ISSUE: Homebound and functionally limited individuals are often unable to access office-based primary care, leading to unmet needs and increased health care spending.

GOAL: Show how home-based primary care affects outcomes and costs for Medicare and Medicaid beneficiaries with complex care needs.

METHODS: Qualitative synthesis of expert perspectives and the experiences of six case-study sites.

FINDINGS AND CONCLUSIONS: Successful home-based primary care practices optimize care by: fielding interdisciplinary teams, incorporating behavioral care and social supports into primary care, responding rapidly to urgent and acute care needs, offering palliative care, and supporting family members and caregivers. Practices participating in Medicare’s Independence at Home Demonstration saved $3,070 per beneficiary on average in the first year, primarily by reducing hospital use under this shared-savings program. The experience of a risk-based medical group that contracts with health plans and health systems to provide home-based care suggests similar potential to reduce health care spending under capitated or value-based payment arrangements. Making effective home-based primary care more widely available would require a better-prepared workforce, appropriate financial incentives to encourage more clinicians to provide house calls to their home-limited patients, and relevant quality measures to ensure that value-based payment is calibrated to meet the needs of patients and their families.

KEY TAKEAWAYS

Home-based primary care practices deliver holistic, team-based health care; respond rapidly, when necessary; incorporate behavioral health and social supports; and offer palliative care and end-of-life planning.

Successful home-based care practices have achieved robust savings, but the future of the model will rely on innovative payment models and training initiatives.
BACKGROUND

In the United States, some 2 million older adults are so sick, frail, or functionally limited they are effectively homebound; another 5 million have difficulty leaving home without help.¹ Many suffer from multiple chronic health conditions such as heart failure, emphysema, and stroke, which may be compounded by psychiatric or cognitive disorders, including depression or dementia.² These figures don’t include the millions of younger Americans suffering from catastrophic or disabling conditions like quadriplegia or ALS.³ “These are the people you don’t see in grocery stores and restaurants. Because they also don’t get to the doctor, they often end up in the emergency department and the hospital in crisis,” says Terri Hobbs, executive director of Housecall Providers, a Portland, Oregon–based nonprofit that brings primary, palliative, and hospice services to people at home.

Fewer than 12 percent of people who are completely homebound report they receive any primary care services at home.⁴ For these very sick individuals, missing regular care can trigger a cascade of problems, many preventable. Tom Cornwell, M.D., medical director of Wheaton, Illinois–based HomeCare Physicians, recalls one patient who visited the emergency department more than 120 times and spent 210 days in the hospital in the seven years before he began seeing her at home. During the first two years under his care, she had just six emergency department visits and two hospitalizations. “It is amazing to see the difference that comes from preventing repeated hospitalizations,” he says. “She was eventually able to leave her home and even take computer classes.”

Both Hobbs and Cornwell have been running home-based primary care practices for 20 years, relying on philanthropy to supplement fee-for-service payments, which generally don’t provide enough to cover the time and resources it takes to care for very complex patients.⁵ These practices, like other home-based primary care practices around the country, share common features: frequent visits, often by interdisciplinary teams, to manage multiple chronic conditions; help finding social supports for patients and caregivers; and urgent visits to avert hospitalizations.

Interest in home-based primary care has increased in recent years as health care payment shifts from volume to value and evidence emerges that helping frail and elderly patients avoid hospitals, emergency departments, and nursing home placements yields substantial savings.⁶ One demonstration project created by the Affordable Care Act, Independence at Home, is testing whether providing home-based primary care to frail elderly patients with multiple chronic conditions or advanced illnesses improves outcomes and lowers fee-for-service Medicare spending. Practices that do lower expenses are rewarded with a portion of the savings.⁷ On average, participating practices saved 7.7 percent or $3,070 per beneficiary in the first year.⁸ This is many times greater than the savings achieved by accountable care organizations (ACOs) in Medicare’s Pioneer program.⁹ Reductions in hospitalizations appeared to drive most of the savings.¹⁰

Independence at Home is creating access as well as quality systems.

Amy Berman
Senior Program Officer, John A. Hartford Foundation

There’s also evidence that home-based primary care improves quality of care as well as patient and family member satisfaction.¹¹ Patients receiving care at home tend to receive less aggressive end-of-life care and die at home, rather than in the hospital, the preference of the vast majority of Americans.¹² Cornwell reports that 80 percent of patients in his practice who died in 2015 did so at home.

Experienced house-call providers say their effectiveness is rooted in the trusting relationships they form with their patients, which give them leverage to encourage behavior change. Building trust with patients also means they’re able to uncover issues—like unsafe housing, inadequate nutrition, or poorly managed medication—that can impede good health. In hospitals and office settings, elderly patients often conceal problems for fear of losing their independence, says Joan Valentine, R.N.,
An Overview of Home-Based Primary Care: Learning from the Field

In this brief, we describe the key components of home-based primary care, explore challenges to scaling the model, and make policy recommendations for ensuring homebound patients have access to effective care. It is based on interviews with experts in the field as well as leaders of six home-based primary care practices, selected to represent a range of sizes and payment models. Five of the sites earned shared savings in the Independence at Home Demonstration under fee-for-service Medicare; the sixth—Landmark Health—offers an example of how home-based primary care is being implemented by Medicare Advantage plans (Exhibit 1).

