THE JOURNAL OF FAMILY PRACTICE

Home visits: A practical approach

This service, which significantly improves outcomes for many patients, is beneficial in this time of COVID-19.

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The authors reported no potential conflict of interest relevant to this article.

doi: 10.12788/jfp.0113

PRACTICE RECOMMENDATIONS

› *Consider incorporating home visits into the primary care of select vulnerable patients because doing so improves clinical outcomes, including mortality rates in neonates and elders.* (A)

› *Employ team-based home care and include community health workers, nurses, pharmacists, social workers, chaplains, and others.* (B)

Strength of recommendation (SOR)

(A) Good-quality patient-oriented evidence

(B) Inconsistent or limited-quality patient-oriented evidence

(C) Consensus, usual practice, opinion, disease-oriented evidence, case series

CASE ▶

Mr. A is a 30-year-old man with neurofibromatosis and myelopathy with associated quadriplegia, complicated by dysphasia and chronic hypercapnic respiratory failure requiring a tracheostomy. He is cared for at home by his very competent mother but requires regular visits with his medical providers for assistance with his complex care needs. Due to logistical challenges, he had been receiving regular home visits even before the COVID-19 pandemic.

After estimating the risk of exposure to the patient, Mr. A's family and his physician's office staff scheduled a home visit. Before the appointment, the doctor conducted a virtual visit with the patient and family members to screen for COVID-19 infection, which proved negative. The doctor arranged a visit to coincide with Mr. A's regular appointment with the home health nurse. He invited the patient's social worker to attend, as well.

The providers donned masks, face shields, and gloves before entering the home. Mr. A's temperature was checked and was normal. The team completed a physical exam, assessed the patient's current needs, and refilled prescriptions. The doctor, nurse, and social worker met afterward in the family's driveway to coordinate plans for the patient's future care.

This encounter allowed a vulnerable patient with special needs to have access to care while reducing his risk of undesirable exposure. Also, his health care team's provision of care in the home setting reduced Mr. A's anxiety and that of his family members.

Home visits have long been an integral part of what it means to be a family physician. In 1930, roughly 40% of all patient-physician encounters in the United States occurred in patients' homes. By 1980, this number had dropped to < 1%.[1] Still, a 1994 survey of American doctors in 3 primary care specialties revealed that 63% of family physicians, more than the other 2 specialties, still made house calls.[2] A 2016 analysis of Medicare claims data showed that between 2006 and 2011, only 5% of American doctors overall made

house calls on Medicare recipients, but interestingly, the total number of home visits was increasing.[3]

This resurgence of interest in home health care is due in part to the increasing number of homebound patients in America, which exceeds the number of those in nursing homes.[4] Further, a growing body of evidence indicates that home visits improve patient outcomes. And finally, many family physicians whose work lives have been centered around a busy office or hospital practice have found satisfaction in once again seeing patients in their own homes.

The COVID-19 pandemic has of course presented unique challenges—and opportunities, too—for home visits, which we discuss at the end of the article.

In the elderly, home visits have reduced functional decline, nursing home admissions, and mortality by 25% to 33%.

Why aren't more of us making home visits?

For most of us, the decision not to make home visits is simply a matter of time and money. Although Medicare reimbursement for a home visit is typically about 150% that of a comparable office visit,[5] it's difficult, if not impossible, to make 2 home visits in the time you could see 3 patients in the office. So, economically it's a net loss. Furthermore, we tend to feel less comfortable in our patients' homes than in our offices. We have less control outside our own environment, and what happens away from our office is often less predictable—sometimes to the point that we may be concerned for our safety.

So why make home visits at all?

First and foremost, home visits improve patient outcomes. This is most evident in our more vulnerable patients: newborns and the elderly, those who have been recently hospitalized, and those at risk because of their particular home situation. Multiple studies have shown that, for elders, home visits reduce functional decline, nursing home admissions, and mortality by around 25% to 33%.[6-8] For those at risk of abuse, a recent systematic review showed that home visits reduce intimate partner violence and child abuse.[9] Another systematic review demonstrated that patients with diabetes who received home visits vs usual care were more likely to show improvements in quality of life.[10] These patients were also more likely to have lower HbA1c levels and lower systolic blood pressure readings.[10] A few caveats apply to these studies:

- all of them targeted "vulnerable" patients
- most studies enlisted interdisciplinary teams and had regular team meetings
- most findings reached significance only after multiple home visits.

