SOLUTIONS FOR AMERICA'S BROKEN HEALTHCARE SYSTEM

UNLOCKING THE DOOR TO CARE AT HOME

the key rests with entrepreneurs

LHE
Legacy Health Endowment

The COVID-19 pandemic created a cold hard reality for women and men living in long-term care facilities. The stories were and are horrific. Families could not see their mom, dad, or other loved one for months or, even worse, were not able to be with a parent or grandparent during their last hours of life. The high rates of loneliness and isolation for long-term care residents and family members will never be forgotten.

The future of long-term care is not about reimagining what it could be. That process started years earlier with for-profit companies, investors, and entrepreneurs creating and investing in the future: delivering long-term care services at home. Of course, America will always need long-term care facilities for a subset of patients who require institutionalization. We anticipate these facilities genuinely caring for those too sick to care for themselves and whose impairments are too costly to manage at home.

The federal Medicaid program began the transition towards community-based care years ago. Medicaid spent about eighteen cents out of every long-term care dollar on community-based care service delivery in 1995. Today almost sixty cents of every Medicaid dollar are dedicated to community-based care. Yet, despite the ongoing Medicaid transition, it lags. The blame cannot be placed on Medicaid or whoever sits in the White House. Instead, a bipartisan Congress has not addressed long-term care since issuing the 1990 Bipartisan Commission on Comprehensive Healthcare (the "Pepper Commission").

As the nation's long-term care crisis escalates, we decided to highlight what is evolving, growing, and in production in the private, for-profit sector. The entrepreneurial opportunities continue to be without boundaries. The investment community and entrepreneurs demonstrate an incredible vision for what is, what can be, and what should be. The strides forward are remarkable but not surprising, as private enterprise can do many things well in the absence of government innovation.

Our report highlights the best of the private sector and entrepreneurship. The vision of these companies, their CEOs, and teams of amazingly brilliant people are the bedrock of the future of long-term care and care at home. So, as you review this report, consider being part of the possible.

Sincerely,

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Foreword

Healthcare is fundamentally broken. Traditional care is expensive, analog, fragmented, and lacks a patient-centered approach to support the whole person and family instead of a single diagnosis or condition. Americans are over-institutionalized, over-medicalized, and rely too heavily on inpatient hospital care, which often worsens outcomes and increases costs. With the advent of the global pandemic, consumers began to accept a new alternative: virtual care and health service delivery outside the four walls of the hospital. The increased adoption of telehealth and remote care increased accessibility to clinical support yet remains a widely underutilized model (and is still not truly evaluated). Nevertheless, the shift to care at home continues to grow. Home-based, hybrid care models are here to stay.

In the next decade, care at home will become a leading healthcare trend. According to a 2022 McKinsey report, up to $265 billion worth of care services (representing up to 25 percent of the total cost of care) for Medicare Fee for Service and Medicare Advantage beneficiaries could shift from traditional facilities to the home by 2025 without a reduction in quality or access. Truly unlocking the door to care at home to better support families remains an unsolved challenge, which we will further explore in this report.

Table of Contents

List of Figures

The Current State of Care at Home

What are the current care delivery models and services defining care at home?

Non-Medical Care

Overview of the Care Domain

Non-medical care consists of personal care services to support function and social needs, including activities of daily living (ADLs), such as dressing and ambulating, and instrumental activities of daily living, such as food preparation, housekeeping, and managing medications. Non-medical care employees are typically referred to as direct care workers, and their roles include personal care aide (PCA), home health aide (HHA) or certified nursing assistant (CNA). The non-medical care sector represents the fastest growing job sector in the U.S.

Key Trends

Social Determinants of Health: Studies indicate that medical care only accounts for around 20% of the variation in health outcomes for a population whereas the 80% can be traced back to the Social Determinants of Health (SDOH).[1] Non-medical care providers can build trust with care recipients in their homes and subsequently identify and fill SDoH gaps, including food insecurity, unmanaged medication, or growing depression.

Companionship Health: Loneliness is deadly, and the pandemic has increased social isolation, especially for older adults. Loneliness leads to adverse health outcomes, and non-medical care has grown as a solution to support social connection as well as physical wellbeing. Care providers can develop strong friendships with care recipients and support their mental health.

Respite Care: Caregiver burden is an ever growing crisis – 53 million Americans are unpaid caregivers, and 70% of caregivers (parents, guardians, and unpaid caregivers of adults) reported at least one adverse mental health symptom during the pandemic such as anxiety, depression, suicidal thoughts and COVID-19-induced stress and trauma.[2] Family caregivers play an essential role: the support highly engaged caregivers provide is linked to significantly better outcomes for those in their care, including 30% lower rates of emergency department utilization and 50% lower hospital utilization[3]. Non-medical care provides respite hours for family caregivers to support their own wellbeing and self-care.

Market Leaders and Innovators

Bright Horizons
Care.com
honor + Home Instead
HOME CARE ASSISTANCE
CareLinx
papa
The Helper Bees®

[1] Hood CM, Gennuso KP, Swain GR, Catlin BB. County Health Rankings: Relationships Between Determinant Factors and Health Outcomes. Am J Prev Med. 2016;50(2):129-135. doi:10.1016/j.amepre.2015.08.024
[2] https://www.archangels.me/insights
[3] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6528172/

Company	Product Offerings
Bright Horizons	Bright Horizons Family Solutions is a leading provider of: 1. Customized childcare and early education centers at or near the work site (1,014 Centers, 114,000 Capacity, 74% of Revenue). 2. Family support services for dependents of all ages, meeting short-term and long-term needs. Employer-sponsored childcare, back-up care and elder care: 10M+ Lives Covered, 1,000+ Clients, 20% of Revenue. 3. Educational advisory services and other work/life solutions, including for adult learners and prospective college students, and employer tuition assistance programs. 3M Employees covered by College Advising services, 6% of Revenue. [1]
Care.com	Care.com is the world's largest online marketplace for finding and managing family care. There are two major commercial branches: 1. Consumer: Help families find great care for their loved ones and help caregivers find valued jobs in the care industry. 6.4M Average Unique Mobile Visitors per Month in Q2 2019. 2. B2B: Care@Work - Employers, Care Service Companies. Help companies support their workforce with care benefits. Create a marketplace for care service companies like daycares and family care centers. [2]
Home Care Assistance	Home Care Assistance (now rebranded as The Key) is a national home care agency operating under a franchise model focusing on hyper-local business structure based on "mom-and-pop" home care agencies to sell to private pay channels and families. As of 2018, the company operates 96 franchises in the United States and 27 outside the country.
Honor (+Home Instead)	The Honor Care Network is Honor's leading product offering. They market it as "the first national network of local home care agencies, designed to deliver personalized care at scale." The Honor Care Network partners with local home care agencies and long term care providers to add home care services to their operations. They also partner with Honor to manage the caregiver recruiting, retention, and back-end operations. The main differentiating factors include greater reliability, increased transparency, and caregiver professionalism. Through their Care Network, Honor offers: • Personalized Care Plans, including a Care Consultation in the home and working with the family to develop a Care Plan that is customized to the family's schedule and needs. • Includes respite care, ADRD care, Cancer care, Parkinson's care, joint replacement support, heart disease and stroke care, hospital to home and end-of-life care. • 24/7 client and care professional support and can respond to every issue that arises, from a care provider running late to one calling off and needing to find another caregiver to take a scheduled shift.
CareLinx	CareLinx is a leading nationwide care marketplace with 450,000+ care providers, focused on caregiver and nurse services. CareLinx offers several solutions: 1. Home care support services through health plans: mainly selling into Medicare Advantage plans through Supplemental Benefits for home-based care by deploying quality care providers

Company	Product Offerings
	in the home to support functional, health and social needs of older adults and their family caregivers. 2. Employer-sponsored care benefits: the Caring for Caregiver benefit offers home-based care for employees and their families, especially senior care, as well as 24/7 care advisor support, care coordination and end-of-life care support. 3. Nurse on Demand: clinical staffing for acute and post-acute facilities as well as health systems to support the staffing crisis and fill much needed hours with two-day deployment. Through CareLinx's care platform, care providers and families are seamlessly connected through a safe and secure marketplace to match needs with care provider qualifications.
Papa	Papa Pals provide companionship to older adults and help with everyday tasks, including transportation, light household chores, navigating health benefits, doctors' appointments, prescription refill and pick up, and grocery delivery. • For health plans: Health plans are turning to Papa to impact their top three imperatives, which are reduced total cost of care, improved member engagement, and increased CMS Star Ratings. Health plans also leverage Papa through their Supplemental Benefit offering as a key marketing asset for differentiation and user acquisition and retention, as an SDOH asset for their members, and for data collection. • For employers: Employers are turning to Papa to impact their top four imperatives, which are reduced employee absenteeism, increased employee productivity, increased employee retention, and attracting and retaining top talent.
The Helper Bees	The Helper Bees is an 'insuretech' startup improving the home care experience for the payer and care-recipient. They operate as: • A home care network, hiring caregivers and care providers, while also aggregating home services (food services, transportation, home modifications, etc.). • A digital claims front door for insurers: their main pitch to insurers is "advanced data analytics and tech-enabled services to streamline the insurance claims process and experience, which drives significant cost savings for Long-Term Care Insurance (LTCI) and Medicare Advantage (MA) carriers." They cover administrative, credentialing, reimbursement, and quality control as a "one-stop-shop" and can offer a better member experience through the user-friendly aggregation. • MA In-Home Services Wallet: This enables Helper Bees to create a marketplace for all MA members to essentially "shop" for all their covered benefits. They can then track all usage, needs, and "fill" home-based gaps in care. Helper Bees then become a backend claims engine for insurers and a SaaS platform for MA plans to engage their members.

