

## Implementation and Evaluation of a Long term Care at Home (Home LTC) Service in a Rural Community Pharmacy Setting

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### Abstract

**Background:** The majority of older Americans are expected to need some level of institutional long term care. Community pharmacies are positioned to delay this need by supporting medication management. There are potential mechanisms for pharmacists to deliver long term care at home (Home LTC) services and bill insurers for services that may delay the transition to a higher level of care. **Objectives:** This project aims to evaluate the implementation of a community pharmacy delivered Home LTC service in a rural community. The objectives were to: 1) describe implementation and challenges of pharmacy-provided HOME LTC services, 2) attempt billing for Home LTC services, 3) describe pharmacist clinical interventions including drug therapy problems (DTPs) and 4) measure patient/caregiver satisfaction with the service. **Methods:** This was a pilot evaluation of a community pharmacist delivered intervention. Patient eligibility requirements include taking 6+ medications, having 3+ chronic conditions, and having 2+ limitations in activities of daily living (ADLs). All participants received a comprehensive medication review. Pharmacy staff prepared medications in monthly adherence packaging and delivery was offered. Home visits were performed by the pharmacist as needed. A post study survey assessed satisfaction and invited suggestions for improvement. Patient characteristics, DTPs, interventions, reimbursement attempts and amounts, and survey responses were documented, and analyzed descriptively. **Results:** Fourteen patients were enrolled in the study - 3 living in a group home and 7 were already receiving adherence packaging. All 14 patients received at least 1 clinical intervention, and 4 home visits were conducted. Seven patients (50%) completed the satisfaction survey and reported universally high satisfaction with the service elements. **Conclusion:** Overall, implementing a HOME LTC service was successful, however, the pharmacy failed to be reimbursed for service elements, including adherence packaging. Patients were satisfied with the service. Bridging the reimbursement gap is critical to sustainably provide patients with this desired service.

**Keywords:** Long term care, community pharmacist, adherence, home visit

### Background

According to the Department of Health and Human Services (HHS), 7 in 10 seniors reaching 65 years old are expected to need some type of long term care (LTC) before the end of their life. By 2030 it is estimated that 24 million Americans will need LTC.<sup>1</sup> Currently, access to LTC is limited to health care systems like assisted living facilities, skilled nursing facilities, and increasingly, community pharmacies. Older adults in need of LTC often either make frequent visits to the local pharmacy or enter a LTC facility. However, studies have shown that many older adults would prefer to continue living at home while receiving LTC. Such at-home care comes with medication related burdens and associated effects on the lived experience of patients.<sup>2</sup>

The lack of a systematic approach and pharmacy support for home medication management is a main reason why older adults transition to LTC facilities.<sup>3,4</sup> Yet, less than 5% of home health agencies have a pharmacy affiliation, which leaves older

adults without adequate professional medication management assistance.<sup>5</sup> Improved pharmacy consultation, particularly amongst individuals with polypharmacy, have resulted in improved interventions and outcomes. Specifically, this includes reduced risk of rehospitalization, identification of DTPs and prescriber-supported medication adjustments.<sup>6,7,8,9</sup>

A key resource for pharmacies facilitating patients with their home health needs may be the incorporation of a community health worker (CHW) who may be able to ameliorate social determinants of health by providing logistical support, for instance in coordinating rides to appointments, or in education, by informing patients of available services. Within the current study, the CHW was also a pharmacy technician. Expansion of pharmacy technician roles to include CHW has been suggested as a means of smoothing transition of care and unburdening dependence on pharmacists.<sup>10, 11</sup> Overall, CHWs are critical advocates for patients in addition to improving access to healthcare.

To address this care gap, health systems have developed and tested various interventions to provide home medication management to older adults, and to equip older adults to self-manage medications at home. A 2021 study of the national commercial ExactCare program described a long term care at home (HOME LTC) service that included home visits,

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comprehensive ongoing medication reviews, patient education, medication reconciliation, medication adherence packaging, and electronic reminders and trackers. They evaluated this service for its effect on medication adherence and healthcare costs. The authors reported this program was associated with increased adherence to statins and antihypertensive medications, and a decrease in admissions to and length of stay at skilled nursing facilities. This program's medication care management model was associated with an approximately \$2,400 per member per year reduction in total cost of care, representing a 5% reduction in average costs.<sup>5</sup> Evidence from this study supports the potential benefits of implementing a medication care management model for older adults, such as HOME LTC.