Exhibit 1. Home-Based Primary Care Practices Profiled

<table>
<thead>
<tr>
<th>Practice</th>
<th>DOCTORS MAKING HOUSECALLS</th>
<th>HOUSECALL PROVIDERS</th>
<th>MEDSTAR HEALTH*</th>
<th>PENN MEDICINE*</th>
<th>VISITING PHYSICIANS ASSOCIATION**</th>
<th>LANDMARK HEALTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization type</td>
<td>For-profit medical group</td>
<td>Nonprofit medical group</td>
<td>Academic medical center</td>
<td>Academic medical center</td>
<td>For-profit medical group</td>
<td>For-profit, risk-based medical group that contracts with Medicare Advantage plans</td>
</tr>
<tr>
<td>Location</td>
<td>Headquartered in Durham, N.C.; serves most of the state</td>
<td>Headquartered in Portland, Ore.; serves three Portland-area counties</td>
<td>Headquartered in Washington, D.C.; serves patients in D.C. and Baltimore</td>
<td>Philadelphia</td>
<td>Headquartered in Troy, Mich.; serves patients in 12 states</td>
<td>Headquartered in Huntington Beach, Calif.; serves patients in six states</td>
</tr>
<tr>
<td>Number of patients</td>
<td>8,000 currently served</td>
<td>Average daily census of 1,400 to 1,450</td>
<td>Average daily census of 620</td>
<td>Average monthly census of 210</td>
<td>Average daily census of 37,000</td>
<td>45,000 currently served</td>
</tr>
<tr>
<td>Independence at Home Shared Savings***</td>
<td>$275,427 in Year 1, $1,341,649 in Year 2 for about 1,200 enrolled patients</td>
<td>$1,228,263 in Year 1, $942,156 in Year 2 for about 200 enrolled patients</td>
<td>$1,088,380 in Year 1, $477,729 in Year 2 for about 300 patients*</td>
<td>$~300,000 in Year 1, $~150,000 in Year 2 for about 160 enrolled patients*</td>
<td>$7,816,802 in Year 1, $1,083,199 in Year 2 for 2,260 enrolled patients in Year 1 and 4,116 in Year 2 at five sites</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

* MedStar and Penn Medicine participate in the Independence at Home Demonstration as part of the Mid-Atlantic Consortium, which also includes Virginia Commonwealth University (not profiled). Savings attributed to MedStar and Penn Medicine represent 77 percent of the total shared savings for the Mid-Atlantic Consortium.

** Visiting Physicians Association works closely with its management services organization, U.S. Medical Management, to assess and meet patients’ needs.

*** Sources for Independence at Home Shared Savings amounts: Year 1 results are available at https://innovation.cms.gov/Files/x/iah-yroneresults.pdf; Year 2 results are available at https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2017-Fact-Sheet-items/2017-01-19.html; see Table 2, Corrected Performance Year 2 Results for Participating Practices.
KEY ATTRIBUTES OF HOME-BASED PRIMARY CARE PRACTICES

Even if home-limited or homebound people could make it to primary care offices, short visits focused on a single complaint would not serve them well. Delivering holistic, team-based care as needed in patients’ homes—whether private residences, group homes, assisted living facilities, or nursing facilities—is a key competency of the home-based primary care practices profiled. (See Appendix for detailed description of each practice.)

Fielding Interdisciplinary Teams

Because homebound and home-limited patients typically suffer from complex health conditions and functional limitations, home-based primary care practices often rely on interdisciplinary teams. In addition to physicians, nurse practitioners, and physician assistants, teams may include behavioral health professionals, care managers, pharmacists, dieticians, and rehabilitation specialists.

Home visits typically last longer—an hour or more—than office visits and vary in frequency (e.g., from every four to six weeks for stable patients to daily for those with acute medical problems). A daily case load of nine patients per provider is typical, although providers with Doctors Making Housecalls, a practice headquartered in Durham, North Carolina, that serves patients mainly in assisted living facilities, may make as many as 15 visits per day.

Teams provide a range of services, including therapies, medication and symptom management, health education, and caregiver support, and focus on managing chronic conditions and averting crises. Procedures may include placing feeding tubes and catheters, changing tracheotomy tubes, performing wound care, giving infusions, and conducting lab work. It’s also common to perform diagnostic tests such as X-rays and EKGs in the home.

Team members meet frequently to coordinate care. At Landmark Health, a medical group based in Huntington Beach, California, that partners with health plans, health systems, and provider groups to deliver in-home primary care to high-risk patients, team members come together for a half day each week to discuss new patients and events that merit increased vigilance or stepped-up services to prevent or mitigate deterioration in a patient’s condition. Landmark Health clinicians often work in partnership with primary care physicians. By contrast, most other house-call providers serve as patients’ primary care providers.

Responding Rapidly to Urgent and Acute Care Needs

Avoiding unnecessary hospitalizations and readmissions is a key benefit of home-based primary care. Not only does this reduce costs, it also avoids the potentially detrimental effects of hospitalizations on very sick and frail patients. Patients and families feel they have a “lifeline” to rely on for help rather than immediately calling 911, practice leaders say.