Major Challenges and Barriers

Care provider staffing crisis: On average, a home care agency will lose nearly two-thirds of their caregivers within the first year – a number that has only increased over the past three years.[4] The Center for American Progress suggests the real cost of losing a caregiver would be around 16% of annual salary, an unfathomable percentage given the non-medical care industry's

[4] https://careacademy.com/blog/the-cost-of-caregiver-turnover-and-how-to-increase-caregiver-retention/

low margins. The rising caregiver turnover rate of 66% threatening home care providers, combined with an ever-growing aging population, create unprecedented labor challenges to be solved.

Low wages and an antiquated home care model: Traditional home care agency models force care providers to work for the company for a certain amount of time. Care providers do not get to choose for whom they work and have access to less flexible schedules and lower pay. In fact, the median annual income for home care workers is $16,200 - poverty level[5]. Lack of financial support and flexibility for care providers will continue to worsen the non-medical care crisis.

Non-medical care payment model: Home care is often paid for by health plans, who only offer intermittent and few hours to patients, or is covered out-of-pocket by families. If non-medical care is covered as a health benefit, it is rarely offered for the long-term. If consumers are directly paying for it, the services are then often only available to the medium and upper class who can afford it. Either way, continuous non-medical support needs to be accessible and affordable to all.

Opportunity Areas

Home-based data: The home is the new epicenter for health and wellbeing insights. Preventative care will depend on the procurement of strong home-based signals to proactively identify and subsequently avoid unnecessary health deteriorations. Non-medical care can serve as a new source of passive, real-time monitoring and diagnostics to support whole-person care.

Community-based care support: A doctor is not always the most attuned to all of a patient's health needs and challenges. Incorporating community-based support – including family caregivers, neighbors, community workers, and others who provide non-medical care – into a patient's care team will better support outcomes and decision-making and offer new opportunities to increase health span, not just life span.

Home Health Care

Overview of Care Domain

Home health care includes a range of home-based skilled care services, such as skilled nursing, physical and occupational therapy, speech language therapy, and medical social services delivered in the home. Usually, a home health care agency coordinates the services that a doctor orders for a patient.

Key Trends

Financial power: According to CMS, home care expenditures are expected to reach $201B by 2028, a 73% increase from 2020 (see Figure 1). The aging demographics and increased healthcare spend outside the hospital will continue to redefine the payment channels and workforce distribution, as patients consume healthcare services more in their homes.

Optimizing long term care: Because home health care includes skilled nurse visits, it is often compared to skilled nursing facilities. Home health care is increasingly being used as a substitute for institutional care, given that 90% of older adults prefer to age in place in the comfort of their homes. Moreover, when deployed thoughtfully, home health care can be as effective as hospital or skilled nursing facility-based care, and more affordable and convenient.

Market Leaders and Innovators

heal

amedisys

Kindred at Home

Encompass Health Home Health

Olea Health

[5]US Home Care Workers 2019, PHI

Company	Product Offerings
Heal	Heal provides 24/7 doctor house calls and telemedicine visits with board-certified providers, covered by Medicare and most insurance. They aim to provide a lower-cost alternative to hospitals and urgent care centers, by offering an omni-modal approach that consists of house calls, contextual video telehealth, and real-time remote monitoring. By allowing doctors to make house calls, patients might avoid hospitalization. Humana invested $100 million in Heal in 2020.
Amedisys	Amedisys is a leading provider of healthcare in the home with a vision of becoming the premiere solution for patients across the country to age in place. From home health to hospice to personal care, Amedisys provides care to 415,000 patients every year and is a publicly traded, leading provider of home health, hospice, palliative, and personal care services with over 22,000 employees in 39 states, making over 12.3 million patient visits per year. Services include in-home skilled nursing, physical therapy, occupational therapy, speech therapy, medical social work, home aides, and hospice and bereavement services.
Encompass Health	Encompass Health provides comprehensive home health care including skilled nursing, rehabilitation, and assistive care services wherever the patient calls home, whether that is a traditional home setting or a residential care community such as an assisted living facility (ALF) or independent living facility (ILF). Through its home health agencies and hospice agencies, Encompass is one of the largest providers of post-acute healthcare services in 36 states across the US.
Kindred at Home	KAH is the nation's largest personal care, home health, and hospice providers, caring for over 550,000 patients each year. KAH's home health operations are being integrated into Humana's Home Solutions business and will adopt Humana's new payer-agnostic healthcare services brand – CenterWell – transitioning to CenterWell Home Health beginning in 2022.
Olea.Health	Olea.Health is the largest at-home phlebotomy and radiology platform in the United States, deployed in the service of accessible and timely care. 70% of clinical decisions are fully based on diagnostic test results, including blood tests, X-rays or other diagnostic exams. Olea.Health fills this urgent need in the ecosystem of care at home, with a platform that provides on-demand diagnostics with rapid turn-around times enabling Hospital at Home, closing care gaps, supporting telehealth, and other new care models that prioritize patient- and family-centered care in the home.

Major Challenges and Barriers

Reimbursement channels: Certain Medicare Part A (Hospital Insurance) and/or Medicare Part B (Medical Insurance) cover eligible home health services, however the services are intermittent at best. Typically, home health needs are continuous, which then forces families to pay out of pocket. Guaranteeing that families have access to fully reimbursable care, especially for older adults, will play a key role in ensuring positive health outcomes.

Policy and regulatory inertia: The long-term care industry is an artefact of regulations that created the institutions (e.g. nursing homes) and the reimbursement models in the industry. Convoluted regulatory barriers continue to stifle innovation and capital influx, and there is a great need for new approaches and policies that enable flexibility required by new care models.

Fraud and abuse: Home health care services have long been subject to waste and fraud. In 2015, 11,000 home healthcare agencies with $18.4 billion in Medicare billing were assessed to have had $10 billion as fraudulent or improper.[6] To offer acute home health services, the problems of fraud, waste, and abuse must be fixed while creating additional flexibility for new care models. This simultaneous challenge is difficult at best in any industry – and even more so in home health care.

Opportunity Areas

Cost and quality efficiencies: Virtual inpatient care delivered in the home comes to 20% to 30% less than the cost of providing traditional inpatient care.[7] While financial implications are aligned, so too are consumer preferences. Providers can adjust treatment plans to find the best fit for the patient's lifestyle, preferences, and unique circumstances

Evolving patient-acuity levels: Home health agencies will become more specialized as the needs of patients increase in the home. Over the past four decades, hospitals have seen the acuity of patient admissions go up, while length of stay has decreased. This trend extends into home care – with agencies serving increasingly older adults with multiple chronic conditions and complex medical needs. Roughly one out of every four home health patients is over the age of 85, while just 10.9% of the overall Medicare population is over 85, according to the 2020 Home Health Chartbook.

