Back to Basics: Lessons From Housecalls That May Help To Save American Medicine

The Doctor, by Sir Luke Fildes (1887, The Tate, London, England)

Amit Shah, MD

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This is to acknowledge that Amit Shah M.D. has not disclosed any financial interests or other relationships with commercial concerns related directly or indirectly to this program Dr. Shah will not be discussing off-label uses in his presentation.

Biographical Data

Amit Shah, M.D.
Assistant Professor
Director, UT Southwestern Mildred Wyatt and Ivor P. Wold Housecalls Program
Clerkship Director, Internal Medicine Specialty and Ambulatory Clerkships
Section of Geriatrics, Division of General Internal Medicine
Department of Internal Medicine
Amit.Shah@UTSouthwestern.edu

Interests:

Medical Education, with focus on medical student education

Housecalls

Geriatric Assessment

Palliative Care

Geriatric Syndromes

Objectives:

By the end of this presentation participants will:

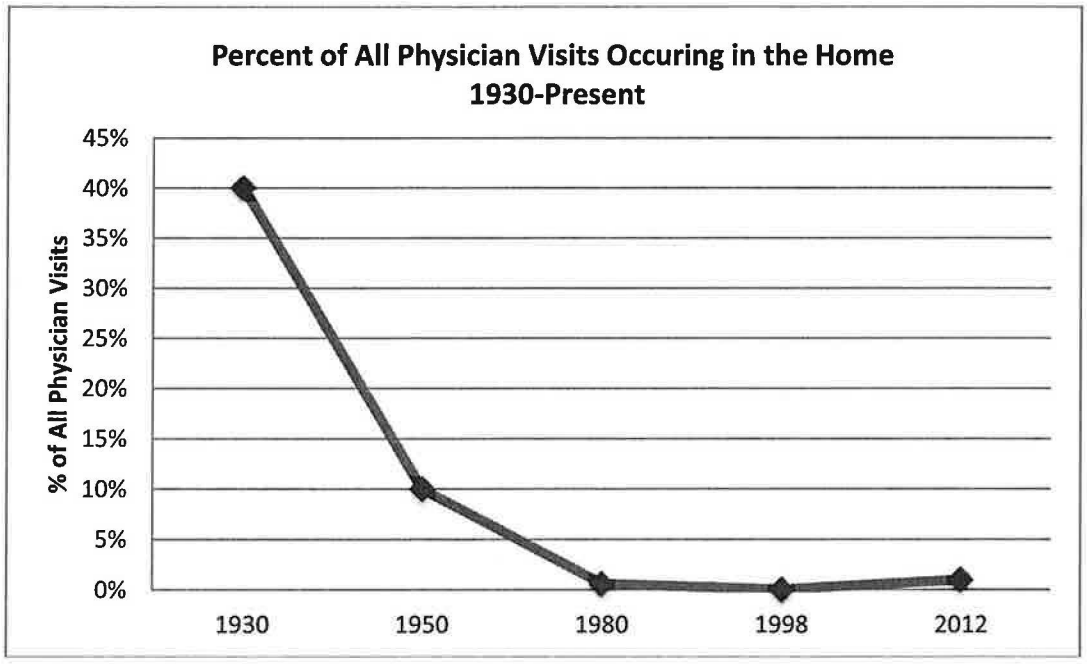
1: Rate as important the ability of all internal medicine physicians to know how to do a physician home visit by the completion of their residency training and understand the basics of doing a housecall.

2: Describe the characteristics of the highest cost patients to the Medicare system and illustrate how the costs of these patients may be amenable to care coordination by a home visiting physician.

3: List three physician home visit models of care that have been shown to reduce costs in frail geriatric patients (home hospital, VA Home Based Primary Care (HBPC), and physician home visits) and describe the new *Independence at Home* Medicare demonstration project.