Practices offer after-hours and urgent care routinely. USMM staffs a central hub where licensed practical nurses and emergency medical technicians have access to patients’ medical records and relay information to providers taking calls after hours.

Home-based primary care providers also manage transitions across care settings and work to improve communication between inpatient and outpatient providers. Housecall Providers sends its staff to advocate for patients admitted to hospitals and emergency departments, in part by sharing their medical histories and advance directives. Penn Medicine, an academic medical center that operates the Truman G. Schnabel In-Home Primary Care Program in Philadelphia, relies on a dedicated geriatric unit and hospital staff who work collaboratively with house-call providers. Health information exchanges (HIEs) that notify providers when their patients are hospitalized can facilitate these efforts. The Visiting Physicians Association leverages them in three markets. Tracking patients in markets with an abundance of hospitals and no HIEs is more challenging. Staff with Doctors Making Housecalls, for example, must call roughly 250 independent and assisted living facilities every day to find out if their patients have been hospitalized.
Incorporating Behavioral Care and Social Supports into Primary Care

As noted, home visits create opportunities to identify and address nonmedical issues affecting health (e.g., unsafe housing or food scarcity), often through referral to community resources. Visiting Physicians Association providers, for instance, discovered that a patient who was cycling in and out of the hospital had a neighbor who was cooking methamphetamine—triggering exacerbations of her COPD. They were able to help her find housing elsewhere.

Because of limited reimbursement for social work staff, some home-based primary care practices partner with Area Agencies on Aging (AAAs) and other community-based organizations to provide social services. For example, Penn Medicine’s house-call teams work closely with social workers from Philadelphia’s AAA to arrange home health aides, day care, and housing modifications as well as Meals on Wheels, transportation, and other services for their patients. An evaluation of this partnership—known as the Elder Partnership for All-Inclusive Care—found it improved survival and reduced Medicare and Medicaid costs. Long wait times for long-term services and supports in some communities may hinder house-call practices’ efforts to partner with community organizations that offer such services.

Significant behavioral health needs are common among homebound patients. Doctors Making Housecalls found more than half of its patients suffered from depression and 80 percent had symptoms of dementia. But behavioral health providers serving the homebound are in short supply. Penn Medicine has retained a psychologist to make home visits and Visiting Physicians Association providers partner with a home care agency with behavioral health expertise.

Offering Palliative Care and Supporting Family Members and Caregivers

Mortality rates among homebound patients may be as high as 25 percent in a year, making palliative care and end-of-life planning a key part of home-based primary care. Many practices also actively involve hospice programs to help care for patients in the last six months of life, according to Mindy Fain, M.D., division chief of geriatrics, general medicine, and palliative medicine at the University of Arizona and president of the American Academy of Home Care Medicine.

Proponents of the model say it is crucial to involve family members and caregivers to ensure respectful care at the end of life and enable people to stay in their homes. “Part of their ability to stay in the community is the support of the family,” says Amy Berman, senior program officer with the John A. Hartford Foundation, which has supported efforts to improve care for frail elders.

PAYMENT MODELS

One of the biggest barriers to the spread of home-based primary care is that dominant payment models provide insufficient funds to support it. Practices that rely on fee-for-service reimbursement from Medicare have difficulty making a profit because they receive only a modest surcharge for providing care in patients’ homes—$10 to $30 per visit—not enough to compensate for time spent driving between homes. Travel time can add up to two hours a day to providers’ schedules in rural areas, according to USMM, which uses GPS devices to track such metrics. Doctors Making Housecalls is profitable because it focuses on assisted living facilities, where providers can see many patients in one stop, and because it charges a trip fee for patients in private homes, which the insurer that administers claims on behalf of Medicare has authorized.

While such a fee helps to financially sustain this practice, it could present a hardship for low-income patients. “The great majority of patients we serve have a hard time paying a $3 copay,” says Cornwell.

Supplementing Fee-for-Service Payments

Medicare has recently begun paying providers extra fees for chronic care management (average reimbursement $42) and advanced care planning (between $75 and $86). This has helped, but home-based primary care practice leaders say it is inadequate to compensate for investments that they make to optimize care for complex patients. These costs include hiring care coordinators and
behavioral health staff, as well as reserving time for team meetings and longer home visits.

To help cover these costs, Robert Sowislo, government affairs officer for USMM, says the company entered into arrangements with Medicare and commercial plans to supplement fee-for-service payments with a share of the savings that accrue from reducing hospitalizations and emergency department use. In 2015, USMM formed the only accountable care organization in the Medicare Shared Savings Program devoted exclusively to home-limited patients. With 16,400 attributed beneficiaries in its first year, USMM saved $15 million, of which it received roughly half.

Some practice leaders have advocated for a payment model that combines shared savings and a monthly care management fee—an approach used in Medicare’s Comprehensive Primary Care Plus demonstration to help practices finance “medical home” infrastructure. “Home-based primary care requires a lot of interdisciplinary collaboration that is not compensated. It’s the ‘cement’ that holds it together,” says Bruce Kinosian, M.D., associate professor of medicine, Division of Geriatrics, Perelman School of Medicine at the University of Pennsylvania. Care management fees might encourage smaller practices to offer home-based primary care. These funds would allow them to invest in staff and gain experience with the model while mitigating the risk of not receiving shared savings, he says.