A further reason for choosing to become involved in home care is that it builds relationships, understanding, and empathy with our patients. "There is deep symbolism in the home visit.... It says, 'I care enough about you to leave my power base ... to come and see you on your own ground.'"[11] And this benefit is 2-way; we also grow to understand and appreciate our patients better, especially if they are different from us culturally or socioeconomically.

Home visits allow the medical team to see challenges the patient has grown accustomed to, and perhaps ones that the patient has deemed too insignificant to mention. For the patient, home visits foster a strong sense of trust with the individual doctor and our health delivery network, and they decrease the need to seek emergency services. Finally, it has been demonstrated that provider satisfaction improves when home visits are incorporated into the work week.[12]

What is the role of community health workers in home-based care?

Community health workers (CHWs), defined as "frontline public health workers who are trusted members of and/or have an unusually close understanding of the community they serve,"[13] can be an integral part of the home-based care team. Although CHWs have variable amounts of formal training, they have a unique perspective on local health beliefs and practices, which can assist the home-care team in providing culturally competent health care services and reduce health care costs.

In a study of children with asthma in Seattle, Washington, patients were random-

ized to a group that had 4 home visits by CHWs and a group that received usual care. The group that received home visits demonstrated more asthma symptom–free days, improved quality-of-life scores, and fewer urgent care visits.[14] Furthermore, the intervention was estimated to save approximately $1300 per patient, resulting in a return on investment of 190%. Similarly, in a study comparing inappropriate emergency department (ED) visits between children who received CHW visits and those who did not, patients in the intervention group were significantly less likely to visit the ED for ambulatory complaints (18.2% vs 35.1%; $P = .004$).[15]

What is the role of social workers in home-based care?

Social workers can help meet the complex medical and biopsychosocial needs of the homebound population.[16] A study by Cohen et al based in Israel concluded that homebound participants had a significantly higher risk for mortality, higher rates of depression, and difficulty completing instrumental activities of daily living when compared with their non-homebound counterparts.[17]

The Mount Sinai (New York) Visiting Doctors Program (MSVD) is a home-based care team that uses social workers to meet the needs of their complex patients.[18] The social workers in the MSVD program provide direct counseling, make referrals to government and community resources, and monitor caregiver burden. Using a combination of measurement tools to assess caregiver burden, Ornstein et al demonstrated that the MSVD program led to a decrease in unmet needs and in caregiver burden.[19,20] Caregiver burnout can be assessed using the Caregiver Burden Inventory, a validated 24-item questionnaire.[21]

What electronic tools are available to monitor patients at home?

Although expensive in terms of both dollars and personnel time, telemonitoring allows home care providers to receive real-time, updated information regarding their patients.

Chronic obstructive pulmonary disease (COPD). One systematic review showed that although telemonitoring of patients with COPD improved quality of life and decreased COPD exacerbations, it did not reduce the risk of hospitalization and, therefore, did not reduce health care costs.[22] Telemonitoring in COPD can include transmission of data about spirometry parameters, weight, temperature, blood pressure, sputum color, and 6-minute walk distance.[23,24]

Congestive heart failure (CHF). A 2010 Cochrane review found that telemonitoring of patients with CHF reduced all-cause mortality (risk ratio [RR] = 0.66; $P < .0001$).[25] The Telemedical Interventional Management in Heart Failure II (TIM-HF2) trial, conducted from 2013 to 2017, compared usual care for CHF patients with care incorporating daily transmission of body weight, blood pressure, heart rate, electrocardiogram tracings, pulse oximetry, and self-rated health status.[26] This study showed that the average number of days lost per year due to hospital admission was less in the telemonitoring group than in the usual care group (17.8 days vs. 24.2 days; $P = .046$). All-cause mortality was also reduced in the telemonitoring group (hazard ratio = 0.70; $P = .028$).

What role do "home hospitals" play?