Housecalls: A Historical Perspective

As depicted in 1887 in Sir Luke Fildes' painting *The Doctor,* the image of the physician has classically been one of doctor visiting the sick patient in home with "black bag" in hand. In the 1930's, about 40% of all physician encounters in the United States was in the home. In many countries, this high prevalence of housecalls is still the norm. However, in the United States housecalls almost disappeared, declining to 10% by 1950 and to 0.6% all physician visits by 1980. Due to poor reimbursement, through the 1980s and 1990s, physician house calls billed to Medicare further declined by 31%. In 1993, Medicare paid more per visit for skilled nursing, physical therapy, speech therapy, or occupational therapy home visits than it did for a physician home visits. These services, under the umbrella term of "home health" or "home care" were the fastest growing part of Medicare costs through the 1990's and did not include physician home visits, and the physician home visit was in danger of extinction. (1)



In 1998, Medicare set-up new billing codes for home visits and assisted living/group home visits, and increased reimbursement by over 50%. This has resulted in a large increase in housecalls over the past 15 years, but housecalls still remain less than 1% of all outpatient evaluation and management services billed to Medicare. Today, the reimbursement for a housecall visit is such that physicians can feasibly do housecalls as a full-time practice and make incomes similar to that of a general internist or family physician, if they keep overhead expenses very low.

In spite of this recent resurgence, the homebound patient is still lacking of access to physician care. There are approximately 2 million patients who are homebound and only about 2.5 million annual housecalls in the United States (~1 per patient per year) (2). A similarly dependent patient who resides in a nursing home would get on average about 8-9 visits from a physician per year. The costs of this poor access to care for the homebound patient are substantial. Without access to medical care in the home, patients often must be transported via ambulance to emergency room and hospitals for care. There is increasing evidence, which I will discuss below, that physician housecalls save substantial

amounts of money to the health care system. Other industrialized countries with more efficient and lower-cost health care systems have many more home visits performed by their physicians. For example, per capita, physicians in England make 10 times the number of house calls overall and 100 times as many housecalls to patients over the age of 85 years (1,3).

Myths about Housecalls:

Because a clinical housecalls experience is not a required part of most residency or medical school curricula, many myths exist about who can do a housecall and how one goes about doing a housecall. Any physician may do a housecall and home visits do not require special licensure or certification. Some physicians think that they are not allowed to do housecalls due to the mistaken belief that their malpractice insurance will not cover patient care outside of their office or hospital. Most insurance will cover you as your "place of practice" is the home setting and you are going in your professional role. Full-time home visit physicians enjoy some of the lowest malpractice rates due to the rarity of lawsuits. Some physicians cite as a barrier concerns about personal safety, but decades of experience of many long-standing housecalls programs that serve high-crime neighborhoods show that a common sense approach to personal safety is all that is required and incidences compromising provider safety are extremely rare.

Who Can Get a Housecall?

Medicare and most other insurers will not pay for housecalls for convenience. There are some housecalls programs that will see patients on a cash-only basis, for example programs which will see executives at their offices or travelers at their hotels. However, this is a very small portion of housecalls. The requirement to see a patient at home rather than in the office simply requires the documentation of why that person was seen in the home rather in the clinic. The most common reason is that a patient is "homebound." The Medicare definition of homebound includes the following (3):

- Do **not** have to be bedridden
- Inability to leave the home or requires considerable and taxing effort to leave
- Could have a medical or psychiatric condition prohibiting them from leaving home (e.g, agoraphobia)
- Patients can leave the home for infrequent/short durations for:
    - Religious services
    - Hair dresser/barber
    - Occasional outings (walk around the block, attend a family event)
- Some frequent trips are okay and do not disqualify homebound status:
    - Health care treatments (including dialysis, chemotherapy, and radiation treatments)
    - Adult Day center care

Why do a housecall?

There are many reasons that a physician may do a housecall. For physicians who only do occasional housecalls, it is often to see a long-standing patient who has become homebound or is at the end-of-life. Such visits can be rewarding and fulfilling for patient and physician alike. They can ease the feelings of abandonment both physician and patient alike may feel when the patient becomes homebound in the last stages of a patient's disease. In one study, family physicians who conduct home visits reported a higher level of practice satisfaction than those who do not offer this service (5). Housecalls can reveal information about a patient's home environment and support system that is not easily available in the clinic or hospital setting. For example, a physician could counsel a patient with

congestive heart failure who is supposed to be on salt restricted diet with the food in the patient's kitchen or note the stacks of empty liquor bottles and pick up on unreported alcohol abuse. The physician can also easily speak with caregivers who are in the home and screen for caregiver burnout. Home safety assessments can be done and true medication reconcillation can be done, often uncovering numerous over-the-counter and unreported or expired medications. One study found that home visits resulted in the detection of an average of about two new medical problems and four new intervention recommendations per patient which had not been revealed in the outpatient clinic setting (6). The following figure summarizes the common reasons a provider may consider a home visit (7):