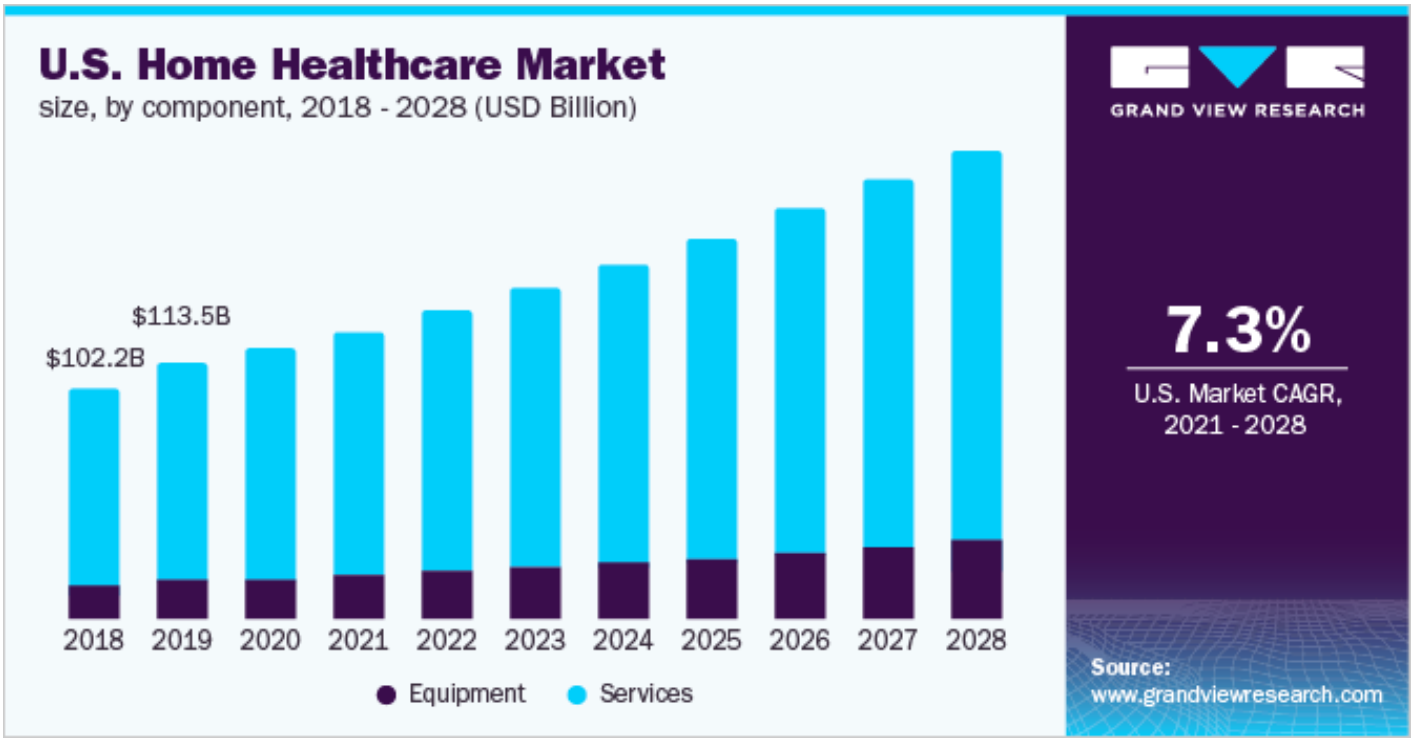


Figure 1: The U.S. Home Healthcare Market Growth Projections, 2021-2028[8]

Telehealth (Virtual Care)

Overview of Care Domain

Telehealth is defined as the delivery and facilitation of health and health-related services including medical care, provider and patient education, health information services, and self-care via telecommunications and digital communication technologies.[9] According to McKinsey, providers have rapidly scaled offerings and are seeing 50 to 175 times the number of patients via

[6] https://constantinecannon.com/practice/whistleblower/whistleblower-types/healthcare-fraud/home-health-care-fraud/

[7] https://www.huronconsultinggroup.com/insights/rising-value-acute-care-in-the-home

[8] https://www.grandviewresearch.com/industry-analysis/home-healthcare-industry

[9] https://catalyst.nejm.org/doi/full/10.1056/CAT.18.0268

telehealth than they did before. Pre-COVID-19, the total annual revenue of US telehealth companies were an estimated $3 billion, with the largest vendors focused in the "virtual urgent care" segment. With the acceleration of consumer and provider adoption of telehealth and extension of telehealth beyond virtual urgent care, up to $250 billion of current US healthcare spend could potentially be virtualized.[10]

Key Trends

Telehealth is here to stay: According to McKinsey, telehealth utilization has stabilized at levels 38x higher than before the pandemic. After an initial spike to more than 32% of office and outpatient visits occurring via telehealth in April 2020, utilization levels have largely stabilized, ranging from 13 to 17 % across all specialties.[11]

Virtual care investment accelerations: Investment in virtual care and digital health more broadly has skyrocketed, fueling further innovation, with the level of venture capital investment in digital health growing three-fold from 2017 to 2020. With unprecedented capital flow into telehealth, healthcare will be redefined by a new virtual care era. Yet this digitization doesn't happen without humans-in-the-loop, and new training of a workforce of remote healthcare providers is also needed.

Telehealth integrations to unlock value-based care: Telehealth represents a key lever for empowering successful value-based care arrangements. By integrating virtual care with remote patient monitoring, digital therapeutics, and networks of care providers, payers and health systems can experience improved outcomes and enhancements in their hospital-at-home or post-acute care at home models through increased scalability and cost-efficiency.

Market Leaders and Innovators

Company	Product Offerings
Teladoc Health	Teladoc is the leader in telehealth and in October 2020 closed their acquisition of Livongo, a company that is using big data and machine learning to better treat chronic diseases. Primary services include telehealth, medical opinions, AI and analytics, telehealth devices, and licensable platform services. Teladoc's 2020 revenue reached $1.1 billion as virtual care visits continued to soar. The company's U.S. paid membership hit 51.8 million in 2020, up about 41% from 36.7 million users in 2019.
GoodRx	GoodRx is a $22 billion prescription drug price comparison platform that supports end-to-end medication management. They offer a free-to-use website and mobile app that tracks prescription drug prices. Fifteen million people visit GoodRx every month, and they've collectively saved $20B to date.

[10]https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality
[11]https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality

Company	Product Offerings
	GoodRx Health is an online health resource that provides research-based, accessible health information on common health topics like diabetes and heart disease.
RubiconMD	RubiconMD is a web-based eConsult service that enables primary care providers to discuss their cases quickly and easily with top specialists, so they can provide better care—improving the patient experience and reducing costs. RubiconMD provides a network of specialists providing care in cardiology, nephrology, and pulmonology, and serves as a virtual front door to specialty care telehealth.
Wheel	Wheel is a healthcare technology company that brings together the tech infrastructure and clinicians to power virtual care and telehealth. They offer a prebuilt virtual care platform and nationwide clinician network that enables healthcare companies to plug in and scale up telehealth services within weeks. Wheel appeals to clinicians by offering a centralized platform to manage their entire virtual care practice, including training and work opportunities. The company delivered 1.3 million patient visits in 2021 and is expected to triple visit volume by the end of 2022. The company also grew its clinician network by more than 60% year over year while maintaining a 90% retention rate.

Major Challenges and Barriers

Regulatory uncertainty: During the public health emergency, new telehealth regulations supported and reimbursed virtual visits. Certain payment policies have been made permanent, including the Centers for Medicare & Medicaid Services' expansion of reimbursable telehealth codes for the 2021 physician fee schedule. However, the fate of other services is more uncertain, as they may lose their waiver status when the public health emergency ends, which could potentially jeopardize certain business models.[12]

Clinical workflow integrations: While telehealth visits are here to stay, the seamless integration of online and in-person care delivery services remains a challenge. To succeed, virtual-first health solutions should be embedded into clinical workflows to redefine a new normal of hybrid care as the preferred standard of care.

Opportunity Areas

Longitudinal virtual care: Telehealth has progressed from episodic "virtual urgent care" to more preventative care, with widely adopted usage. By integrating telehealth into more virtual and in-person care solutions, consumers are given more flexibility, access, affordability, and autonomy to support their individual care needs.

Virtual-first health plans: Primary care often serves as the first point of member contact (i.e. "gatekeepers"), and telehealth with a virtual front door appeals to employers and insurance brokers alike. Indeed, this model could promise lower costs with higher convenience if executed appropriately.

[12]https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality

The Future of Care at Home

What are the future healthcare jobs and opportunities to deliver care to families in their homes?

Preventive Care

Overview of Care Domain

Preventive care focuses on avoiding or alleviating health problems by catching them earlier, to enable more proactive and often more effective treatment. Preventative care can include health services such as annual wellness visits, flu shots, immunizations, and preventive screenings (e.g. mammograms). Prevention starts outside the hospital, through lifestyle changes and healthy behaviors including exercise, proper diet and sleep, stress management and family support.

Key Trends

Fundamental prevention tactics: The best evidence-based strategy for preventing health decline remains physical exercise. Take falls, which globally represent the second leading cause of accidental or unintentional injury deaths worldwide[13]. Each year, 37.3 million global falls from those age 65+ are severe enough to require medical attention[14]. Physical activity increases functional ability, including balance, muscle strength and gait, and group and home-based exercises can prevent and reduce falls by 17–31% [15] when applied as a proactive strategy. At-home prevention relies heavily on key health pillars, such as exercise, nutrition, reduced alcohol and tobacco use and stress management.

Digitized prevention solutions: With the accelerated rise of telehealth and virtual solutions, telemedicine offers consumers the choice to receive proactive care at greater convenience. This democratization in access can help move the needle in offering medical and social support to patients before an acute need or exacerbation occurs, which can create substantial downstream cost savings and health improvements.

