
Hybrid Home Health Care: Combining In-Person and Virtual Visits to Improve Clinical Outcomes

an AccentCare[®] Study

Home health providers have long been using telehealth technology, including remote patient monitoring devices, smart apps, and virtual visits, as components of care management and coordination. Given that such services were not reimbursable by the Centers for Medicare & Medicaid Services (CMS), providers historically had limited opportunities to report telehealth-related outcomes. However, with the swift emergence of COVID-19, there was a dramatic increase in the use of telehealth services.

During the pandemic, AccentCare®, a leading post-acute care company, was able to observe possible telehealth benefits in their patient population. The company partnered with Brittain-Kalish Group to study the quality and satisfaction levels for hybrid home health care, a mix of in-person and telehealth virtual visits.

The use of telehealth in the delivery of home health services has accelerated due to the COVID-19 pandemic. Payors broadened coverage and additional telehealth legislation was introduced. As a result, providers and payors want to understand its efficacy as measured by outcomes and patient experience.

Executive Summary

This study found when virtual home health visits were added to in-person home health visits, patient outcomes improved in measures available in the Medicare Outcome and Assessment Information Set (OASIS). Additionally, inpatient hospitalizations were reduced, and patients reported a better care experience with this hybrid home health care model.

The project was initiated with two goals in mind:

- Determine the effect on patient outcomes and experience with hybrid home health care (in-person plus virtual visits as a care delivery option).
- Demonstrate that hybrid home health care is safe, satisfactory to patients and their families, and as effective as traditional home health care (in-person visits only), providing compelling reasons for Medicare, Medicaid, and private insurance to support the use of telehealth virtual visits for home health care patients by reimbursing for the hybrid service in perpetuity.

This retrospective study analyzed both patient outcomes and patient satisfaction survey results. It examined both quality measures and patient experience to evaluate whether adding virtual home health visits provided equivalent, inferior, or superior outcomes versus traditional in-person home health care only. The analysis compared performance using various industry-defined metrics to determine how well patients who received hybrid home health care fared relative to those who received traditional delivery of home health services.

The study reports positive outcomes including the following:

- Only 8.6% of patients who received hybrid home health, were hospitalized within 30 days after starting care, while 14.3% of patients who received traditional home health, were hospitalized within that same time period.
- Medication management of oral medications was better in the hybrid care group than the traditional care group (+4.0%)
- Ambulation and locomotion in the home had the highest single improvement in the hybrid care group over the traditional care group (+5.5%), demonstrating merit for improving gross motor safety and function at home.

These findings show improved patient outcomes and reduced hospitalizations with the use of virtual home health care.

Traditional in-person patient care will continue to be the standard, but hybrid home health care bears imperative consideration as home health standards in patient care continue to evolve. Answering the challenges of care delivery during the pandemic, AccentCare furthered its experience in exploring innovative methods of care delivery for its vulnerable patient population.

Background

The subject of telehealth is not new, but has become more vital than ever, due to the COVID-19 pandemic. Various combinations and methods of patient care have advanced as technology has moved forward. One such technology, remote monitoring, refers to the ability to monitor patient health status outside of typical settings such as hospitals and physician offices. This is seen as a benefit in supporting patients with chronic illnesses such as diabetes, heart failure, or COPD. Remote monitoring has been shown to improve outcomes and reduce complications. In addition, patients have been communicating with physicians via secure digital messaging and video (virtual) visits. At the same time, payors have set restrictions on these enabling technologies, thereby discouraging physicians and other providers from incorporating their use, despite healthcare industry acceptance and evidence of effectiveness in combination with in-person appointments.

Since the COVID-19 pandemic, the usage of these technologies rapidly moved to the forefront of healthcare business operations. Physicians, nurses, therapists, and other providers adopted this technology to continue providing treatment for patients who were required, or chose to, shelter in place. It also altered how the healthcare industry responds to patients requiring post-acute care. Expanded communication methods, medical decision-making via virtual visits, consideration of privacy, and security while practicing social distancing have all influenced care delivery at an unprecedented pace. Although much has been written about the use of telehealth in the post-acute setting, there has been little written regarding actual telehealth-related outcomes. AccentCare found a unique opportunity to advance knowledge about virtual visits' effects on home health care outcomes and patient experience.