Reasons for a Housecall Visit

1) One-time or intermittent visits for assessments of:
    - Polypharmacy
    - Recurrent admissions
    - Social isolation
    - Suspected abuse, neglect or self-neglect
    - Need for family meeting
    - Frailty
2) Illness management for homebound patients
    - Emergency/acute situations
    - Management of chronic conditions
3) Dying patients
    - Palliative and end-of-life care
    - Death pronouncement
    - Bereavement visit / family support
4) Post-Hospitalization follow-up
    - Tremendous increased interest in this area due to worries about coming non-payment for readmissions
5) Concierge services (not covered by insurers)
    - Patient convenience

How do I do a Housecall? What should I take with me?

The housecall typically does not require much specialized equipment. The figure on the next page lists suggested equipment for the doctor's "black bag." With the increasing portability and miniaturization of technology, high-tech equipment now can be brought out to the patient's home. Today, a housecalls provider can take and instantly read a portable digital x-ray in the patient's living room, do an EKG, obtain a bedside echocardiogram or ultrasound and even do labs such as a basic metabolic profile, PT/INR, hemoglobin/hematocrit, arterial blood gases, cardiac enzymes, and brain natriuretic peptide (BNP) with portable handheld CLIA-waived machines (e.g., the i-STAT machine pictured to the right).

The Physician's "Black Bag"
Low Tech Items

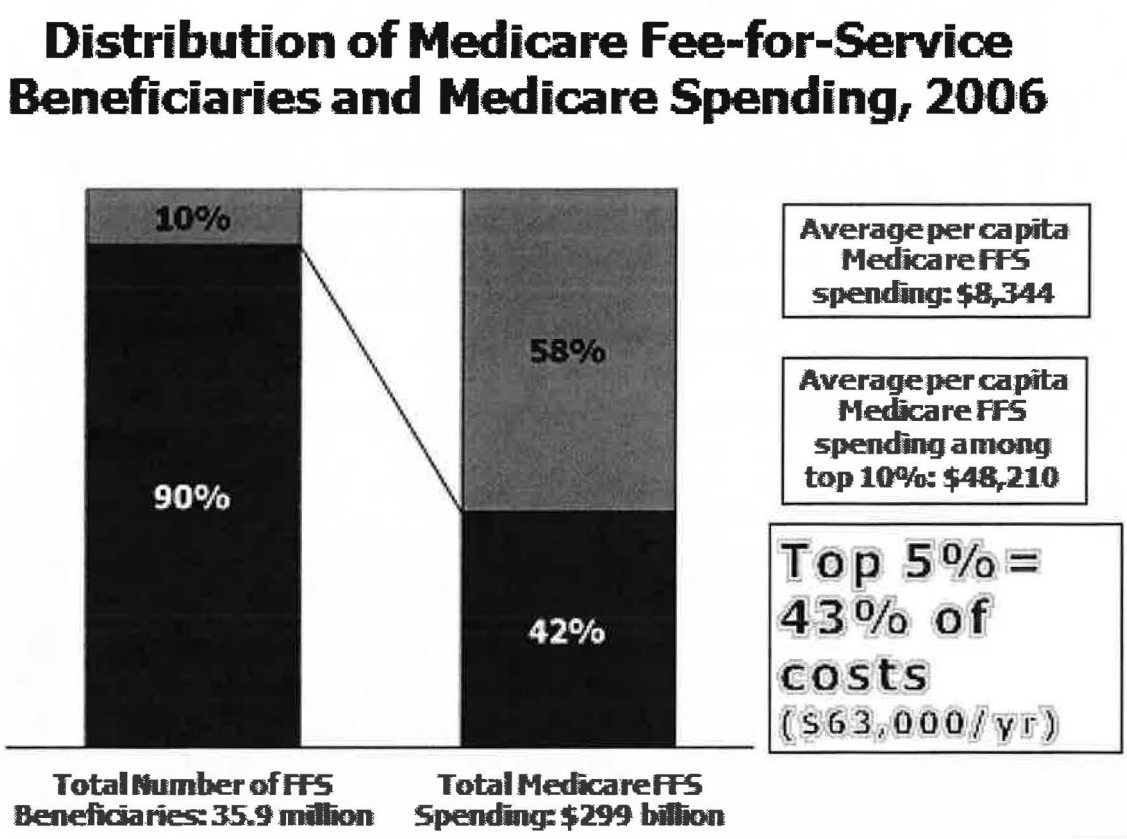
Stethoscope
Blood pressure cuff
Gloves
Oto/Ophthalmoscope
Penlight
Thermometer
Portable weight scale
Tape measure
Hammer/tuning fork
Bandage/scissors
Scalpel and Suture
Sterile gauze and tape
Hemoccult cards
Toenail clippers