Market Leaders and Innovators

Company	Product Offerings
Hero Health	Hero is the first and only in-home medication manager that intuitively sorts and dispenses medication, with audible and digital reminders, automated refills and real-time as well as historical adherence data at your fingertips. The med manager hardware is first of its kind to support proactive and preventative home-based medication support. A Hero membership includes a smart dispenser, mobile app, access to refills with free delivery, and 24/7-member support, while storing up to a 90-days' supply of 10 different medications. Their suite of solutions including Hero's pill distributor, connected app and member support enables 96% median monthly adherence rate, full personalization for scheduling,

[13] https://www.who.int/news-room/fact-sheets/detail/falls
[14] https://www.who.int/news-room/fact-sheets/detail/falls
[15] Li, Fuzhong, et al. "Exercise and fall prevention: narrowing the research-to-practice gap and enhancing integration of clinical and community practice." Journal of the American Geriatrics Society 64.2 (2016): 425-431.

Company	Product Offerings
	missed dose notifications and refill reminders, weekly adherence summaries, as well as care plan support with tailored consultation services.
Visby Medical	Visby Medical is transforming the diagnosis and treatment of infectious diseases so clinicians can test, talk with, and treat the patient in a single visit. Visby holds proprietary technology for the world's first instrument-free, single-use PCR platform that fits in the palm of your hand and rapidly tests for serious infections. The product solutions include a developmental-stage Flu-COVID PCR Test as a single-use, handheld, all-in-one PCR device that detects and distinguishes between influenza A, influenza B, and SARS-CoV-2 from one sample, delivers results in less than 30 minutes, and requires no additional equipment.
BOLD	BOLD is a digital exercise platform that provides science-backed personalized workout plans that improve balance, strength, and mobility to reduce fall risk at home. For health plans, risk-bearing providers, and ACO partners, BOLD programs and communities lead to reduced falls (and associated utilization), lower costs, improved CMS STARS & CAHPS scores, and improved health outcomes. BOLD is HIPAA-compliant, digital-based, and clinically effective.

Major Challenges and Barriers

Supporting behavior change: Changing a patient's behavior to better support healthy aging is challenging. The home offers new opportunities to address behavior change, as a clinical team can tailor the approach to a patient's lifestyle and surroundings. The rush toward care in the home, in fact, is widespread – with care for those across the spectrum of healthy to those living with advanced illness all moving to the home (see Figure 2).

Engaging members for preventive screenings: Successfully scaling widespread preventive measures and screenings is hard. For example, colon cancer is the third leading cause of cancer deaths in the U.S. The CDC reports that millions of Americans are not getting their recommended colon cancer screening, even though it is free and accessible to most.[16] Leveraging the home as an adherence medium could reap downstream benefits, and may also come at a lower cost than programs requiring a doctor visit. For example, health plans mail their members FIT colon cancer screening kits -- which are easy to self-complete at home and much less invasive than colonoscopies -- but mailed kits (to date) result in low adherence.

Opportunity Areas

Remote Patient Monitoring: In an April 2021 poll, more than one in five healthcare leaders said that their practice offers remote patient monitoring (RPM).[17] Real time, ambient, and home-based sensors will track movement, eating, fall risk, and other home insights to better support individualized care pathways for members.

Personalized biometric data: Research shows the number of health and fitness app users will stay above 84 million through 2022[18]. As apps and wearables track user's health data, the rise of artificial intelligence and digital biomarkers offers new technology to collect and analyze biometric insights on each member's specific health status and connect back to a clinical team's decision making.

[16] https://www.cdc.gov/cancer/colorectal/basic_info/screening/
[17] https://www.mgma.com/data/data-stories/is-there-room-to-grow-with-remote-patient-monitori
[18] https://www.businessinsider.com/wearable-technology-healthcare-medical-devices

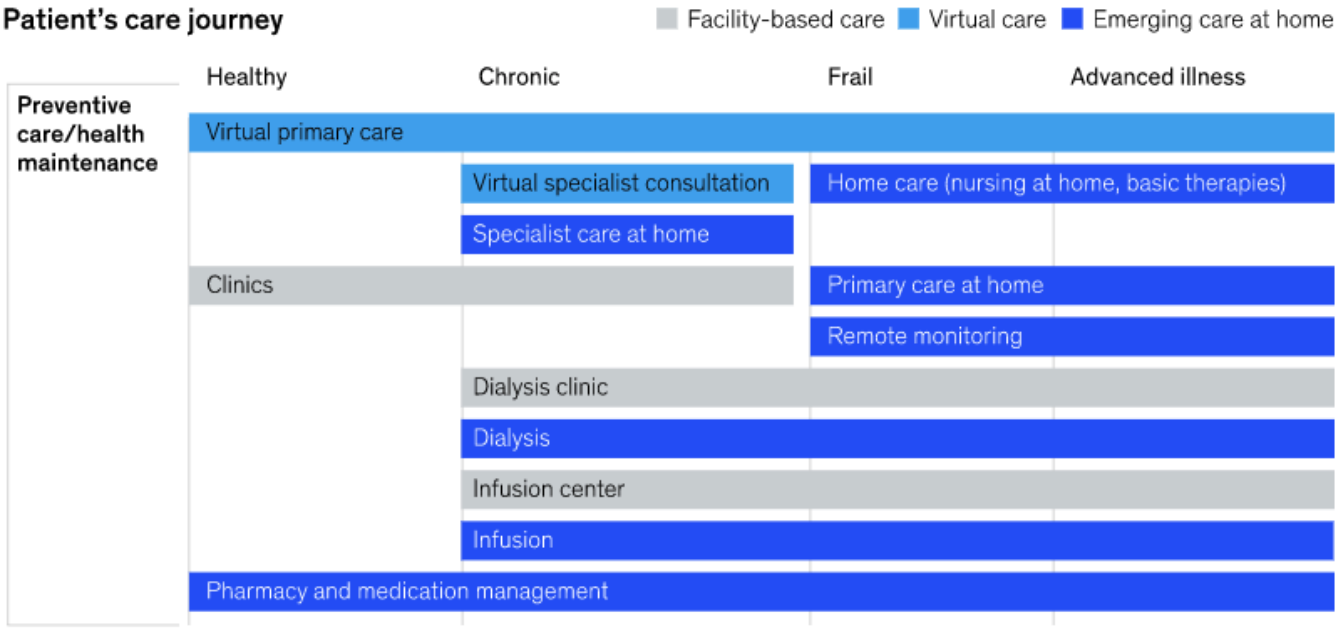


Figure 2: Evolution of Care at Home expansion for preventive care and maintenance of health[19]

Post-Acute Care

Overview of Care Domain

The shift to value-based care positions the post-acute care domain (i.e. care after discharge from a hospital) as a leading catalyst to improve outcomes and reduce healthcare utilization (see Figure 3). Post-acute companies will have to invest heavily in the competency of their network, care quality, and efficiency to establish themselves as the providers of choice to work with acute care hospitals. Skilled nursing facilities (SNFs) will be squeezed as the home presents a preferred site over institutional settings, especially as consumers prefer aging in place (in their own homes) over growing old in nursing homes.

Key Trends

Hybrid care delivery models: The growth of telehealth, telemonitoring, and the announcement of new Medicare reimbursement policies related to virtual care are likely to spur greater technical innovation in post-acute care delivery. Principally, post-acute care will be defined as a combination of virtual care solutions enhanced by in-home providers or services to increase engagement, while offering scalable, cost-effective digital experiences.

Uberization of post-acute services: With growing expectations of door-to-door services for all consumer needs, from transportation, shipping, shopping, to home health, a growing number of post-acute services will offer distributed network services of a variety of clinical levels of support. This new paradigm will reflect a gig-economy model to offer flexible, real time matching and coordination of post-acute services with streamlined reimbursements as an added benefit.

[19]https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/from-facility-to-home-how-healthcare-could-shift-by-2025

Market Leaders and Innovators

Company	Product Offerings
Nice Healthcare	Nice Healthcare has built a nurse practitioner led virtual first + in-home care model with fully capitated pricing for smaller employers that is currently in 18 cities. Nice's core asset is a pool of high-quality nurse practitioners that deliver care in markets where that care is otherwise hard to find. By doing so, Nice creates value for patients (by delivering high quality care), for employers (both as a benefit to offer employees and by managing costs), and for its investors (by creating an acquirable asset).
Tomorrow Health	Tomorrow Health aims to facilitate the process of securing products instrumental in caring for patients at home, including gear-like orthotic supports, mobility equipment like walkers and wheelchairs, CPAP machines and other respiratory hardware, and more. Patients recovering from surgery or illness at home or managing a chronic condition can use the company's website to find the products they need; the platform navigates prior authorizations and insurance billing and then ships the equipment directly to patients' homes in two business days. The platform is now available in 25 states with Medicare Part B, including most of the Northeast United States, Texas, Washington, and Michigan. The company contracts with both Medicare and private insurers as an in-network provider. The digital marketplace can deliver roughly 40,000 different types of medical supplies and equipment directly into a patient's home within two days of an order.
Luna Health	Luna is the leader in on-demand physical therapy, delivering outpatient physical therapy beyond the four walls of a clinic. Luna matches patients with a therapist for in-person care at the time and location of their choosing with ongoing coaching through an easy-to-use app. Luna enables physical therapists to manage their careers with flexibility and autonomy, using a platform that makes scheduling efficient, documentation easy, and billing automatic. For health systems and orthopedic groups, Luna improves revenue for rehabilitation services by dramatically expanding access and reach, improving adherence, reducing costs, and standardizing quality. Luna is the fastest growing physical therapy provider, with more than 800 therapists providing services in 15 states.
Jukebox Health	Jukebox offers health plans a network of licensed Occupational Therapists to visit members in their home to create a detailed and thorough assessment of the home (e.g. fall safety). They then deliver a detailed list of recommendations to make a home safer and more comfortable via home modification. Their Certified Aging in Place Specialists and contractors are on call to make any or all the suggested modifications, helping prevent falls and supporting patients as they live independently.