Situation Analysis

Historically, CMS has ruled telehealth virtual visit services cannot be substituted for traditional in-person home visits. While CMS confirmed services furnished via a telecommunications system cannot be considered a home health visit for purposes of eligibility or payment, the agency did acknowledge the use of such technology may result in changes to the frequency or types of visits outlined in the plan of care, especially to accommodate the public health emergency (PHE) during the COVID-19 pandemic. CMS clarified that physician telehealth visits could serve as face-to-face encounters for home health certification purposes. While the virtual visits are allowed to supplement in-person visits, the home health Medicare and Medicaid benefit does not allow for reimbursement for virtual visits.

The COVID pandemic created necessity for the deployment of hybrid home health to ensure patients received all necessary care while limiting virus exposure risk. Hybrid care services allowed patients to more safely continue receiving necessary medication management and therapies during the pandemic. Virtual visits became a way to protect both patients and clinicians.

Home health organizations have been aware this type of care delivery should have already been implemented as a part of routine care delivery, but insufficient research was available in support, and consequently, reimbursement for telehealth services has not been forthcoming. Now, as payors are determining if reimbursement will return to pre-COVID agreement levels, demonstrations of hybrid care efficacy are paramount to the likelihood of lasting adoption and inclusive payment models by insurers.

Methods

AccentCare began with the study question:

Are there significant differences in clinical outcomes and patient experience reports for home health care delivery when a combination of telehealth virtual visits and in-person visits are used (hybrid care) versus in-person visits only (traditional care)?

Methods (continued)

Patient groups were identified through self-selection for the hybrid care group, and convenience sampling for the traditional care group. Traditional care patients were drawn retrospectively from the same geographical areas of care as the hybrid care patient group, assuring these patients did not have virtual visits in their plans of care. Methods included quality analyses of all outcomes through count and proportion, and tests of statistical significance through chi-square tests comparing the hybrid group measures to the traditional group measures using the free software, R. The organization partnered with the Brittain Kalish Group (BKG) to survey patient satisfaction. A phone survey was conducted with a randomly selected subset of patients to evaluate their home health experiences.

The study included the following data with specific parameters:

Participants:	Medicare Advantage beneficiary
Geography:	Texas
Dates of service:	Starts of care with AccentCare Home Health from May 1, 2020 – July 31, 2020
Types of patients:	Hybrid model and Traditional model patients, divided into separate groups
Number in sample:	314 hybrid model patients; 1080 traditional model patients

Five activities of daily living (ADLs), which are OASIS (Outcome and Assessment Information Set) functional metrics, were identified as the most appropriate and significant outcome measures, some of which were captured in survey questions. In addition, a baseline of patient risk of hospitalization was established using OASIS data.

Patient demographic data included age, gender, race, primary diagnosis, and hospitalization risk. Data was collected for home health admissions from May 1, 2020 to July 31, 2020, which included visits per episode of care by patient, visit start dates, and inclusion/exclusion of virtual visits. The average number of visits per episode were calculated, along with the average number of assessment calls made per patient and the average proportion of telehealth virtual visits for patients who received hybrid care.

Results

This study demonstrated positive results for hybrid home health care, reporting reduced unplanned hospital admissions, high degrees of patient satisfaction, and enhanced functional outcomes. Characteristics of the sample, including patient demographics, common primary diagnoses, and the distribution of hospitalization risk levels are described by the following:

Patient Demographics of Care Groups

Age		Gender		Race/Ethnicity					
Average Years		% Female		Black or African American		Hispanic or Latino		White	
Hybrid	Traditional	Hybrid	Traditional	Hybrid	Traditional	Hybrid	Traditional	Hybrid	Traditional
70.4	70.4	70%	63.5%	27.7%	18.8%	15.6%	16.1%	55.1%	63.1%

Hospitalization Risk on Admission to Home Health

Low		Medium		High	
Hybrid	Traditional	Hybrid	Traditional	Hybrid	Traditional
11.2%	18.6%	21.7%	21.0%	67.2%	60.4%

Common Primary Diagnoses in the Care Groups (% of total)

Respiratory including COVID-19		Cardiac including HTN & HF		Musculoskeletal including surgeries, arthritis, fractures		Type 2 diabetes with/without complications		Cerebral including malignancies, infarcts, ischemia	
Hybrid	Traditional	Hybrid	Traditional	Hybrid	Traditional	Hybrid	Traditional	Hybrid	Traditional
8.6%	5.9%	21.7%	9.2%	13.7%	9.3%	8.9%	9.9%	5.0%	3.2%