Medicaid waivers that offer states flexibility in how they reimburse providers may be another vehicle for compensating house-call practices. MedStar Health Total Elder Care—Medical House Call Program, based in Washington, D.C., has been able to tap funding from the District of Columbia’s Medicaid waiver program to hire social workers to serve patients and their families to address nonmedical needs that are integral to improving health outcomes.

**Using Risk-Based Contracting**

To fund its home-based care program, Landmark Health relies exclusively on risk-based contracting with health plans and integrated delivery systems. These arrangements offer the company flexibility to staff as it sees fit. It can, for example, hire psychiatrists and psychiatric nurse practitioners to meet behavioral health needs. Risk-based contracts also enable the company to share in the savings that result from lower health care spending, provided it meets quality and patient satisfaction targets. Adam Boehler, Landmark Health’s CEO, reports that the company has reduced the medical loss typically associated with high-cost patients, but the savings can take time to realize. “Succeeding in risk-based contracts takes actuarial and analytics expertise and a lot of investment in care redesign and technology. You can’t just take what you do [in a fee-for-service environment] and shift to risk,” he says.

**Combining Medicare and Medicaid Funds**

Integrating Medicare and Medicaid funding streams for patients who are eligible for both programs is another alternative. This would give providers control of home health benefits paid for by Medicare as well as Medicaid funding for long-term services and supports essential to achieving good outcomes for patients with functional limitations. It also may create opportunities to streamline benefits and pay for social support services that providers have difficulty finding in the community.

**The Future of Independence at Home**

Providers who remain dependent on fee-for-service payment are hopeful that the Independence at Home Demonstration will become a permanent benefit. In July 2016, Sen. Edward Markey (D-Mass.) introduced the Independence at Home Act, which would extend the demonstration by establishing a permanent Home Medical Practice Program. Eligible practices would receive incentive payments if they spend less money caring for homebound Medicare beneficiaries than spending targets set by the Centers for Medicare and Medicaid Services (CMS). The bill has attracted bipartisan support. Practice leaders also recommend that Medicare drop the copayment required for home-based primary care, as it has done for hospice services, since copays can be an impediment for low-income patients.
Demonstration is due to sunset on September 30, 2017, unless it receives an extension, as practice leaders hope.\textsuperscript{20}

To ensure the adequacy of the shared-savings model, Kinosian says it will be important to refine the methods used to establish savings targets to account for the impact of patient frailty, clinical instability, and untreated behavioral health needs. These factors are typically not captured in historical claims data and can have a large impact on spending and the accuracy of shared-savings payments.

**NEED FOR LARGER AND BETTER-TRAINED WORKFORCE**

House-call practices also face challenges in recruiting physicians, nurse practitioners, and physician assistants. “The great limiting factor is not demand for these services, but the supply of providers,” Alan Kronhaus, M.D., CEO of Doctors Making Housecalls, says. An estimated 2 million more elderly people could benefit from this model, requiring many thousands of new providers. In 2014, there were only 1,066 individual clinicians who made more than 1,000 house calls to Medicare beneficiaries (Exhibit 2).\textsuperscript{21}

Kinosian argues that the field doesn’t necessarily need more full-time clinicians, but instead better incentives for clinicians to provide house calls to their highest-need patients. “Rather than thinking about pulling more people into a different sector,” he says, “what you need to do is change the relative terms of practice—so that people are incentivized to do more of this.” By his count, there were more than 10,000 providers who billed Medicare for at least one house-call visit in 2014. “A lot of providers do this a little bit,” he says.

Not all primary care clinicians may be willing to travel to patients’ homes and handle very complex patients. “It takes a special person,” says Janet Jones, senior vice president of operations for USMM. Providers must sometimes travel into dangerous neighborhoods and homes in squalid conditions. But Jones says that the close relationships providers establish with patients and their families and the transformation they witness as patients’ needs are met far outweigh the drawbacks. It’s not an easy sell, however, when jobs in medical offices and hospitals pay more. “We had a medical director who almost went home crying when she first started after seeing all the problems just one patient was trying to manage. It seemed impossible. Later she could look back and see how her actions saved this person’s life,” Jones says.

Some argue that higher salaries for home-based primary care physicians are needed to encourage more physicians to pursue this work. “We need to build the field and show young health care providers that this is a viable career path,” says Fain. Experts also point out the need for training, as few clinicians are exposed to the model during medical residency programs.