Major Challenges and Barriers

Data Integration and Interoperability: As post-acute care plays a stronger role in preventing subsequent acute care utilization and reducing unnecessary readmissions and ED visits, care coordination, enabled by data interoperability, will become crucial. As patients transition in their care setting across the continuum of care (e.g. from hospital to rehab facility to home), their care management outside the hospital will require seamless data sharing across healthcare stakeholders.

Reimbursement and payment models: Certain post-acute services are not reimbursable or are in a "buffer-zone" during the COVID public health emergency and are covered for the time being. However, the uncertainty of continued reimbursement weakens business models that rely on such transitional funding, leaving in doubt the sustainability of many startups in the post-acute space.

Opportunity Areas

Growing behavioral health needs: The shift to providing home-based behavioral health care will continue as some individuals struggle with mental health and substance abuse, driven by the COVID-19 pandemic and the effects of SDoH on access to quality care. Distributed behavioral health networks and on-demand support for in-person and virtual behavioral health visits will redefine how digital health solutions are delivered within the four walls of the home.

Shrinking healthcare workforce: The American Hospital Association (AHA) cites that burnout, drops in long-term employment, inadequate relief resources, and declines in treatment success rates have led to a massive change in the healthcare workforce and will continue to exacerbate the care accessibility challenges nationwide[20]. In post-acute care, an under-managed network and a lack of qualified providers may put some vulnerable members at greater risk and increase family caregivers' burden.[21]

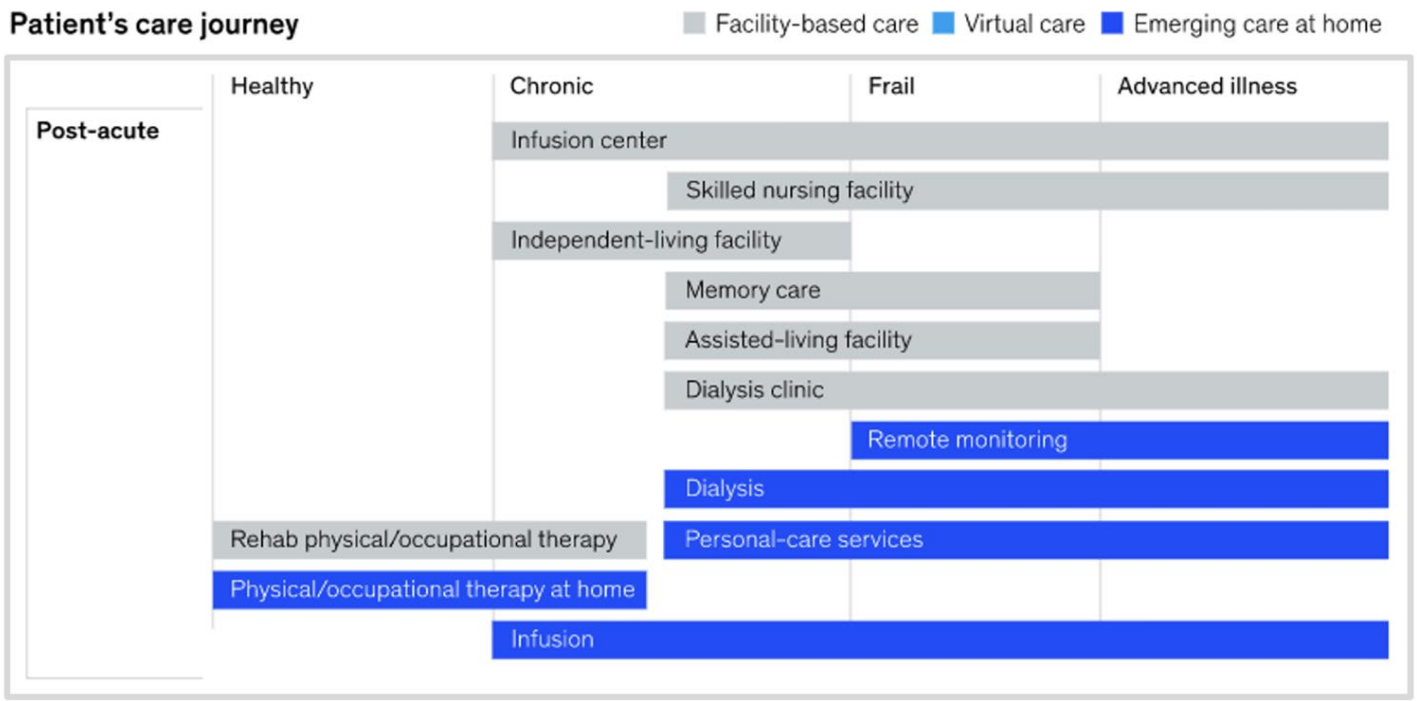


Figure 3: Evolution of Care at Home expansion for post-acute care[22]

[20] https://www.aha.org/system/files/media/file/2021/11/2022-Environmental-Scan.pdf
[21] https://healthpayerintelligence.com/news/how-home-health-will-evolve-in-the-year-ahead
[22] https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/from-facility-to-home-how-healthcare-could-shift-by-2025

Hospital at Home (Acute Care)

Overview of Care Domain

Hospital at Home (HaH) allows for in-home, hospital-quality medical care for patients with qualifying acute conditions, instead of admission as an inpatient to a hospital (see Figure 4). HaH is about acute illness management, and the responsibility for ongoing chronic disease management remains with the primary care team. HaH ensures urgent access to hospital-based diagnostics, if required (e.g., laboratory, radiology) and provides access to hospital-level specialists and interventions at home (e.g., intravenous fluids, medication therapy, oxygen).

Stakeholder Map

Public health emergency scaling: Short-term implementations of acute care at home were valuable options in response to the public health emergency and helped alleviate patient overcrowding in some hospitals. This was reinforced with CMS' waiver for acute hospital care at home during the COVID-19 public health emergency, with over 200 hospitals now participating.

Robust program outcomes: Acute care delivery at home has gained substantial traction thanks to both the shift to outpatient care during the pandemic, and validating clinical outcomes. In fact, studies have displayed significant advantages, including[23]:

- Reduced inpatient-induced delirium (74% reduction)
- Reduced pressure sores / other complications from inactivity (as patients have improved mobility at home) (23% sedentary as an inpatient vs. 12% sedentary at home)
- Reduced 30-day readmission rates (23% for inpatients vs. 7% in acute care delivery at home programs)
- Reduced skilled nursing facility admissions and emergency department (ED) visits
- Reduced mortality
- Reduced total cost of care (Advocate Aurora's Continuing Health division decreased total cost of care by 38%, Landmark reduced medical costs for engaged patients' last 12 months of life by 20%)[24]

Market Leaders and Innovators

Company	Product Offerings
Medically Home	Medically Home enables health systems to safely care for their patients at home, across the care continuum, including hospital-level care. Nurses and physicians make regular visits to the patient's home for continued monitoring, diagnosis, and treatment. Using this model, the cost of providing care is lower for hospitals while the costs of receiving care is lower for patients. Medically Home provides these health systems with all the elements required to safely care for patients, including the clinical

[23] https://files.asprtracie.hhs.gov/documents/aspr-tracie-acute-care-delivery-at-home-tip-sheet-.pdf
[24]https://movinghealthhome.org/wp-content/uploads/2022/03/MHH-White-Paper_Home-Based-Models-18-JAN-2022.pdf