Physician's "Black Bag"
Higher-Tech Items:

Electronic Medical Record/Laptop
Digital Camera
Webcam for live consults with specialists
Pulse Oximeter
Glucometer
Portable EKG machine
Portable lab testing(e.g. i-STAT machine)
Portable-digital x-rays machine
Hand-held Ultrasound/ Doppler machine
Echocardiogram Machine

Why does our healthcare system need us to do more housecalls? Who are the most expensive patients?

In every healthcare system, a small portion of patients will consume a large portion of the healthcare resources. According to the Kaiser Family Foundation analysis of the CMS Medicare Current Beneficiary Survey Cost and Use File, 58% of all costs in Medicare are attributable to 10% of patients and 43% of all costs are attributable to just 5% of patients as illustrated in the figure below (8):



Who are these most costly patients?

The Congressional Budget Office has evaluated the characteristics of the highest cost Medicare beneficiaries (9). Here is a summary of their findings of the characteristics of the top 25% most costly Medicare beneficiaries compared to the other 75% of beneficiaries:

- **Older:** Average age is 74 and twice as many are over age 85 (20% vs 10%)

- **More chronically ill**:
  - 78% with 1 chronic illness and 48% with ≥2 chronic illnesses
  - 2 times as many with 1 chronic illness and 4 times as many with ≥2 chronic illness
  - Increased rates of the following chronic diseases:
    - ESRD/CKD: 9 times as many
    - CHF: 6 times as many
    - Dementia: 3.5 times as many
    - COPD: 3 times as many
    - Asthma: 2 times as many
    - Diabetes: 2 times as many

- **Very expensive at the end of life:** 7 times higher mortality rate

As one can see, the homebound patient with multiple chronic illnesses and the high-cost Medicare patient are often times one in the same. Is there any evidence that a housecalls program can reduce the costs of these patients? Although there are no RCTs yet, a growing body of literature suggests the answer is to this question is "Yes." A retrospective study of 179 patients who enrolled in a housecalls program showed a reduction in hospitalizations from 61% to 38% and skilled nursing facility use from 38% to 18% in just an average of 7 months in the housecalls program (10). A study of nurse practitioner post-hospitalization home visits showed reduction in rehospitalizations and overall reduction in Medicare costs per patient of $3,031 per patient at 6 months post-discharge (11). The strongest evidence of the cost savings from housecalls comes from the VA's Home Based Primary Care program (12). A national study of all patients getting VA HBPC showed that hospitalization costs were reduced by 63% ($18,868 to $7,026) and nursing home expenses reduced by 87% (from $10,382 to $1,382) per person. Even after accounting for the high costs of in-home, interdisciplinary care ($13,588 per person), the overall costs per Veteran were reduced by 24% (or $9,132 per veteran). For this reason, the VA HBPC program has been given more resources and expanded nationally. There are several other large housecalls programs that have reported their cost-savings for housecalls patients which are summarized in the table on the following page (13):

Features and Cost-Savings of Housecalls Programs

Federal Programs:

The **Veterans' Administration's Home-Based Primary Care (HBPC)** program, which has been operating since 1972, exists in over 250 locations in 48 states. It treats 25,000 chronically ill patients daily and soon will be available at every VA facility. The program has reduced in-patient days by 62 percent and reduced overall costs by 24 percent.