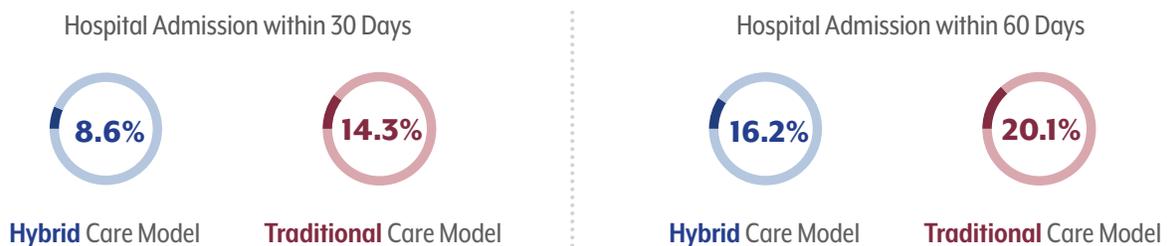
There were no discernible differences in the average number of in-person visits or assessment phone calls made during home health services for the hybrid care group compared to the traditional care group. This is an important finding, as virtual visits are designed to supplement traditional in-person visits, not replace them. Virtual visits function as a method of communication with patients and families to assess their status on a given day, reconcile medications, perform needed teaching, and detect clinical changes that may lead to worsened condition. The fact that no differences existed between the two care groups is foundational to the study.

Average Contacts per Care Group

In-person visits		Phone calls		Virtual visits	
Hybrid	Traditional	Hybrid	Traditional	Hybrid	Traditional
13.0	13.2	0.9	1.1	3.6	--

The primary result of the study demonstrated significant differences in hospitalization. The hybrid care group had 5.7% fewer 30-day hospitalizations ($p=0.0086$, 99%CI: 0.75-10.6) and 3.9% fewer 60-day hospitalizations (85%CI: 0.37-7.3) than the traditional care group.

Percent Patients Admitted to Hospital within 30 or 60 Days of Admission to Home Health Care

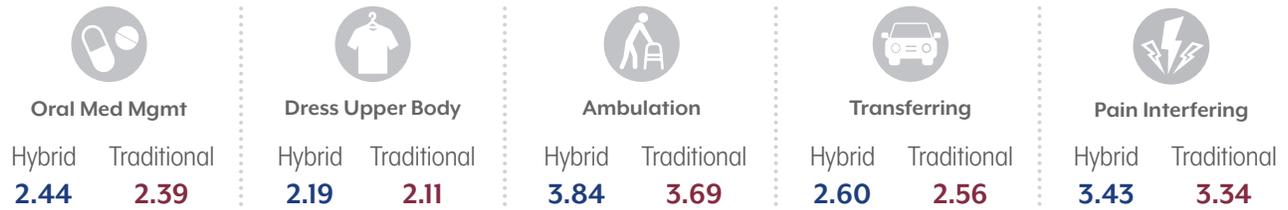


Additionally, at the start of home health care, groups were very similar in their mean baseline OASIS scores for the five study measures. For context, the range of each of the measures is stated first in the information below:

- **M2020 Oral medication management:** 0 (independent) to 3 (unable to take without assistance)
- **M1860 Ambulation & locomotion:** 0 (independent) to 6 (bedfast, unable to sit in chair or ambulate)
- **M1850 Transferring:** 0 (independent) to 5 (bedfast, unable to move or position self)
- **M1810 Upper body dressing ability:** 0 (independent) to 3 (entirely dependent)
- **M1242 Frequency pain interfering with daily activity:** 0 (no pain) to 4 (all of the time)

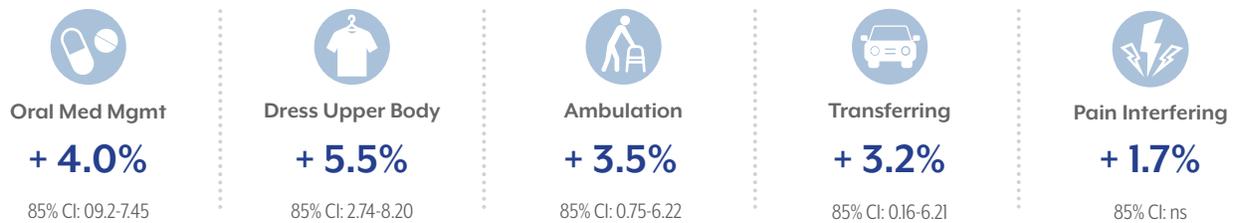
Results (continued)