Company	Product Offerings
	protocols, reimbursement model, platform technology, and fulfillment of all the clinical services required in the home through partners.
Dispatch Health	DispatchHealth is redefining health care delivery to offer on-demand care to people of all ages with acute medical problems in the comfort of their own home. DispatchHealth's board-certified medical teams are equipped with all the tools necessary to treat common to complex injuries and illnesses on scene. The company also partners with remote monitoring technology firms, care management companies, nursing, and radiography companies to provide comprehensive services. The company currently serves 19 markets across 12 states and provided care to more than 170,000 patients in 2020. It has been able to avoid more than $200 million in medical expenses by delivering high acuity care safely in the home to help patients avoid ER and hospital visits and skilled nursing facility admissions.
Contessa Health	Contessa Health operates home hospitalization programs to manage episodic risk arrangements for Commercial and Medicare Advantage health plans. Through their risk-based model, Home Recovery Care, Contessa combines all the essential elements of inpatient hospital care in the comfort of patients' homes through evidenced-based home recovery care models for acute care, post-acute care, and surgical procedures with administrative support services and a proprietary health informatics platform. Contessa was acquired by Amedysis in June 2021.
MedArrive	MedArrive is a care management platform that enables healthcare providers and payers to extend services into the home. MedArrive connects payers and providers to a network of EMTs, paramedics and other skilled healthcare workers to extend care into the home, unlocking access to high-quality healthcare for more people at a fraction of the cost. MedArrive's platform allows providers and payers to bridge the virtual care gap by connecting physician-led telemedicine with hands-on care from EMS professionals. Key services include episodic care such as vaccinations and monoclonal antibody treatments along with Healthcare Effectiveness Data and Information Set (HEDIS) gap closure and risk assessment to identify and address patients' preventive care needs.

Major Challenges and Barriers

Restrictive requirements for Hospital at Home programs: The Acute Hospital Care at Home program provided eligible health systems with unprecedented regulatory flexibility to treat eligible patients in their homes. However, the requirements are too onerous for some non-traditional health care delivery systems to participate, which may limit the potential reach.

Hospital infrastructure and investments: Some health systems have allocated billions in recent years to new inpatient facilities and hence drive utilization to fill beds. As a result, pivoting to a hospital at home model may be a secondary financial priority, in the short term. Smart systems have offloaded low-revenue inpatient admissions to HaH programs, while reserving inpatient beds for high revenue patients (e.g. post elective-surgery, orthopedics, etc.).

Opportunity Areas

Unprecedented cost savings at scale: DispatchHealth believes 40% of hospitalized patients representing $340 billion of cost, could likely qualify for hospital-level care at home, where costs are on average 19% to 30% lower. That is savings of $5,000-$7,000 per episode.[25] Developing hospital at home models at scale can multiply these savings and transform healthcare delivery as we know it.

[25]https://movinghealthhome.org/wp-content/uploads/2022/03/MHH-White-Paper_Home-Based-Models-18-JAN-2022.pdf

New care at home roles: Novel employment opportunities such as "home hospitalist" or "homecare-ist" do not currently exist. Matching clinical need in the home to the right scope of practice is difficult, though workarounds with telehealth are emerging.

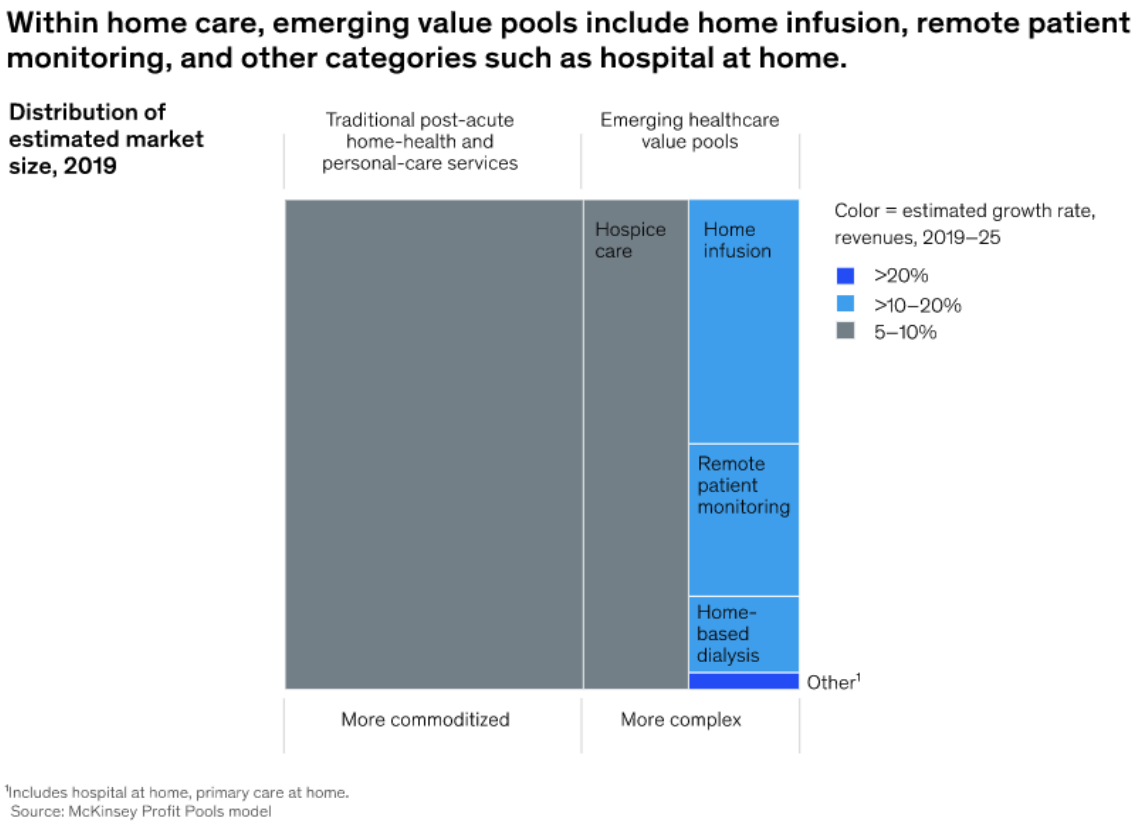


Figure 4: Evolution of Care at Home expansion from 2019-2025[26]

Chronic Care

Overview of Care Domain

Chronic care is care focused on pre-existing or long-term illness. Chronic care management plays a vital role in primary care to better support individuals with two or more chronic conditions that are expected to last at least 12 months. These individuals are typically at risk of acute exacerbation, functional decline, and/or death, and therefore require high-touch support programs. Chronic care managers and providers are often physicians such as Certified Nurses, Clinical Nurse Specialists, Nurse Practitioners or Physician Assistants.

Key Trends

Chronic care management: To manage chronic conditions, comprehensive care plans are established, implemented, monitored, and revised to ensure quality of care and services (see Figure 5). Such conditions include Alzheimer's disease and related dementia, Arthritis, Asthma, Atrial fibrillation, Autism, Cancer, Cardiovascular Disease, Chronic Obstructive Pulmonary Disease, Depression, Diabetes, Hypertension, and Infectious diseases such as HIV/AIDS.

Leading healthcare cost drivers: Chronically ill patients account for:

- 81% of hospital admissions
- 91% of all prescriptions filled
- 76% of all physician visits

[26]https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/from-facility-to-home-how-healthcare-could-shift-by-2025

In fact, 90% of the $4.2 trillion annual US health budget is spent on treating the chronically ill. Nevertheless, 80% of chronic diseases might be eliminated or significantly ameliorated by preventive measures.[27]

Market Leaders and Innovators

Company	Product Offerings
Assure Health	Assure Health developed the industry-first care delivery model to support every day, virtual-first management of chronic disease. Assure's programs connect patients with clinicians and easy-to-use technology to keep patients healthy at home through personalized, on-demand care, as well as RPM enablement. Assure provides patients with access to a dedicated nurse care manager and connected devices to monitor and manage their chronic conditions while collaborating directly with primary care providers and other members of patients' care teams.
Sensorum Health	Sensorum applies proprietary passive sensor technology powered by machine learning to identify and alleviate chronic disease exacerbations. Sensorum offers 24/7 real-time patient assessment to inform targeted clinical interventions. They de-escalate in the home, reducing avoidable ER visits and hospitalizations.
Propeller Health	Propeller Health is a leader in digital health and therapeutics for asthma and COPD, and seeks to improve clinical outcomes, lower healthcare costs, and improve quality of life by supporting patients in managing their condition with their healthcare provider. Propeller's platform includes FDA cleared medical devices, consumer apps, and access to clinical data for clinician monitoring throughout the care journey, to create value for all stakeholders. The Propeller sensor attaches to users' inhalers and wirelessly syncs with their smartphones. It tracks their triggers and symptoms and sends personalized feedback and education to their phones based on the symptoms. Users can see how often they use medication and set up medication reminders and alerts. The Propeller community enables users to share their Propeller data with their physician and family members.
TIN Rx	TIN Rx is leading the charge in combining virtual care with pharmacy prescription, management, and delivery. They focus on catering to the unique needs of individual patients with medication therapy management, prophylaxis, hormone therapy, and specialty medication. TIN Rx specializes in supporting members at home caring for the HIV and AIDS population as well as transgender persons both medically and pharmacologically and are an emerging leader in this niche focus area.

