem. Aides assist with activities of daily living and instrumental activities of daily living and accompany patients to appointments. They do not administer medications or tube feedings, change dressings, or monitor clinical parameters. Low-income patients are eligible to receive several hours per day of Medicaid personal care; affluent families generally pay out of pocket for aides. The Medicare poor (fixed-income patients whose assets disqualify them for Medicaid) have limited access to personal care aides.

Unpaid caregivers provide most at-home care. Almost one quarter of US individuals participate as caregivers[12] and the national cost is approximately 6 times that of paid home care.[13] Patients' dependence often drains family resources and causes caregiver stress. Caregivers experience poorer health, more depression, and less social interaction than noncaregivers.[14] Caregiver burden independently predicts death among caregivers and nursing home placement for care recipients.[15,16]

Physician-ordered home medical equipment includes hospital beds, special mattresses, commodes, wheelchairs, and pneumatic (Hoyer) lifts. The single largest expenditure item is home oxygen. Medicare part B, the largest payer for home medical equipment, covers most large durable items, with a 20% co-payment. Some important smaller items, such as grab bars, canes, and reachers, are not covered. Being homebound is not required, but the physician must complete a Certificate of Medical Necessity. Usually service can be initiated with a telephone call and delivery made within 24 hours. Specialized devices, such as motorized wheelchairs and advanced bed support surfaces, are reviewed on a case-by-case basis.

Medicare skilled home health care has undergone important changes since 1965. Initially designed to cover acute and postacute care following hospitalization, the benefit was gradually liberalized. Eventually, more than half of the home care was provided to patients without prior hospitalization and lasted more than 6 months per case.[17] Driven by demographic and economic forces, including declines in nursing home beds, increases in frail individuals, cost-based financing of home care, and early discharges by hospitals under prospective payment, the industry grew exponentially through the early 1990s.[18] Between 1990 and 1997, Medicare expenditures for home care increased from $3.9 billion to $17.2 billion, eventually accounting for 9% of the Medicare budget. The 1997 Balanced Budget Act set limits on Medicare spending[19] and refocused home care services on post-acute care. Additionally, venipuncture services were no longer covered unless they were part of an active medical management plan. By 1999, home health care spending declined to $9.7 billion and has now dropped to 4% of Medicare spending. Since 2000, the Medicare Home Health Care Prospective Payment System (PPS) has provided payment for 80 separate clinical categories. In 2001, the mean payment for 60 days of skilled home care was $2339. Since 1997, more than 1000 home health agencies have closed and some rural areas have lost coverage. In 2001, there were 2.4 million Medicare users and 73 million visits, compared with 3.5 million users and 256 million visits in 1997. The sharpest decrease in spending has been for home health aide visits.

Physician responsibilities under Medicare PPS have not changed. Physicians still must identify eligible patients with skilled care needs; refer them to qualified participating agencies; help design the care plan (give specific orders); review, sign, and return orders in a timely manner; and be available for interval problems. Physicians must review and sign orders. Agencies cannot be paid without a physician signature and physicians can now be reimbursed for this work (TABLE 2).[20] Care certification and recertification codes may be used every 60 days while a patient is receiving skilled care. Care plan oversight is designed for complex skilled care cases and involves at least 30 minutes of work in a calendar month reviewing documents and interacting with home care professionals. Physicians should also recognize the new incentives facing agencies, become more integrally involved, and be advocates if patients legitimately need more care.