### Exhibit 2. Number of Providers Making Home Visits

<table>
<thead>
<tr>
<th>Type of provider</th>
<th>0–250</th>
<th>251–500</th>
<th>501–1,000</th>
<th>1,001–1,500</th>
<th>1,501–2,000</th>
<th>&gt;2,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical doctor</td>
<td>4,295</td>
<td>936</td>
<td>717</td>
<td>283</td>
<td>173</td>
<td>142</td>
</tr>
<tr>
<td>Doctor of osteopathy</td>
<td>633</td>
<td>151</td>
<td>106</td>
<td>40</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Nurse practitioner</td>
<td>1,934</td>
<td>543</td>
<td>392</td>
<td>174</td>
<td>85</td>
<td>31</td>
</tr>
<tr>
<td>Physician assistant</td>
<td>368</td>
<td>110</td>
<td>126</td>
<td>44</td>
<td>27</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>7,230</td>
<td>1,740</td>
<td>1,341</td>
<td>541</td>
<td>310</td>
<td>215</td>
</tr>
</tbody>
</table>

Source: Bruce Kinosian, M.D., University of Pennsylvania.
Some philanthropists have stepped in to help. The John A. Hartford Foundation has funded an initiative led by Cornwell’s Home Centered Care Institute in Schaumburg, Illinois, to develop training curricula and educational programming to build the workforce. The Institute provides training to practicing clinicians and health system leaders in how best to deliver high-quality home-based primary care. “It was standing-room-only for a multiday meeting so it’s getting the receptivity that we would hope for,” says senior program officer Berman. Cornwell also is helping to establish centers of excellence at academic medical centers around the country, including one at Northwestern Medicine, to expose medical students, residents, and medical providers to both clinical and practice management models.

Some experts have suggested that using technology, like video to supplement home visits or remotely monitoring patients’ conditions between visits, might make home-based primary care more scalable, particularly in rural communities with long driving distances. Home-based providers say that while such technology may eventually be part of their work, it could not fully replace face-to-face encounters, given that much of their effectiveness is derived from the personal relationships between providers and patients and the insights providers gain by seeing patients in their homes.

**CONCLUSION**

Home-based primary care offers a promising way to optimize care for many of the nation’s sickest and frailest patients—those who are homebound or face functional limitations that prevent them from obtaining routine care in physicians’ offices. The U.S. population age 85 and older is expected to quadruple by 2050; there are likely to be many more frail older adults who could benefit from home-based primary care. In addition, many younger adults, including those with disabilities and behavioral health conditions, could benefit from this approach.

The robust cost savings achieved by successful practices in the Independence at Home Demonstration suggest...
that extending the benefit to more Medicare beneficiaries, including those also eligible for Medicaid, could help reduce federal government spending. The experience of a risk-based medical group suggests another pathway for spreading home-based primary care through capitated Medicare Advantage plans, which are enrolling an increasing share of beneficiaries, or through integrated delivery systems working under value-based payment arrangements.

Ensuring success will require payment models that attract broader participation by medical practices and training opportunities that prepare primary care clinicians to work effectively in patients’ homes. As the nation moves toward value-based purchasing of health care, policymakers and payers should consider the role home-based primary care can play alongside other effective models of interdisciplinary primary care in advancing a higher-performing health system.
NOTES


5. Most health plans will reimburse home visits if they are deemed to be medically necessary. But most payers, including Medicare, will not cover driving time or sufficiently compensate providers for the time they spend coordinating patients’ care outside of visits.


10. Preliminary findings from one study show the Independence at Home Demonstration cut hospitalizations by 23 percent and readmissions by 27 percent over two years relative to what would be expected for patients with such complex needs. Hospitalizations for conditions that are amenable to effective ambulatory care fell even more—by 44 percent. See: B. Kinosian, “Independence at Home,” presentation given at University of Pennsylvania Leonard Davis Institute of Health Economics, Sixth Annual Health Policy Retreat, Dec. 12, 2016, Philadelphia, Pa.


In their systematic review of the literature, Stall, Nowaczynski, and Sinha (op. cit.) identified three core components of home-based primary care: the use of interdisciplinary care teams, regular care-team meetings, and after-hours support.


Under Medicare rules, there cannot be duplication of home-based primary care and hospice services, thus a home-based primary care physician and hospice physician cannot both bill for their services for seeing the same patient.

Implementing trip charges in other states would require an exemption from the insurers that administer the fee-for-service program on behalf of Medicare.

Sowislo says USMM achieves improvements in the quality and continuity of care by colocating hospice, home health, and medical services administration at its headquarters, though the services are legally separate.

Medicare retains the first 5 percent of savings achieved by practices in the demonstration.


Personal communication with Bruce Kinosian, M.D., associate professor of medicine, Division of Geriatrics, Perelman School of Medicine at the University of Pennsylvania.

Institute of Medicine, *Dying in America: Improving Quality and Honoring Individual Preferences Near the End of Life* (National Academies Press, 2015), Appendix E.


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AUTHORS’ NOTE

Descriptions of products and services are based on publicly available information and self-reported data provided by the institutions featured. Their inclusion should not be construed as an endorsement by The Commonwealth Fund.

This work does not involve any CMS-sponsored analyses of demonstration enrollees or comparison samples except what has been publicly disclosed. The methods and results are the responsibility of the authors, and no scientific review, corroboration, or verification by CMS should be inferred.

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APPENDIX. HOME-BASED PRIMARY CARE PRACTICES PROFILED

DOCTORS MAKING HOUSECALLS
doctorsmakinghousecalls.com

Founded: 2002

Organization type: For-profit medical group.

Location: Headquartered in Durham, North Carolina; serves patients in most of the state.

Populations served: Primarily frail elderly patients with multiple chronic conditions and complex medical needs. Roughly 80 percent suffer from dementia and/or depression. About one-quarter of patients are dually eligible for both Medicare and Medicaid.