[27] https://wellbox.care/wp-content/uploads/2020/07/Chronic-Care-Management-Infographic-min.png

Major Challenges and Barriers

Proving home-based Clinical ROI: For home-based chronic care innovation, few companies or organizations have been able to display clear cost savings and reduction in acute care utilization (an "attribution" problem where multiple groups claim credit). As such, initial companies in this space have focused on those requiring the most hospital care (e.g. COPD, ESRD).

Preserving member engagement and utilization: Virtual health solutions for chronic care management rely on member engagement to achieve improvement. Home-bound patients are not always able to adhere appropriately, which can render certain digital solutions ineffective. Chronic care often requires a high-touch program which cannot be supported solely by virtual care delivery. Hence hybrid care models, with a "human in the loop" empowered by digital solutions, often work best.

Opportunity Areas

Comprehensive care management at home: As the home offers an environment for passive and secure monitoring, chronic care management could include systematic assessment of the patient's medical, functional, and psychosocial needs in real time. Moreover, preventive care services can be better delivered at home, wherein positive lifestyle and behavior changes can be reinforced more appropriately. Care management through medication reconciliation also offers new opportunities to target the home environment for improved adherence.

Home-based continuity of care: In the home, 24/7 access to physicians or clinical staff through telephonic and video visits enable patients to address urgent health needs. Leveraging both synchronous visits for those most acute needs and asynchronous visits for less urgent care can lead to efficient and low-cost care. For example, Alpha is a direct-to-consumer Women's Health provider that leverages asynchronous care to provide affordable and accessible care to women.

Tech-enabled care plan tasks: Chronic care management can be improved with digital care plans with comprehensive assessments of physical, mental, cognitive, psychosocial, functional, and environmental needs. With electronic care plans, a health system and community-based resources can collaborate in providing personalized care and tailored support for each patient and family.

Figure 5: The key pillars to a home-based hybrid model of whole-person chronic care

What's Next

Based on the evolution of care services and solutions catalyzed by the pandemic, Care at Home will be pioneered by hybrid care solutions, which combine virtual-first care pathways with in-person care support for the full spectrum of clinical and social care needs (e.g. respite, homemaker services, telephone assurance, etc.). This evolution will be marked by several trends, including better triage, efficient "last mile" delivery, and hybrid team-based care.

The success of Care at Home relies on the effectiveness of triaging care at the right time, to the right place with the right team of professionals and para-professionals. Optimal triaging of care will operate as a care management "plus" system, often empowered by telephonic clinical support. When individuals identify health needs, the triage experience can start with efficient virtual clinician support -- instead of an automatic visit to a brick-and-mortar urgent care facility or emergency room. In fact, by leading with electronic triage solutions, consumers can often easily access care services with unprecedented efficiency, through their preferred channel, while avoiding substantial costs associated with often unnecessary ED visits.

Promoting efficient triage lies in enabling effective data collection and home-based diagnostics for last-mile proactive and continuous care. Companies offering the appropriate infrastructure, services, and logistics for the last mile of Care at Home will provide the highest value and healthcare "consumer" experience, by maximizing prevention, managing acute and chronic disease, and reducing total cost of care.

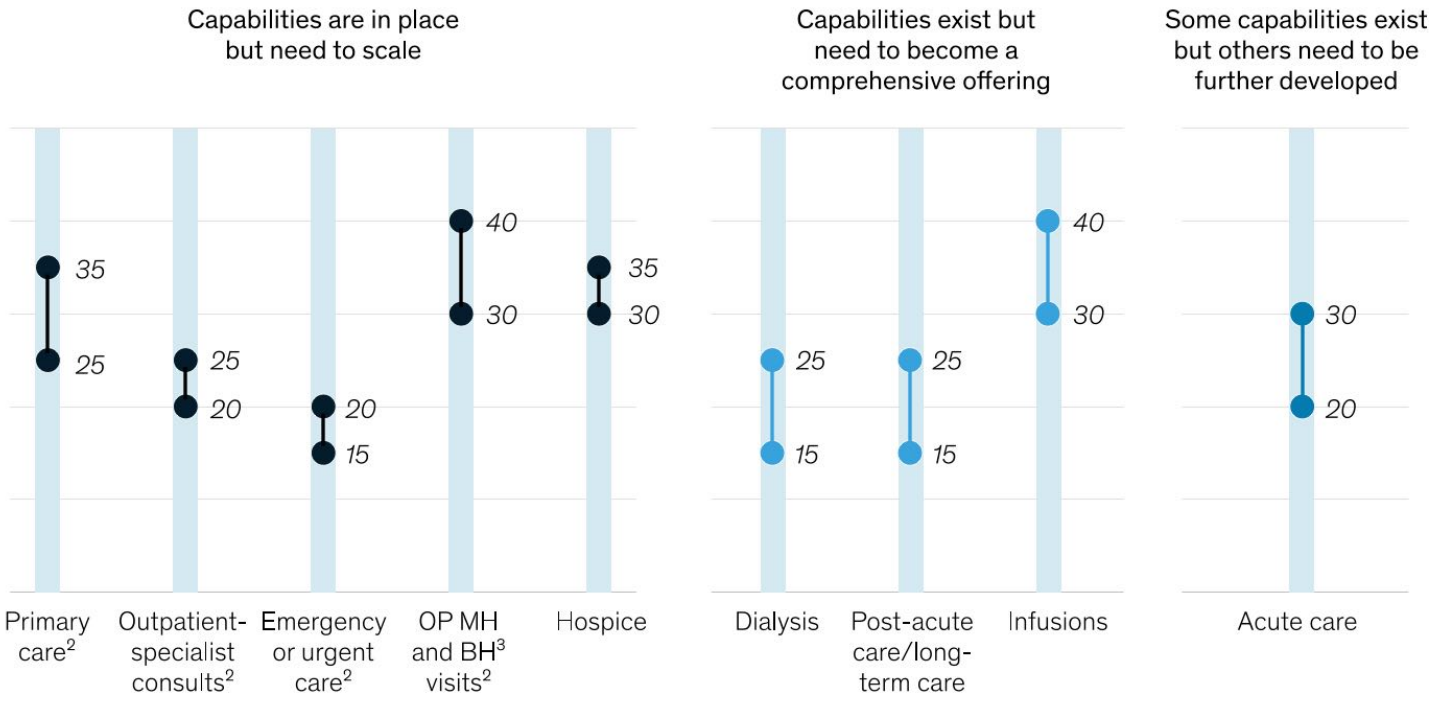
With the wave of digital-first innovations, Care at Home remains nonetheless a human-in-the-loop model that must incorporate a hybrid structure. Human support and empathy (which engender trust) are critical to caring for individuals in their home. As a result, new workforce training and payment models to support the full continuum of care at home are urgently needed, with such investments still nascent. Successful care models must include incentives for staff to grow professionally as well as financially. A staff member who serves as a respite care worker or homemaker needs to know that there is a ladder to climb with greater pay and more responsibility. These care workers need to have access to educational programs that allow them to constantly build a career at whatever speed they want. These minimum wage employees, when shown a path forward with real results regarding growth, will champion these opportunities. The key to success for Care at Home models are federal government grants to allow nonprofit and for-profit companies alike to benefit as they help ensure greater growth and success -- and requiring companies to both demonstrate a true investment in human capital and financial ROI.

Yet to realize the full promise of Care at Home, several things still need to happen. First, the patient must be part of the care discussion. Excluding the patient establishes parameters that will doom the effort from the beginning. Second, the patient and family experience must be prioritized. If patients don't feel safe and supported, or if care quality differences are perceived, patients will seek care within the four walls of clinics and hospitals. Third, health equity considerations need to be addressed, or there is a risk of widening today's already large gaps in access to high quality care. Fourth, state and federal governments cannot be hesitant of supporting both for-profit and nonprofit models of care, and understand what works best, why and why not. Moreover, allowing for-profit companies to compete for government contracts that have traditionally only attracted or were limited to nonprofits will allow governments to understand how to achieve best in class, the costs associated with it, and understand that there is a threshold that cannot be ignored when cost, quality and human capital intersect. And finally, we need to rigorously evaluate Care at Home, to truly understand the full value, externalities, and impact on society and evolve such care into a learning health system. Perhaps then we will have the healthcare system we all believe is achievable – one that promotes health and allows every individual to reach their full potential.

Appendix

A substantial amount of care currently being performed in clinics, facilities, and physicians' offices could shift to the home across service categories.