Mean Baseline OASIS Measures of Care Groups



Patients who received hybrid care fared better, on average, across all OASIS outcomes measured in the study. Statistical testing of the differences demonstrated significance using the 85% confidence interval (confident that the hybrid care group made greater gains in improvement in each of the OASIS clinical measures with a 15% margin of error). This has clinical implications in demonstrating hybrid care, inclusive of virtual visits, is a viable delivery model to improve patient condition, safety, and self-management of medications in the home.

Mean Endpoint OASIS Measures at Conclusion of Home Health Episode



A BKG registered nurse conducted telephone surveys to determine patient perception of the care experience in the hybrid care group compared to the traditional care control group. The surveys provided feedback from 159 randomly selected patients from both groups (n=80 respondents from the traditional care group and n=89 respondents from the hybrid care group). Results showed patients who received hybrid care were equally, if not more, satisfied with their home health care.

Reported Patient Satisfaction of Care Groups

Satisfied - Very Satisfied



Hybrid Care Model

Satisfied - Very Satisfied



Traditional Care Model

Utilizing an experienced home health nurse for the survey provided better dialogue and information collection from the patients or the family member caregiver than would have been possible with a non-clinician surveyor. These results can serve as a benchmark when similar surveys are conducted in the future.

Call to Action

While traditional care (in-person visits only) will continue to be the standard for home health, the hybrid care model, combining telehealth virtual visits and in-person visits, does have merit. Patients can enjoy improved clinical outcomes and lower hospitalization rates. Given the hybrid care model's success in home health, the analysis presented here implies value in future opportunities for further study. Of great interest and importance as a next step, is studying the costs associated with hybrid care versus traditional care, with the hypothesis that hybrid care delivery provides significant cost savings to organizations and to payors, through improved outcomes, including reduced hospitalizations.

The COVID-19 pandemic provided ample incentive to explore the use of virtual visits to augment in-person visits. For example, virtual visits enabled provider flexibility to quickly respond to patient needs, avoiding travel to the patient's home. This may have been just one factor in the avoidance of hospitalizations. At the same time, virtual visits enabled staff to see more patients in a given period of time, along with greater flexibility in scheduling. Given the demonstrated advantages, multiple opportunities and applications, including those listed below, are worth further study.

- Enable collaboration with the patient's hospital or skilled nursing facility for virtual bedside visits and to manage care transitions.
- Provide a means for assisting physicians in completing virtual visits with their patients on home health services.
- Actively involve family members in care discussions if they cannot be physically present with patients during virtual visits.
- Engage with assisted living communities to provide technical capabilities to complete virtual visits.
- Provide a means to work with care navigators to enhance self-care and support value-based care.

While the COVID-19 pandemic provided a unique opportunity to test telehealth, its applications in home health care could be reinforced under more normal circumstances.

- The study presented here demonstrated clinical and patient safety benefits and implies the possibility of significant financial benefit (e.g., avoidance of unplanned hospital admissions). Studying the costs of hybrid care versus traditional care would have merit for both home health organizations and policy makers.
- Patients self-selected for participation in hybrid care. Investigating a better understanding of why some patients opted to participate and others did not, could give greater insight into the best applications of hybrid care.
- While patient demographics (age, gender, race) appear largely similar between the hybrid care and traditional care groups, other socioeconomic factors (income, education, residence) were not considered. It could prove useful to determine whether these additional factors might have been determinants in self-selection and outcomes.
- Home health agencies should develop a patient profile that might identify patients who are most likely to benefit from virtual visits and test those criteria against actual performance.

AccentCare responded to the pandemic with new and innovative methods of home health care delivery for its vulnerable patient populations. This study indicates strong potential for improved outcomes in the post-acute care population, if hybrid care delivery, inclusive of both in-person and virtual visits, is utilized. Additional study and continued reimbursement consideration are required.

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