Number of patients: 8,000 patients currently served; 100,000 visits annually.

Payment model: Fee-for-service reimbursement from public and private plans, as well as direct payments from patients (i.e., a $95 trip fee is assessed for visits to private residences), supplemented by shared savings from the Independence at Home Demonstration.

Payer mix: Payments from Medicare and Medicare Advantage account for 70 percent of revenue; payments from supplemental insurance plans make up 20 percent; direct payments, including copayments, from patients account for the remainder.

Delivery model: Majority (80%) of patients are in assisted living facilities, enabling providers to see many patients in one location for an average of 10 to 15 visits per day. Palliative care services are provided.

Staff: 50 physicians and 30 physician assistants and nurse practitioners who have patient panels of about 150 to 200 patients each. They are supported by podiatrists, psychologists, licensed clinical social workers, and 130 administrative staff.

Training: Two-day training program, complemented by training videos.

After-hours care: Medical staff are available by phone during the week and will make house calls for urgent matters on weekends.

Care transitions: Staff call 250 independent and assisted living facilities daily to check whether patients are hospitalized and/or discharged.

Use of health IT: Customized electronic health record system.

Results: Participates in the Independence at Home Demonstration (about 1,200 enrolled patients) and earned $275,427 as its share of the savings in year 1 and $1,341,649 in year 2.

For more information, contact Alan Kronhaus, M.D., CEO, akronhaus@doctorsmakinghousecalls.com.
An Overview of Home-Based Primary Care: Learning from the Field

**HOUSECALL PROVIDERS**  
[housecallproviders.org](http://housecallproviders.org)

**Founded:** 1995  
**Organization type:** Community-based nonprofit medical group.  
**Location:** Headquartered in Portland, Oregon; serves patients in Clackamas, Multnomah, and Washington Counties.  
**Populations served:** Homebound individuals; mostly frail elders but 20 percent under age 65 with devastating conditions. Thirty-nine percent of patients are eligible for both Medicare and Medicaid. More than 80 percent have cognitive impairment.  
**Number of patients:** Average daily census of 1,400 to 1,450; more than 10,500 house calls per year.  
**Payment model:** Fee-for-service reimbursement supplemented by some per-member per-month case management fees and shared savings from the Independence at Home Demonstration.  
**Payer mix:** Fee-for-service revenue from Medicare, Medicare Advantage plans, Medicaid, commercial payers, and hospice covers 70 percent of expenses. Case management fees cover 10 percent, including care transition teams and social workers. Grants, donations, meaningful use payments, and other incentive payments compose the remainder of revenues.  
**Delivery model:** Home visits with frequency ranging from once to twice a month. Patients also are treated in adult foster care homes and assisted and residential living facilities. Added hospice services in 2009 and a palliative care team (registered nurse, chaplain, and social worker) in 2015.  
**Staff:** Physicians, nurse practitioners, and physician assistants each have their own patient panels, with assignments determined by region—a model enabled by Oregon’s scope of practice laws. (PAs require physician oversight.)  
**Training:** Comprehensive training and mentoring program for primary care providers.  
**After-hours care:** On-call visits during the week for urgent needs; phone coverage on weekends (except for hospice services, which are available 24/7).  
**Care transitions:** Dedicated transition teams of registered nurses and licensed clinical social workers go to hospitals to share patients’ advance directives, records, medication lists, and problem lists with hospitalists and emergency department staff. Transitions teams also follow patients home to ensure they understand discharge instructions and have the medication and equipment they need. This model was implemented for the Independence at Home Demonstration, which requires participating practices to see patients within 48 hours of a hospital discharge, but is now used for all patients.  
**Use of health IT:** Care coordinators, primary, palliative, and transitional care staff communicate via an electronic health record system.  
**Results:** Participates in the Independence at Home Demonstration (about 200 enrolled patients). Achieved the highest cost savings among the demonstration sites according to the results reported to date, with a 32 percent reduction in patients’ expected health care spending the initial year and a 24 percent reduction in expected spending the following year. Housecall Providers received approximately $1,228,263 as its share of the savings in year 1 and $942,156 in year 2.

For more information, contact Terri Hobbs, executive director, thobbs@housecallproviders.org.
**LANDMARK HEALTH**

*landmarkhealth.org*

**Founded:** 2012

**Organization type:** For-profit, risk-based medical group.

**Location:** Headquartered in Huntington Beach, California; serves patients in 10 markets and six states.

**Populations served:** Patients with multiple chronic conditions, many of whom are homebound, bedbound, or face other barriers to accessing office-based care. About 40 percent suffer from a behavioral health comorbidity. The average patient is 79 years old and has seven or more chronic conditions.

**Number of patients:** 45,000 currently served.

**Payment model:** Landmark enters into a variety of risk-based contracts with health plans and integrated delivery systems. It is compensated only if it is able to achieve improvements in patient satisfaction and quality and reduce the cost of care.

**Payer mix:** Sixty percent of patients are covered by Medicare Advantage plans; roughly 20 percent by Medicaid managed care plans; 15 percent in a demonstration program for dually eligible Medicare and Medicaid beneficiaries; and the remaining 5 percent by commercial plans.