Shift to Care at Home,[1] % range of shift, by individual category

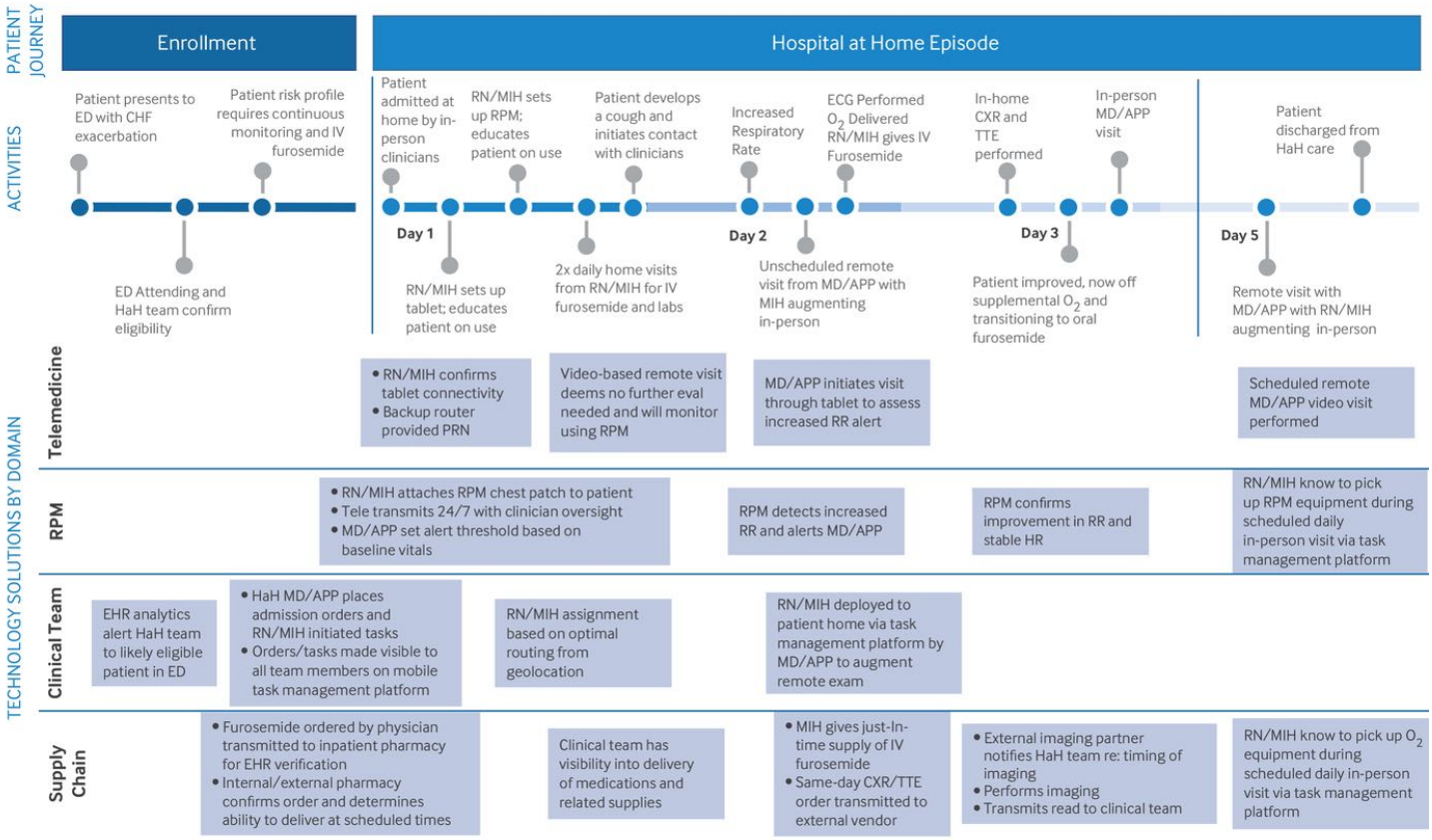


[1]Based on 2018 Medicare claims data (Medicare Limited Data Set) and results of external physician survey to understand what percentage of care being delivered in an office or facility today could be provided at home.
[2]Categories have experienced substantial growth in telemedicine as a result of the COVID-19 pandemic. For more, see Oleg Bestsennyy, Greg Gilbert, Alex Harris, and Jennifer Rost, "Telehealth: A quarter-trillion-dollar post-COVID-19 reality," McKinsey, July 9, 2021.
[3]Outpatient mental-health and behavioral-health visits.

Source: Exhibit 4 in https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/from-facility-to-home-how-healthcare-could-shift-by-2025

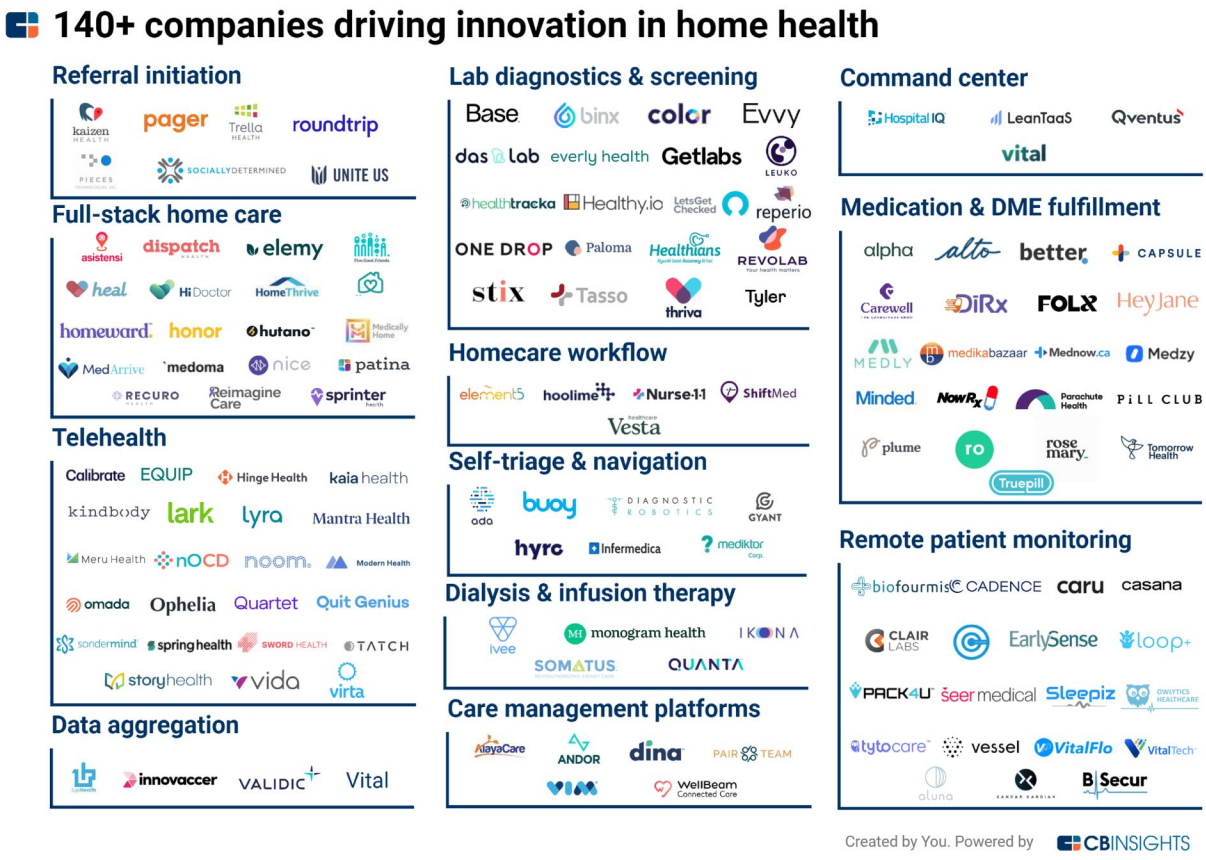
Technology-Enabled Hospital at Home (HaH) Patient Journey

This process map shows an example of a patient's hospital at home journey across the key technology domains and aligns with the case thread described in the accompanying article.



APP = advanced practice provider, CHF = congestive heart failure, CXR = chest X-ray, ECG = electrocardiogram, EHR = electronic health record, HaH = hospital at home, HR = heart rate, IV = intravenous, MD = doctor of medicine, MIH = mobile integrated health, PRN = as needed, RN = registered nurse, RPM = remote patient monitoring, RR = respiratory rate, TTE = transthoracic echocardiogram.

Source: Figure 1 in https://catalyst.nejm.org/doi/full/10.1056/CAT.21.0402



Source: https://www.cbinsights.com/research/home-health-tech-startups-market-map/

MISSION

To improve the health and healthcare of all residents residing within Stanislaus and Merced Counties (19 specific cities and zip codes) under Legacy Health Endowment's (LHE) jurisdiction, by increasing access to various healthcare services and educating people about healthy lifestyle decisions. Our objective is to dramatically improve the quality of life within the Greater LHE Community by bringing together resources, expertise, vision and the belief we can – and will – make a difference.