Medical Training in Home Care Medicine: The Time is Now

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Home Care Medicine (HCM) has expanded significantly in response to the COVID-19 pandemic and increasing demand from patients and caregivers for medical care to be provided in the home as well as improved payment models. The shift toward value-based care along with advancements in technology including in-home diagnostic testing and remote patient monitoring has contributed to the growth of home-based medical care.[1] Home-Based Primary Care (HBPC) programs provide longitudinal primary and palliative care in the home to the medically and socially complex, high-risk homebound population.[2–4] An estimated 4.2 million older adults were homebound in 2020.[5] The homebound are a vulnerable population with limited access to traditional outpatient medical care.[2] HBPC has been shown to reduce emergency room visits, hospitalizations, readmissions, nursing home days, and overall cost of care.[3,4]

The number of Hospital at Home (HaH) programs, which provide acute inpatient level care at home, increased exponentially following the CMS Acute Hospital Care at Home (AHCaH) waiver as hospitals looked to enhance capacity and reduce costs.[6] Patients can be admitted to HaH from the emergency department or transferred from the inpatient unit to complete their hospitalization at home. Of the 144 hospitals approved for the AHCaH waiver between November 2020 and July 2021, 82% are teaching hospitals.[7] Multiple studies have demonstrated that HaH is associated with improved patient safety and quality, reduced mortality, better patient and family experience, and reduced costs compared to traditional inpatient care.[8–16] In addition to HaH, there was also growth in post-acute rehabilitation (skilled nursing facility level care) at home.[17,18] Collectively, these models have demonstrated that high-quality, comprehensive care can be provided in the home across the continuum of care (Fig. 1).

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With the shift of healthcare to the home, there is a great need to increase the HCM provider workforce and ensure all trainees receive skills in complex care management for patients at home. The population of older adults is growing and long-term care is increasingly community-based rather than institution-based, yet only 11% of homebound Medicare beneficiaries receive home-based medical care.[19] Residents exposed to home visits during training showed increased interest in incorporating home visits into their future practice.[20–22] However, trainees generally do not have formal training in all the skills necessary to care for homebound patients or any patient in the home, and lack knowledge of the range of services that can be provided in the home. Providing home-based medical care requires skills in working with an interdisciplinary team, managing complex patients with multiple comorbidities, primary palliative care, functional and cognitive assessments, and home safety assessment, as well as telehealth and remote patient monitoring.

Current medical training takes place largely in the hospital, outpatient clinic, or classroom, and not in the communities where our patients live. It is uncommon for trainees to interact with patients across the post-discharge continuum, even though these experiences correlate with increased perceived responsibility for ensuring safe transitions of care.[23] A survey of Internal Medicine program directors in 2014 showed that only sixty percent of respondents reported a house call experience for residents in their training programs, with a majority being a one-time experience (response rate 59%).[24] Among programs that implemented home health training education, the majority stated this training occurred via lecture or small group discussion with total time being less than 5 hours per year. The most commonly cited barriers to implementing a house call experience included having faculty with house call experience (38%), faculty time for house calls (47%), and lack of a house call program at institution (67%).

Combining home visits and home care education with hospital-based training offers powerful insight into the challenges of caring for homebound patients and Hospital at Home patients, as well as transitions of care for all patients. Training programs have successfully integrated home visits into their residency curriculum as a way of addressing these knowledge gaps.[20–22,25–28] Although most trainees will not become home-based medicine providers, HCM education provides an opportunity for trainees to learn how to care