An important goal of medication management for older adults is medication adherence, especially when older adults are self-managing medications at home. Pharmacies use various tools and techniques, like adherence packaging, to help patients adhere to treatment. A systematic review of 52 reports involving 22,858 patients showed that adherence packaging contributed to as much as 8 percentage point difference in medication adherence.<sup>12</sup>

Long term care at home services also can include delivery of medications to the home. Shah et al. (2021) conducted a randomized control trial to assess the effect of home-delivered pill packs on medication adherence in a low-income population with state-funded insurance. The study included 80 patients, all with a minimum of 4 medications daily. The study showed significantly lower rates of missed medication doses in the study group (3.7%) compared to the control group (17.4%).<sup>13</sup> These studies provide evidence supporting the HOME LTC service.

Another aspect of long term care at home services is home visits by pharmacists. In 2019, Akers et al. shared a pharmacy's experience in implementing a pharmacist-led in-home medication coaching service. With a total of 462 home visits with 142 patients, they found an average of 11 DTP per patient and performed an average of 13 interventions per patient.<sup>14</sup> This supports the potential benefit of an in-home visit as a potential service component.

Community pharmacies, with the contribution of community health workers, are positioned to make an evidence-based contribution by providing long term care at home services. With this implementation, older adults may be able to stay in their homes longer and take their medications more consistently.

### Objectives

The objectives were to: 1) describe implementation and challenges of pharmacy-provided HOME LTC services, 2) attempt billing for Home LTC services, 3) describe pharmacist

clinical interventions including drug therapy problems (DTPs) and 4) measure patient/caregiver satisfaction with the service.

### Methods

This was a prospective, single group evaluation study of a pharmacist-provided long term care at home service. This project was deemed quality improvement non-human subjects research by the institutional review board.

*Site:* [redacted] Pharmacy is a community pharmacy in [redacted], serving patients across rural [redacted] County. The [redacted] County population consists mostly of English speaking non-Hispanic white patients. Most participants live within 5-miles of the pharmacy. Patients were eligible for inclusion in the service based on the following eligibility criteria set by Centers for Medicare and Medicaid Services (CMS) and state programs:<sup>15</sup>

1. Adults receiving services through the Home and Community Based Services (HCBS) program or through another waiver program should automatically qualify for LTC Pharmacy at Home services.
2. For adults not enrolled in one of the programs listed above, eligibility was determined by:
  - a. The existence of limits for at least two (2) activities of daily living (ADL) or two (2) instrumental ADLs (iADL)
  - b. Take 6+ medications.
  - c. Has 3+ chronic conditions
  - d. Meets a requirement for home bound.<sup>15</sup>

*Patient Identification:* Patients were identified by a pharmacist or technician using a qualification form based on the inclusion criteria. (Figure 1).

*Medication Review:* When a patient was due for medications, the pharmacist reviewed all current medications and analyzed any drug therapy problems. Pharmacists discussed medications with the patient and consulted on any changes. Pharmacists communicated with prescribers for any concerns or recommendations if necessary.

*Medication Synchronization:* Following identification, patients' medications were synchronized to a specific date of each month and added to a calendar system currently utilized for current adherence packaging patients.

*Adherence Packaging:* Following the completion of the medication review, the patient's medications were packaged into weekly bubble cards for adherence. Patients could receive 1, 2, 3, or 4 weeks of medications at a time, and this was tailored to the patient's needs.

*Home Delivery:* Once the bubble packaging was completed, patients had their medications delivered by either a delivery driver or pharmacist. Pharmacists delivered medications and visited the home on an as-needed basis for clinical interventions (vaccines, durable medical equipment, BP checks, etc.), check-ins, or if unable to reach the patient via phone during the medication review step. This entire process occurred monthly and as needed for patients with increased needs.

*CHW interventions:* At the study pharmacy: The CHW served as a patient advocate, providing community resources to patients and assisted them with any social determinants of health related issues. For example, during the project our CHW coordinated a ride to patient appointments. The CHW also helped identify patients and spoke with patients about the service in their role.

*Data Collection:* Following the completion of the data collection period, patients and/or caregivers were given a satisfaction survey to determine the impact on the patient's experience. Other data for collection included DTPs identified, recommendations and changes made, and monitoring of lab values. Data was tracked using eCarePlans in the site's pharmacy software (Pioneer RX) which allows for documentation of pharmacist assessments and plans.

*Survey development and administration:* A 14-item survey was developed to assess patient satisfaction with the Home LTC service elements (Appendix A). Patients were mailed the satisfaction survey with a postage-paid return envelope. The survey included identification of services utilized: prescription delivery, medication packaging, medication review and home vaccination. Each of these services are rated on a 5-item satisfaction scale ranging from extremely satisfied, somewhat satisfied, neither satisfied nor dissatisfied, somewhat dissatisfied and extremely dissatisfied.

Respondents were asked to rate their experience on the following items; "Explain things in a way that is easy to understand?", "Listen carefully to you?", "Treat you with courtesy and respect?", "Spend enough time talking with you?", "Show concern for you?", "Ask if you were having trouble with your medications?" and "Speak with you in a timely manner?" on a scale of never, sometimes, often or always. The survey prompted open-ended feedback on what services were most helpful and what could be changed or added.