The impact of the Balanced Budget Act is still being evaluated. Between 1996 and 1998, during an interim payment system leading up to the implementation of the PPS, the duration of home care decreased in both for-

Table 1. Coverage of Home Care Services*

Service	Payer				
	Medicare A	Medicare B	Medicaid	HMO‡	Medicare or Medicaid Hospice
Nursing	Yes	No†	Yes	Variable	Yes
Physical therapy	Yes	No†	State's option	Variable	Yes
Occupational therapy	Yes	No†	State's option	Variable	Yes
Speech therapy	Yes	No†	State's option	Variable	Yes
Home health aide	Yes§	No†	Yes	Variable	Yes
Custodial care (personal care)	No	No	State's option (most cover some services)	Variable	No
Medications	No	Very limited	Yes	Variable	Yes
Durable medical equipment	No	Yes‖	Yes	Variable	Yes
Nondurable medical equipment	No	No	Yes	Variable	Yes
Pastoral care	No	No	No	No	Yes
Social work	Yes§	No	State's option	Variable	Yes
Physician home visits	No	Yes‖	Limited reimbursement	Variable	Yes

Abbreviation: HMO, health maintenance organization.
*Data from references 3-5.
†Medicare part B covers individuals in rare cases in which an individual has only part B coverage.
‡Medicare HMOs must provide all Medicare-covered home health services.
§Covered if patient has concurrent skilled need.
‖Requires a co-payment.

profit agencies (51% reduction from 111-day baseline) and not-for-profit agencies (22% reduction from 46-day baseline).[21] Congressional advisory committees found no definite evidence of adverse effects on access[22] or outcomes, but did detect a possible shift from home health to nursing home use during postacute care.[23] One study[24] showed an increase in emergency department use and possibly in mortality among home care users between 1997 and 1999. This is similar to the 1995 finding of poorer outcomes for Medicare fee-for-service agencies compared with Medicare managed care agencies that provided fewer services for patients.[25] Further research is needed to clarify the impact these funding changes have had on health outcomes.

Table 2. Medicare Reimbursement for Physician Home Care Activities in 2003*

Codes	Approximate 2003 Medicare Fee Schedule, $†
New patient home visit CPT codes	
99341 (Problem focused)	59.22
99342 (Expanded problem focused)	89.02
99343 (Detailed)	132.43
99344 (Comprehensive, moderate decision making)	172.16
99345 (Comprehensive, high decision making)	210.41
Established patient home visit CPT codes	
99347 (Problem focused)	46.72
99348 (Expanded problem focused)	74.31
99349 (Detailed)	115.14
99350 (Comprehensive, moderate to high decision making)	167.74
Care plan oversight HCPCS codes	
G0182 (Medicare hospice)	130.22
G0181 (Medicare home health care)	123.23
Care plan certification HCPCS codes	
G0180 (Skilled home care certification)	73.57
G0179 (Skilled care recertification)	57.02

Abbreviations: CPT, Current Procedural Terminology; HCPCS, Health Care Financing Administration Common Procedural Coding System.
*Data from Gallagher.[20] Billing codes apply to physicians, nurse practitioners, and physician assistants who can bill for all except home care certification.
†Medicare part B pays 80%; regional adjustments apply.

Cost-effectiveness

Several studies conducted in the 1970s and 1980s explored whether home health care could substitute for acute care or nursing home care and decrease overall costs. Those studies found that home care was preferred by patients and generally was cost-neutral or slightly more expensive than other care options.[26] Experts suggested more refined targeting of services, coupled with control of home care costs, and a focus on acute care.[19,27,28] Home care can substantially decrease acute care costs for selected patients with specific diseases such as heart failure (50% reduction)[29] and selected patients with a broad spectrum of conditions who need short-term posthospital transitional care by advance practice nurses (65% reduction).[30] It helps prevent readmissions and shorten hospital stays. Intensive psychiatric home care by assertive community teams has been cost-effective.[31] One small study of at-risk individuals aged 75 years or older demonstrated a decrease in functional decline by using home-based comprehensive geriatric assessment and surveillance.[32] A meta-analysis of simi-

lar studies suggested that reduction in long-term nursing home care may also be possible.[33] Home-based interventions for patients at high risk of falls can be cost-effective.[34,35] Critical factors for success include patient selection and capabilities of service providers.