**Delivery model:** Landmark partners with health plans, health systems, and provider groups to deliver in-home primary care to high-risk patients and works in close partnership with the patient’s primary care physician and/or other community providers to develop and deliver a comprehensive plan of care. Landmark typically manages care for assigned patients until they are discharged to hospice or die.

**Staff:** Physicians, nurse practitioners, and physician assistants with small panels of patients are supported by interdisciplinary care teams that include behavioral health providers, social workers, nurse care managers, pharmacists, and dietitians. Teams meet on a weekly basis to discuss complex cases and review changes in patients’ conditions.

**Training:** Clinicians take part in intensive clinical practice training, including ride-along visit observations with local medical leadership, biweekly seminars, and online educational sessions on topics like palliative care and medication management.

**After-hours care:** 24/7 visits for urgent needs.

**Care transitions:** Postdischarge visits are made to homes and skilled nursing facilities within 72 hours of hospital discharge. Nurse care managers also will follow up over the phone to assess safety and manage the patient’s postacute environment. Providers oversee care in skilled nursing facilities as well.

**Use of health IT:** Custom electronic medical record with an integrated case management system and screening tools for behavioral health, substance abuse, and adult malnutrition, as well as prompts to assess and document previously undiagnosed conditions. Landmark also uses a proprietary, data-driven algorithm to stratify patients and allocate provider resources.

**Results:** Landmark reports that patients it manages are hospitalized at a rate that is 40 percent to 60 percent lower than the period prior to enrollment (adjusted to account for regression to the mean). An internal study of more than 1,000 patients found Landmark’s program was associated with a 15 percent lower mortality rate over two years compared with a matched cohort of patients. Its Net Promoter Score, a widely used metric used to evaluate whether a respondent would recommend a product or service to other qualified individuals, was 94 out of 100.

For more information, contact Adam Boehler, CEO, aboeehler@landmarkhealth.org.
MEDSTAR HEALTH TOTAL ELDER CARE–MEDICAL HOUSE CALL PROGRAM
medstatotaleldercare.org

Founded: 1999

Organization type: Nonprofit health system.


Populations served: Frail elders (80% African American) who have difficulty getting to a doctor’s office. Nearly 60 percent suffer from dementia and most have multiple severe chronic illnesses and disability. About 44 percent are eligible for both Medicare and Medicaid. All are 65 or older; the median age is 85.

Number of patients: Average monthly census of 620 patients; about 8,500 home visits annually.

Payment model: Fee-for-service reimbursement supplemented by shared savings from the Independence at Home Demonstration, capitation payments through a Medicaid waiver, and philanthropic support.

Payer mix: Medicare is the primary payer for 95 percent of patients, with Medicaid as a secondary payer for dual eligibles. Medicare Advantage plans cover care of some patients in the Baltimore market.

Delivery model: House calls are made every week to eight weeks, depending on severity of illness. Same-day or next-day urgent visits made for acutely ill patients. In-home diagnostic tests and treatments, medications, and equipment are delivered to patients and palliative care services are provided by the house-call team.

Staff: Interdisciplinary team of geriatricians, nurse practitioners, licensed practical nurses, and social workers share responsibility for creation and execution of the care plan. Pharmacists and physical therapists as well as psychiatrists and other specialist physicians serve as consultants.

After-hours care: The team offers 24/7 telephone access to an on-call physician with access to the mobile electronic health record. Nurses make house calls on Saturdays to unstable patients.

Training: To supplement prior training or experience serving elders, new staff receive four weeks of training on clinical and practice management skills that are specific to home-based primary care.

Care transitions: Physicians directly oversee care of hospitalized patients to ensure continuity and safety. Patients are seen within 48 hours of hospital discharge.

Use of health IT: Team members use a mobile electronic health record to coordinate care. The program relies a regional health information exchange to track patients admitted to other emergency departments, hospitals, and skilled nursing facilities in the region.

Results: Participates in the Independence at Home Demonstration (about 265 patients enrolled in the fifth year) and earned approximately $1.6 million in shared savings in the first two years of the program. MedStar and its consortium partners reduced total Medicare spending by 20 percent in the first year and 12 percent in the second year. A prior study found that the program reduced total Medicare spending by 17 percent over two years without increasing mortality rates.*

For more information, contact K. Eric De Jonge, M.D., executive director, karl.e.dejonge@medstar.net.

TRUMAN G. SCHNABEL IN-HOME PRIMARY CARE PROGRAM AT PENN MEDICINE
pennmedicine.org/for-patients-and-visitors/find-a-program-or-service/geriatric-medicine/house-calls-program

Founded: 1994

Organization type: Academic medical center.

Location: Headquartered in Philadelphia; serves patients in most of the city.

Populations served: Frail, mostly African American women who are either homebound or have difficulty leaving their home. About half are dually eligible for Medicare and Medicaid. All are over age 60 and most are much older.

Number of patients: Average monthly census of 210 patients; about 1,500 home visits annually.

Payment model: Fee-for-service reimbursement supplemented by shared savings from the Independence at Home Demonstration.

Payer mix: Medicare is the primary payer for about 60 percent of patients while Medicare Advantage plans are the primary payer for the remainder. (Medicaid is a secondary payer for dually eligible members of Medicare Advantage plans.)