*Billing:* Billing was attempted with the listed service codes to cover HOME LTC services. Some insurances also require specific contracts for HOME LTC, which our pharmacy did not acquire for 2024. The proper codes include: Place of Residence = "01 - Home", Level of Service = "07 - Medical at home with special pharmacy services identical to Long Term Care", Pharmacy Type

= "05 - Long term Care Pharmacy" These claims were processed through the pharmacy dispensing system.

### Results

Fourteen patients were enrolled in the project (Table 1). The average age of patients was 61 years. The average number of current medications was 13 and the average number of medical conditions was four.

All 14 patients received at least one clinical intervention, an immunization review and were educated on immunization needs. Two patients received over-the-counter recommendations, and two patients accepted immunization recommendations and received vaccines at home. One patient received a blood pressure monitor and received instruction on its use and recording of daily results.

A single patient each switched UTI prophylaxis antibiotics, received in-home continuous glucose monitoring education, instruction on insulin administration from a pharmacist and received community assistance through the pharmacy's CHW. One patient did not receive prescription delivery. Some form of extra reimbursement was obtained using the aforementioned billing for LTC codes for 8 of 14 patients which increased the amount that was paid because it changed the status of the patient.

### Survey Results

A total of seven patients or caregivers (50%) responded to the survey. All seven respondents reported "Extremely satisfied" with all services received except one who reported somewhat satisfied with delivery services. All seven patients responded "always" to "...over the past 3 months. How often did the pharmacists and staff do the following": "Explain things in a way that is easy to understand?", "Listen carefully to you?", "Treat you with courtesy and respect?", "Spend enough time talking with you?", "Show concern for you?", "Ask if you were having trouble with your medications?" and "Speak with you in a timely manner?"

### Discussion

Implementation of HOME LTC services within the study was successful in terms of patient/caregiver satisfaction and providing clinical interventions. Billing for services provided remains a primary barrier for the broader implementation of similar projects. Positive outcomes or experiences such as consultation on immunization needs and one-on-one patient education were all observed during the study.

A lack of systematic approach and pharmacy coordination with home medications have been cited as barriers to elderly individuals being forced to enter assisted living facilities.<sup>9</sup> This pilot study provides a model for meeting these HOME LTC needs. The involvement of a CHW is considered an integral part of the present pilot program and such a role is instrumental in

coordinating care through the pharmacy. The greatest challenge for implementation remains billing for services. Despite billing with the proper service codes, most insurances do not recognize or cover HOME LTC services. Other insurers only provide reimbursement within specified contracts; thus, it is important to secure such contracts prior to implementation. Although a higher level of prescription reimbursement was captured for some patients by using LTC codes, this reimbursement was limited to only two out of six insurance providers and was only a small increase, not covering the cost of pre-packaging and technician and pharmacy time.

The burdens of polypharmacy and lack of pharmacy consultation are primary drivers of the need for elderly individuals to transition to facilitated living.<sup>6,7</sup> Considering that each patient within the study received at least one clinical intervention, this study evidences some movement towards ameliorating these needs. These results also mirror other studies which have shown such programs are particularly helpful in providing consultation on and administration of immunizations.<sup>8</sup> Likewise, care for chronic conditions and medication adjustment comprised a smaller proportion of interventions compared to immunization.<sup>8</sup> Though small in frequency, these interventions likely result in a more profound quality of life improvement. Other outcomes previously correlated with improved HOME LTC services such as reduced polypharmacy and decreased risk of rehospitalization<sup>9,12</sup> was not assessed within the present study but should be examined in future work.

Patient satisfaction, as measured in this study, strongly suggests patients are eager to work with community pharmacies capable of meeting their HOME LTC service needs. Such satisfaction may well be expected when patients are receiving a level of care outside of the typical pharmacy experience. Considering the high level of satisfaction and a growing body of evidence that HOME LTC services may provide greater healthcare savings by reducing rehospitalization and delaying the need for facilitated care, community pharmacies developing such programs would be well positioned to grow into this expanding area of the market assuming insurers see the benefits in terms of patient satisfaction and reduced healthcare costs. Alternatively, patients also have the option to pay cash for packaging and home-visits with the pharmacist, such as with a membership model.<sup>16</sup>

### Limitations

This study was limited in size making the ubiquity of results critical for evaluating the weight of its findings. The reliance solely on a quantitative survey prevents more detailed contextualization of patient experience with the service and unmet needs. Also, the survey may be subject to social desirability bias, especially as the patient was not charged for the service.

### Conclusion

This pilot enrolled patients and the service was delivered with the help of a CHW and resident pharmacists. There appears to be an interest in supporting older adults with medication management in their homes, including receptivity for home visits. Obtaining reimbursement for the added services beyond dispensing for this group remains a barrier.