Quality of Care

Research demonstrates that home care produces markedly improved patient satisfaction and can improve service use and clinical outcomes. In addition, more accurate information can be obtained at home, including medical and social diagnoses and medication lists.[36,37] By using a structured tool and pharmacy consults to guide nurses, home care can also reduce inappropriate and erroneous medication use.[38]

The Outcomes Based Quality Improvement program, based on the Outcome and Assessment Information Set (OASIS), required for all Medicare home health agencies, provides the best evidence of quality improvement. The OASIS was developed with input from many sources, including home care providers, and was extensively tested for validity. Two studies were conducted involving 263 465 patients from 73 Medicare agencies in 27 states; control patients were selected from other agencies. Demonstration agencies received performance improvement training and annual reports regarding outcomes on 41 indicators; the reports showed the agency's performance compared with national averages, adjusted for case mix by using OASIS data. Each demonstration agency focused on preventing rehospitalization and on improving 1 clinical outcome. The targeted clinical outcomes improved 5% to 7% in demonstration agency patients while other indicators were unchanged. Remarkably, hospitalization in the intervention group declined by 22% to 26% per year. Hospital use in control patients was unchanged.[39] Subsequent studies, implementing Outcomes Based Quality Improvement by using state quality improvement organizations, found similar results (P. W. Shaughnessy, PhD, written communication, April 2003).

House Calls

Physician home visits are a small but important part of home care. Home visits relieve patients and families of a considerable burden and restore access to care. There is no evidence that home visits increase malpractice risk, and onsite ancillary care can also be provided. Well-equipped mobile providers can provide timely high-quality urgent care. Physicians can bill Medicare for house calls and prolonged service codes may be used when appropriate; procedures such as joint injections can also be billed. Reimbursement for physician involvement in home care is much improved (Table 2).

At least 2 million individuals, half of whom are seniors aged 65 years or older, are permanently homebound; millions more are homebound with temporary illness or injury. However, US physicians bill Medicare for only 1.5 million home visits annually, and many homebound patients are never seen by their physicians. By contrast, nursing home patients average 8 or 9 annual medical visits, some required by federal regulations, and ambulatory patients with serious chronic illnesses average 11 to 12 annual physician office visits, without regulatory requirements. Homebound patients often receive only intermittent care, often for emergencies. Homebound patients, a medically underserved population, are usually invisible to physicians and would benefit from more regular physician contact.

Despite optimal use of community resources, continuing home-based care may be inadvisable for reasons of safety, isolation, cost, or caregiver burden. Physicians should recognize these situations and encourage changing settings to another available option.

Education

For future physicians to participate appropriately in providing home care, it would be best to include instruction in all medical school and residency training, which is currently not standard. Because resident home visits are highly correlated with home visits in subsequent practice, to address unmet population needs medical educators should encourage physician home visits by creating opportunities for this experience. Adult learning theory holds that students learn best when confronted with real-world problems they expect to face again.[40] Safely discharging patients, preventing unnecessary hospital readmissions, and helping terminally ill patients face death at home exemplify challenges that are managed better with adequate home care training. The home setting is a powerful teaching venue. Successful participation epitomizes what the Accreditation Council for Graduate Medical Education calls competency in system-based practice, requiring knowledge of health systems, working with an interdisciplinary team, and knowing the strengths and limitations of the home setting. Furthermore, home care exposure allows one to teach core geriatric principles, including, among others, geriatric syndromes, palliative care, and functional and environmental assessment.

Future Issues

As a nation, we need to find the workforce and funding mechanisms to provide the support that frail individuals require. Medicare home health reimbursements have been sharply curtailed, placing greater burdens on family caregivers, and state Medicaid programs exceed budgets in many states. For home care to succeed, physicians must be better informed and properly paid. In rural settings, adult homes, and assisted living complexes incentives remain particularly inadequate and the cost of case management is generally underrecognized. Education, training, and peer role modeling require investment and emphasis. Physician counsel, support, and guidance are central to good medical care and enormously important to patients and families in all care settings, including the home. Although it is a difficult task, restructuring chronic care is essential.

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