Academic Affiliated Programs:

The **Virginia Commonwealth Medical Center** house calls program in Richmond, VA has been operating for 23 years and has reduced hospital costs by 60% for high costs beneficiaries with multiple chronic diseases.

The **House Call program at Montefiore Health System** in the Bronx, NY has been operating for 5 years treating high cost elders with multiple chronic diseases. The program currently has an enrollment of 400 patients and has shown a 42% reduction in hospitalizations, with a 33% reduction in total costs.

The **Mount Sinai Visiting Doctors** program in New York City, NY has been operating for 14 years treating elders with multiple chronic diseases, has an annual census of 1,100 beneficiaries and has reduced hospitalizations for those patients by 66%.

The **House Call program at the Washington Hospital Center**, in Washington, DC has been operating for 10 years and has an active census of 600 patients with 3 or more chronic diseases. The program has produced a 25% reduction in hospital length of stay and a 75% reduction in hospitalizations at the end of life.

The **GRACE House Calls** program in Indianapolis, IN has operated for more than 5 years and has reduced ER visits by 50%. Hospitalization rates were reduced by 43% for this high cost beneficiary population.

Private Programs:

The **Call Doctor Medical Group** has operated a physician house call practice for 25 years in San Diego, CA focused on Medicare beneficiaries with multiple chronic diseases and has done 60,000+ housecalls. The Group has reduced ER visits by 59% and generated per capita savings of $1,075.

The **Home Physicians** program in Chicago, IL has been operating for 15 years and currently treats 7,000 high cost Medicare beneficiaries with multiple chronic illnesses. The program has shown a reduction in ER visits and hospitalizations from 35% to as high as 60% over the years.

Geriatric Care of Nevada (now Geriatric Specialty Care) house call program in North Central Nevada has operated for 8 years with a patient census of 850 patients with multiple chronic diseases. The program has reduced hospitalizations by 27% and per patient total costs by $750.

Moving Beyond Simple Housecalls—The Home Hospital

Just as the housecall can bring the office visit home, there has been an effort to bring the hospital to the home. Hospitals are dangerous places, particularly for older and more frail patients. There is higher risk of delirium, falls, iatrogenic complications, and exposure to infections such as *Clostridium Difficile.* Though the very ill patient in the ICU obviously needs the care of a hospital, there are many patients being treated for common illnesses such as congestive heart failure, pneumonia, and cellulitis that could be taken care of safely at home with the appropriate nursing care and physician home visits. Dr. Bruce Leff and colleagues from Johns Hopkins have proven that the concept of home hospital is both feasible and cost saving (14, 15).

How does Home Hospital Work?

Here the steps to start "home hospital" and features of the program:

- Decision is made to "admit" a patient to "home hospital"
- Hospital-at-home nurse meets ambulance at the patient's home is patient is being admitted from clinic
- Direct one-on-one nursing supervision is provided for at least 24 hours
- Intermittent nursing visits (at least daily and more if needed)
- Hospital-at-home physician makes daily home visits and is available 24 hours a day for urgent visits
- Nursing, durable medical equipment, oxygen, PT/OT, pharmacy services are provided by a partner Medicare-certified home health agency
- Home radiology by independent contractors
- Lifeline device for any patient who does not have a family member
- Electrocardiography, radiography, intravenous fluids, intravenous antimicrobial agents, other medications, oxygen, other respiratory therapies are given at home
- Pathways for care followed/developed
    - Illness specific hospital-at-home care maps
    - Clinical outcome evaluations
    - Specific discharge criteria followed
- Patient was followed by the "home hospitalist" until discharge and then care resumed by the patient's primary care physician.

This seems expensive, would this save money? Is this safe?