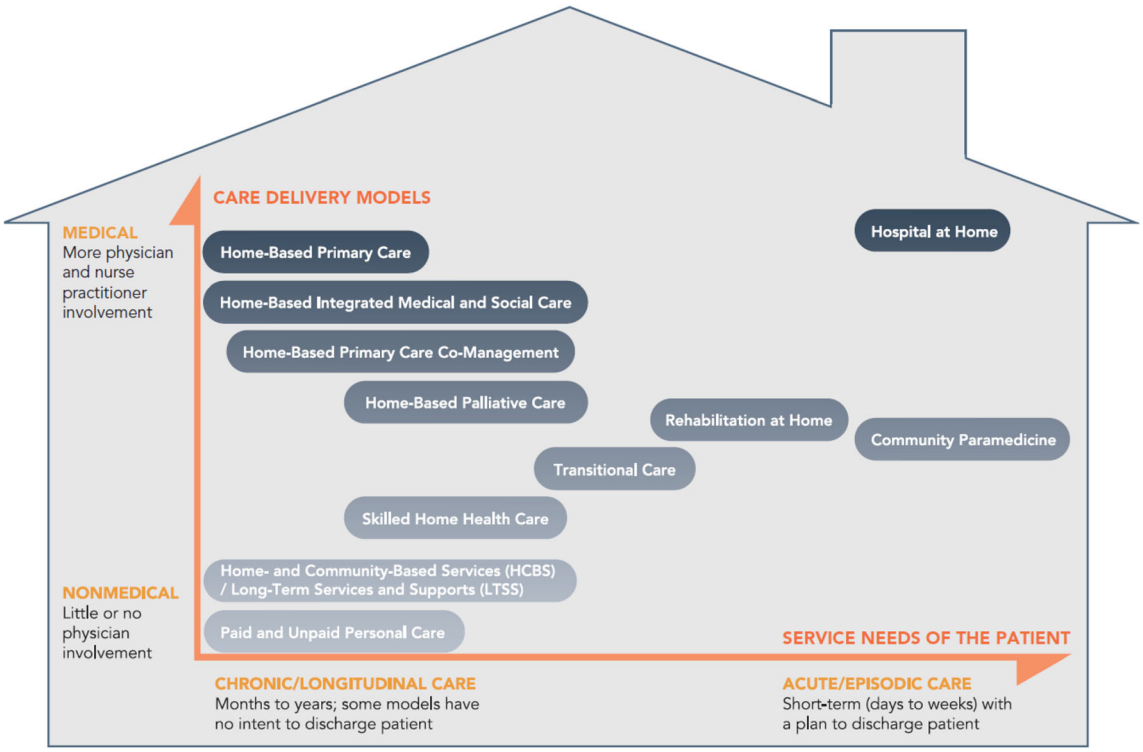

Figure 1 Home-based care models. Reprinted with permission from the California Healthcare Foundation 2021.

for complex, chronically ill patients and understand the social determinants of health and array of community-based and systems-based resources that exist for patients outside the hospital. Home visits allow learners to see and interact with patients and families "on their turf" and expand the focus of care beyond the medical problem list. Home visits are an invaluable learning experience for trainees, providing a unique perspective on nonmedical aspects of care that cannot be adequately taught in the hospital, outpatient, or virtual setting. Medical training needs to be reimagined to include these experiences.

This greater understanding of how acute and chronic care is provided and coordinated within patients' homes provides learners with attitudes and skills that can also improve patient care within the hospital, office setting, and when transitioning from hospital to home.[29,30] Institutions such as the Icahn School of Medicine at Mount Sinai have all internal medicine residents, family medicine residents, medical students, and geriatrics/palliative care fellows do home visits with a home-based primary care program and offer an elective for residents and a mandatory rotation for geriatrics fellows with the Hospital at Home program.[28] The HaH experiences allow trainees to identify which patients are appropriate for HaH admission, learn how to provide acute care virtually, and coordinate with a very diverse team of providers (typically nurses, paramedics, social workers, care coordinators, as well as community vendors). For the patients transferred to HaH from the resident's service, having the resident participate in virtual HaH rounding helps provide continuity for the patient and learning for the resident.