Home hospitals provide acute or subacute treatment in a patient's home for a condition that would normally require hospitalization.[27] In a meta-analysis of 61 studies evaluating the effectiveness of home hospitals, this option was more likely to reduce mortality (odds ratio [OR] = 0.81; $P = .008$) and to reduce readmission rates (OR = 0.75; $P = .02$).[28] In a study of 455 older adults, Leff et al found that hospital-at-home was associated with a shorter length of stay (3.2 vs. 4.9 days; $P = .004$) and that the mean cost was lower for hospital-at-home vs traditional hospital care.[29]

However, a 2016 Cochrane review of 16 randomized controlled trials comparing hospital-at-home with traditional hospital care showed that while care in a hospital-at-home may decrease formal costs, if costs for caregivers are taken into account, any difference in cost may disappear.[30]

Although the evidence for cost saving is variable, hospital-at-home admission has

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Patients with diabetes receiving home care are more likely to have improved quality of life, lower HbA1c levels, and lower systolic BP readings.

been shown to reduce the likelihood of living in a residential care facility at 6 months (RR = 0.35; $P < .0001$).[30] Further, the same Cochrane review showed that admission avoidance may increase patient satisfaction with the care provided.[30]

Finally, a recent randomized trial in a Boston-area hospital system showed that patients cared for in hospital-at-home were significantly less likely to be readmitted within 30 days and that adjusted cost was about two-thirds the cost of traditional hospital care.[31]

What is the physician's role in home health care?

While home health care is a team effort, the physician has several crucial roles. First, he or she must make the determination that home care is appropriate and feasible for a particular patient. Appropriate, meaning there is evidence that this patient is likely to benefit from home care. Feasible, meaning there are resources available in the community and family to safely care for the patient at home. "Often a house call will serve as the first step in developing a home-based-management plan."[32]

Second, the physician serves an important role in directing and coordinating the team of professionals involved. This primarily means helping the team to communicate with one another. Before home visits begin, the physician's office should reach out not only to the patient and family, but also to any other health care personnel involved in the patient's home care. Otherwise, many of the health care providers involved will never have face-to-face interaction with the physician. Creation of the coordinated health team minimizes duplication and miscommunication; it also builds a valuable bond.

How does one go about making a home visit?

Scheduling. What often works best in a busy practice is to schedule home visits for the end of the workday or to devote an entire afternoon to making home visits to several patients in one locale. Also important is scheduling times, if possible, when important family members or other caregivers are at home or when other members of the home care team can accompany you.

What to bring along. Carry a "home visit bag" that includes equipment you're likely to need and that is not available away from your office. A minimally equipped visit bag would include different-sized blood pressure cuffs, a glucometer, a pulse oximeter, thermometers, and patient education materials. Other suggested contents are listed in TABLE 1. Due to the COVID-19 pandemic, providers should also carry adequate personal protective equipment (PPE), including an N-95 mask.

Dos and don'ts. Take a few minutes when you first arrive to simply visit with the patient. Sit down and introduce yourself and any members of the home care team that the patient has not met. Take an interim history. While you're doing this, be observant: Is the home neat or cluttered? Is the indoor temperature comfortable? Are there fall hazards? Is there a smell of cigarette smoke? Are there any indoor combustion sources (eg, wood stove or kerosene heater)? Ask questions such as: Who lives here with you? Can you show me where you keep your medicines? (If the patient keeps insulin or any other medicines in the refrigerator, ask to see it. Note any apparent food scarcity.)

During your exam, pay particular attention to whether vital signs are appreciably different than those measured in the office or hospital. Pay special attention to the patient's functional abilities. "A subtle, but critical distinction between medical management in the home and medical management in the hospital, clinic, or office is the emphasis on the patient's functional abilities, family assistance, and environmental factors."[33]

Observe the patient's use of any home technology, if possible; this can be as simple as home oxygenation or as complex as home hemodialysis. Assess for any apparent caregiver stress. Finally, don't neglect to offer appropriate emotional and spiritual support to the patient and family and to schedule the next follow-up visit before you leave.

Documentation and reimbursement. While individual electronic medical records may require use of particular forms of documentation, using a home visit template when

possible can be extremely helpful (**TABLE 2**). A template not only assures thoroughness and consistency (pharmacy, home health contacts, billing information) but also serves as a prompt to survey the patient and the caregivers about nonmedical, but essential, social and well-being services. The document should be as simple and user-friendly as possible.

Not all assessments will be able to be done at each visit but seeing them listed in the template can be helpful. Billing follows the same principles as for office visits and has similar requirements for documentation. Codes for the most common types of home visits are listed in **TABLE 3**.