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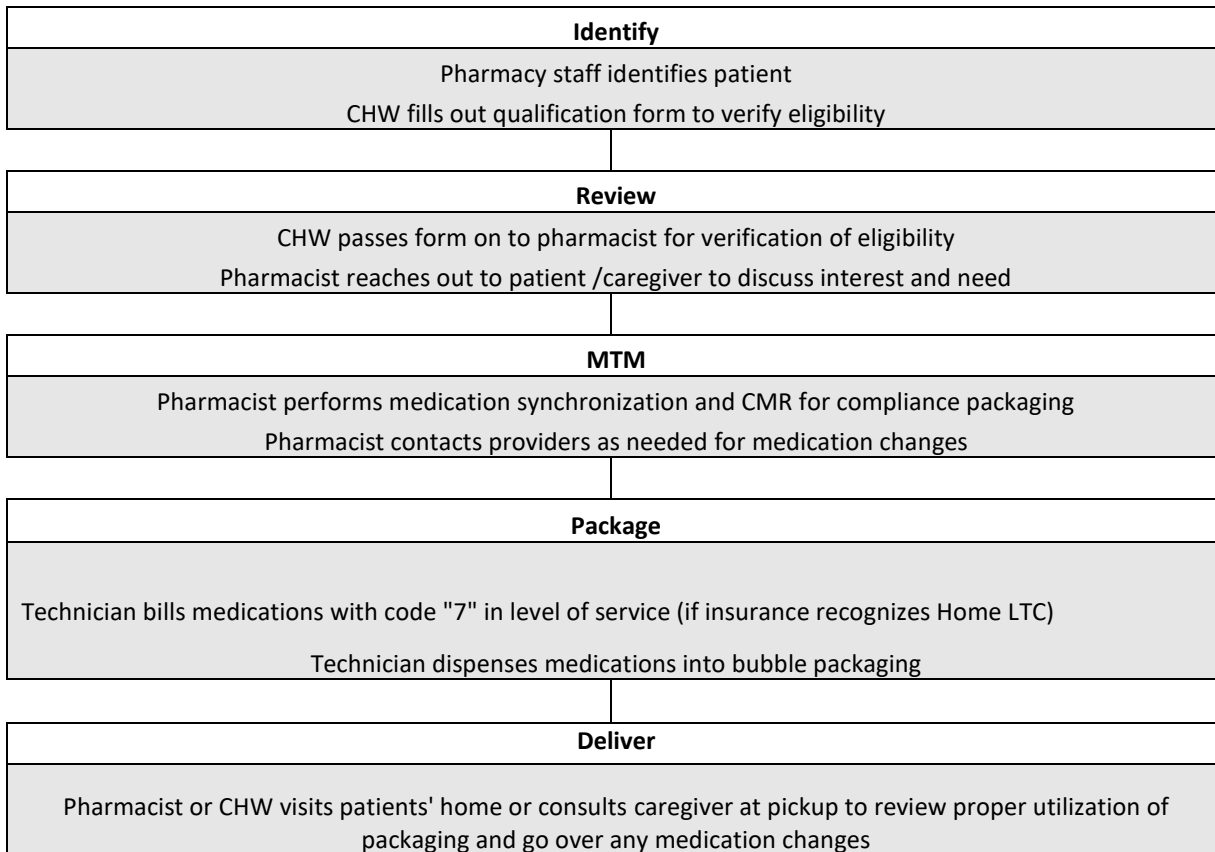
**Treatment of Human Subjects:** IRB determined project quality improvement non-human subjects research.

**Disclaimer:** The statements, opinions, and data contained in all publications are those of the authors.

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**Figure 1: Home LTC Service Component Flow**

<b>Table 1. Patient Demographics (N = 14)</b>	
Characteristics	Frequency (%)
<b>Gender</b>	
Male	7 (50.0%)
Female	7 (50.0%)
<b>Age Range</b>	
18-35 years	2 (14.2%)
36-64 years	6 (42.9%)
≥ 65 years	6 (42.9%)
<b>Insurance Plan</b>	
Commercial	3 (21.4%)
Medicare Part D only	6 (71.4%)
Medicaid only	1 (7.2%)
Dual Eligible	4 (28.6%)
<b># of Medications</b>	
6 – 10	6 (42.9%)
11 – 15	3 (21.4%)
16+	5 (35.7%)
<b># of Chronic Conditions</b>	
3	9 (64.3%)
4+	5 (35.7%)
<b># of Barriers to Activities of Daily Living (ADLs)</b>	
3	11 (78.6%)
4+	3 (21.4%)
<b>Home visits from pharmacists</b>	
0	10 (71.4%)
1	2 (14.2%)
2+	2 (14.2%)
Vaccines in the home	2 (14.2%)