Home-based primary care rotations focus on the longitudinal care of medically complex, homebound patients with functional impairment. Trainees learn how to manage chronic illnesses and urgent issues in the home.[25] HBPC is also an important site to teach primary palliative care skills, especially goals of care conversations.[31] Medical schools and residency programs have shown that single and longitudinal home care visits have significantly increased trainees' knowledge, skills, and attitudes relevant to geriatrics and home care medicine.[20,21,32] A single or week-long home care experience can be part of a medicine clerkship, geriatrics elective, or geriatrics rotation. Continuity home visit experiences are typically built into longitudinal clinics for both medical students and residents. Other institutions have trainees conduct home visits focused on transitions of care or social factors affecting medical care.[33–38] Trainees describe significant and positive effects from their house call experiences, including strengthened relationships with patients and improved understanding of environmental and social factors affecting patient care.[22,37,38]

Home visits are included on the list of covered telehealth services in the Centers for Medicare and Medicaid Services (CMS) telehealth waivers during the COVID-19 Public Health Emergency.[39] Therefore, while the Public Health Emergency remains in effect, a resident can be in a patient's home and the teaching attending can participate in the visit via telehealth and bill for the telehealth home visit. Home visits do not fall under the primary care exception and prior to the telehealth waiver, the teaching attending was required to be present in the home with the resident in order to bill for a home visit. The

Table 1 Home Care Experiences for Trainees

Site of experience	Home-based primary care program Home-based palliative care program Home hospice program Hospital at Home program Rehabilitation at home program Assisted living facility Community Paramedicine program Transitions program Home visit to a continuity clinic patient
Participants in experience	Attending from health system (Internal Medicine/Geriatrics/Palliative Medicine/Family Medicine) NP/PA from health system Fellow from health system (Geriatrics/Palliative Medicine) Home care agency nurse/NP/SW Hospice agency nurse/NP/SW Community Paramedic Home-based physical, occupational, or speech therapist Residents in pairs (debriefed in office)
Type of experience	Longitudinal Rotation based (Geriatrics or ambulatory rotation) One-time visit Urgent visit Transitional care visit

expansion of telehealth has already prompted creative strategies to engage learners in home visits and should provide more opportunities to integrate home visits into resident and medical student curriculum.[40]

Home visits can also be used as an opportunity for interprofessional learning.[41] For training programs that do not have a HBPC or HaH program at their institution or lack faculty with experience in home visits, trainees can go on home visits with advance practice providers, home hospice providers, home care nurses, social workers, or home physical, occupational, or speech therapists (Table 1). For example, the University of Pennsylvania's internal medicine residency program has partnered with its home health agency, and visiting nurses have taken interns on post-hospital discharge home visits in the local community.[34] The 2014 APDIM program directors survey[24] showed that home visits were done in a variety of ways including single house calls, longitudinal, and elective. When surveyed who participated in the house call experience with residents, 51% included a geriatrician, 23% included a visiting nurse, 21% included an internal medicine or family medicine attending, 10% included a geriatrics fellow, 20% included a nurse practitioner, and 16% only included residents without a preceptor (but may have had debriefing after the encounter by faculty). While home visit experiences can be difficult to fit into residency training and have traditionally been delegated to geriatrics rotations with geriatric attendings, these results show that internal medicine programs are creating home visit experiences using nurse practitioners, visiting nurses, and internal medicine attendings, as well as having residents complete these experiences independently. Table 1 demonstrates models for home care educational experiences for all levels of trainees. A robust, rigorous rotation in HCM would include a variety of these experiences and incorporate interprofessional learning so that trainees gain skills in both acute and chronic care in the home and working with an interdisciplinary team.

It is critical that all physicians—primary care providers, hospitalists, and specialists—possess knowledge of the spectrum of Home Care Medicine and understand the resources available to care for our patients at home during both acute and chronic illnesses. The hands-on experience of a home visit teaches the social, functional, and medical complexities that cannot be seen in the office or hospital. With the growth of HaH, physicians will need to be trained in managing acutely ill patients at home, both in person and virtually. As medical care continues to expand outside the hospital and clinic walls, our trainees need to be prepared to work in these innovative models of care, utilize community resources and telehealth, and collaborate with interdisciplinary teams to provide care for patients in their homes. It is essential that trainees have required learning experiences that take place in the homes of our patients.

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