Delivery model: Home visits every four to six weeks, with same-day or next-day visits for acutely ill patients. Palliative care services also are provided. Roughly 30 percent of patients are served through the Elder Partnership for All-Inclusive Care (Elder PAC), a partnership that enables the home-based primary care team, a nurse from Penn Medicine’s home health agency, and social worker case managers from the local Area Agency on Aging (AAA) to address patients’ needs holistically. The AAA arranges services such as home health aides, day care, housing modifications, transportation, and Meals on Wheels.

Staff: Nurse practitioners and physicians work as a team, with support from a staff social worker who also makes home visits. Mobile diagnostics, laboratory, podiatry, respiratory therapy, optometry, behavioral health, and pharmacy services are delivered by community providers.

After-hours care: On-call providers make house calls over the weekend if necessary.

Training: New staff accompany others on visits.

Care transitions: Patients are encouraged to be hospitalized, when necessary, at Penn Medicine’s Acute Care for Elders Unit, a specially designed unit for older adults. This allows better communication among home-care and hospital providers. Patients discharged from the hospital or emergency department are seen within 48 to 96 hours, as required.

Use of health IT: Nurse practitioners, physicians, and the social worker use Penn Medicine’s cloud-based electronic health record. Nurses at the Penn Medicine Home Health Agency have read-only access to patients’ visit notes, and soon will have access to the EHR.

Results: Participates in the Independence at Home Demonstration (about 160 enrolled patients over four years) as part of the Mid-Atlantic Consortium (MAC) and earned approximately $300,000 as its share of the savings in year 1 and $150,000 in year 2 (representing 16.9 percent of the shared savings earned by the MAC). A study that compared hospitalization and readmission rates found the consortium reduced hospitalization rates by 29 percent, readmissions within 30 days by 20 percent, and ambulatory care–sensitive hospitalizations by 44 percent. Studies of Elder PAC found it reduced Medicare costs by 50 percent and reduced nursing home use fourfold.

For more information, contact Jean Yudin, M.S.N., R.N., C.S., director and nurse practitioner, yudin@mail.med.upenn.edu.
VISITING PHYSICIANS ASSOCIATION

visitingphysicians.com

Founded: 1993

Organization type: For-profit medical group.

Location: Headquartered in Troy, Michigan; serves patients through 43 practice locations in Florida, Illinois, Indiana, Kansas, Kentucky, Michigan, Missouri, Ohio, Texas, Virginia, Washington, and Wisconsin.

Populations served: Homebound and home-limited individuals with multiple chronic conditions and/or disabilities. Average age is 73. Forty-two percent of patients are eligible for both Medicare and Medicaid.

Number of patients: Average daily census of 37,000, with 360,000 house calls performed in 2016.

Payment model: More than 90 percent of patient census enrolled in governmental and commercial shared-savings arrangements including the Independence at Home Demonstration.

Payer mix: Medicare accounts for 85 percent of revenue; commercial payers make up 13 percent; and Medicaid accounts for the remaining 2 percent of revenues.

Delivery model: Providers deliver primary care, including lab testing, X-rays, medication management, and care coordination, in patients’ homes (71%) and in assisted living facilities (29%). Affiliates of Visiting Physicians Association’s management services organization, U.S. Medical Management (USMM), provide home health and hospice services as well as durable medical equipment—arrangements that help Visiting Physicians Association providers coordinate care for their patients.

Staff: Physicians (80%) and nurse practitioners (20%) travel with medical assistants to make home visits. Visits are typically scheduled every four to six weeks, based on medical necessity. Providers are supported by practice-based care coordinators, as well as nurses, care managers, and social workers at USMM’s headquarters.

Training: Providers receive two weeks of training at corporate headquarters and spend several months acclimating to field operations with the assistance of coaches at the practice sites.

After-hours care: Visiting Physicians Association providers take turns providing after-hours coverage and will typically schedule next-day visits for urgent needs. A care center at USMM’s headquarters provides backup and 24/7 access to care managers and physicians for additional support.

Care transitions: Providers communicate with staff at area hospitals to track patients during hospitalizations and arrange discharge plans. Health information exchanges in three states alert providers of hospitalizations and emergency department use.

Use of health IT: Providers use a cloud-based electronic health record system that incorporates screenings for behavioral health conditions and social needs. Providers also use a proprietary tool that provides clinical reminders at the point of care. USMM also maintains a data warehouse that aggregates clinical, claims, and performance data.

Results: Five Visiting Physicians Association practices that participate in the Independence at Home Demonstration earned a $8.9 million share of the $28 million in savings achieved for an average of 3,188 enrolled patients in the first two years. Providers also participated in the Michigan Pioneer Accountable Care Organization (ACO) for three years (2012–14), achieving annual savings of $3.0 to $3.6 million. In 2015, USMM and Visiting Physicians Association joined the Medicare Shared Savings Program as the only ACO dedicated exclusively to serving home-limited patients. With 16,400 attributed beneficiaries in its first year of operation, the USMM Partners ACO generated $15.1 million in savings, of which it received roughly half.

For more information, contact Robert Sowislo, government affairs officer for USMM, rsowislo@usmmllc.com.