Where can I get help?

Graduates of family medicine residency programs are required to receive training in home visits by the Accreditation Council for Graduate Medical Education (ACGME). Current ACGME program requirements stipulate that "residents must demonstrate competence to independently diagnose, manage, and integrate the care of patients of all ages in various outpatient settings, including the FMP [family medicine practice] site *and home environment*," and "residents must be primarily responsible for a panel of continuity patients, integrating each patient's care across all settings, *including the home* ..." [emphasis added].[34]

For those already in practice, one of the hardest parts of doing home visits is feeling alone, especially if few other providers in your community engage in home care. As you run into questions and challenges with incorporating home care of patients into your practice, one excellent resource is the American Academy of Home Care Medicine (www.aahcm.org/). Founded in 1988 and headquartered in Chicago, it not only provides numerous helpful resources, but serves as a networking tool for physicians involved in home care.

This unprecedented pandemic has allowed home visits to shine

As depicted in our opening patient case, patients who have high-risk conditions and

TABLE 1
Home-visit bag contents

Essentials
• Laptop, tablet, and/or smartphone with access to the patient's electronic medical record or printed copy of the patient's demographic information and record of latest visit
• Prescription pad if any scripts will be handwritten
• Business card or printed practice contact information
• Portable scales (adult/infant)
• Tape measure
• Thermometer
• Blood pressure cuffs (adult/child/infant)
• Stethoscope
• Pulse oximeter
• Alcohol wipes
• Glucometer and test strips
• Small centimeter ruler (for measuring skin lesions)
• Tongue depressors
• Penlight or headlamp
• Personal protective equipment, including an N-95 mask if available
Extras
• Baby wipes
• Urine specimen cups/infant urine collection bag
• Permanent marking pen
• Tourniquet
• Venipuncture needles and vacutainers
• Sharps disposal box
• Gauze, tape, and adhesive bandages
• Lubricant jelly
• Hemoccult collection cards
• Medical scissors
• Chlorhexidine or betadine swabs
• Culturette collection tubes
• Portable ultrasound
• HIPAA-compliant camera & software
• Patient consent forms
• Patient handouts for common conditions
• Handicapped parking forms
• List of local community resources

HIPAA, Health Insurance Portability and Accountability Act.

Using a home visit template can help with documentation and reimbursement.

TABLE 2

Suggested items to include in a home-visit template

Patient demographic information
Date of home visit
Individuals present during home visit
History of the present illness
Pertinent review of systems
Pertinent medical history
Active problem list
Current medications
Allergies
Social history • primary caregivers at home • assessment of caregiver stress • current community resources assisting this patient (include contact numbers)
Physical exam
Other evaluations to include as indicated • Nutrition assessment • Fall risk assessment • Home safety assessment • PHQ-9 depression screening • Mini-Mental State Exam • Activities of daily living assessment: - bathing and grooming - dressing - toileting and continence - transferring - self-feeding • Instrumental activities of daily living assessment: - cleaning and maintaining the house - managing money - preparing meals - doing laundry - shopping - taking medicines as directed - using the phone - driving or managing transportation outside the home
Assessment/plan • New recommendations • Medication refills needed? • Durable medical equipment needed? • Health maintenance/screenings due?

PHQ, patient health questionnaire.

TABLE 3

CPT coding for home visits

To determine the associated reimbursements, go to www.cms.gov/apps/physician-fee-schedule/license-agreement.aspx, click "accept" at the bottom of the screen, and enter any of the CPT codes listed here.

New patient

Code	Level of care
99341	Problem-focused
99342	Expanded problem-focused
99343	Detailed
99344	Comprehensive

Established patient

Code	Level of care
99347	Problem-focused
99348	Expanded problem-focused
99349	Detailed
99350	Comprehensive

CPT, current procedural terminology

those who are older than 65 years of age may be cared for more appropriately in a home visit rather than having them come to the office. Home visits may also be a way for providers to "lay eyes" on patients who do not have technology available to participate in virtual visits.

Before performing a home visit, inquire as to whether the patient has symptoms of COVID-19. Adequate PPE should be donned at all times and social distancing should be practiced when appropriate. With adequate PPE, home visits may also allow providers to care for low-risk patients known to have COVID-19 and thereby minimize risks to staff and other patients in the office. **JFP**

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