The home hospital concept has proven it's feasibility, safety, and cost savings (14,15,16). In the United States, a trial of 455 patients at three sites admitted for one of 4 conditions (COPD exacerbation, CHF, pneumonia, and cellulitis) delivered care that was higher in satisfaction for patients and families. Patients had a decreased rate of delirium compared to the hospitalized patient. The care provided was just as high quality with equivalent performance on standard hospital quality measurements for these four conditions (e.g, time to antibiotics for patient with pneumonia). The patients had equivalent outcomes and the same rehospitalization rates. The numbers were small in the study, but there was a strong trend to decreased complications—reduction in the use of chemical restraints, reduction in the use of physical restraints, and a lower mortality (there were no deaths in the home hospital and 7 in the hospital group). Even when taking into account the high costs of the nursing and physician home visits, the home hospital patients had lower costs per patient—with costs reduced from $7480 per patient to $5081 per patient (15). Other countries have been doing the home hospital for many years and so the

strongest evidence comes from abroad. In Torino, Italy, the Geriatric Home Hospitalization Service of the San Giovanni Battista Hospital has been doing home hospital since 1985 (16). Since home hospital was a well-established standard of care option in this community, they were able to do a prospective randomized controlled trial of 104 patients admitted to either hospital or home hospital for COPD exacerbation. They were able to show a lower rate of hospital readmission (42% vs 87%, *P*=<.001); longer mean time to readmission (78 vs 37 days, P=<.001), and a non-statistically significant trend towards less deaths in the home hospital group. They were also able to lower costs by 33% (16).

Future Directions—How can we expand housecalls or home hospital?

Housecalls intrinsically are inefficient due to travel time, etc. A housecall practice cannot see the same volume of patients or generate the same revenues as a physician working in clinics based on current reimbursement policies of insurers. Also, one cannot easily pay for or be reimbursed for the high-cost interdisciplinary care that some patients need (unless you are at the VA or in a county/state hospital that looks at whole health system costs). Under Medicare rules, the home visiting physician and the home health company (with the RNs, STs, PTs, OTs, etc) are separate entities and reimbursed in different ways, which adds a barrier to aligned interdisciplinary care. One option to make housecalls more economically feasible would be to ask for support from hospital systems to subsidize housecalls practices. The argument can be made that these housecalls patients will bring revenue to the hospital when they become ill and are hospitalized, which they are at much higher rate than a clinic outpatient. An analysis of this argument was done and showed that one large academic affiliated housecalls practice resulted in contribution to the margin of the hospital by $4,496 per patient year (17). However, the most major cost savings to the health care system are from avoidance of hospitalization. So, with current incentives and reimbursements, there is little interest from hospitals to subsidize housecalls practices. This may be changing. As hospitals get begin to get penalized for readmissions, they are looking to housecalls programs to provide post-hospitalization home visits as these have been shown to be efficacious at reducing readmissions and are cost-saving (11).

There is also no way for the home visit physician, who is confident that he/she is saving the health system money, to share in these savings and use these savings to expand their programs. There is some hope coming—Section 3024 of the Affordable Care Act creates the Independence at Home (IAH) Demonstration Project beginning later this year (18). Under this demonstration, 10,000 homebound Medicare beneficiaries with multiple chronic conditions will be provided longitudinal primary care and care coordination services in the home by teams of physician or nurse practitioner-headed provider groups. Care coordination will be comprehensive, involving both social and medical needs. Practices are expected to use electronic health records and other diagnostic and remote monitoring technologies. Practices participating in the demonstration will be held accountable for quality and patient satisfaction measures and cost savings. If they meet the savings target of 5%, they will be eligible for varying levels of savings share to help finance the incremental costs of the program. This "shared savings" model will allow for housecalls practices to expand and hire interdisciplinary team members to provide better care. If the practice is able to have results that are close to the VA HBPC experience, it is possible that this demonstration project will be slated for expansion and become a permanent part of Medicare.

To make home hospital a reality in the United States, we would need a major shift in the way "hospitalizations" are reimbursed and currently there has not been a movement to do this. If health systems could be reimbursed for being a "hospital" without physically admitting a patient to the hospital, the incentives would be aligned. There is plenty of evidence from other countries and the United States that for many common hospitalized conditions we could do home hospital safely, with higher patient satisfaction, and at lower costs.

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