

Health Care Merged With Senior Housing: Description and Evaluation of a Successful Program

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Abstract

Objective: This article describes and evaluates a successful partnership between a large health care organization and housing for seniors. The program provides on-site, primary care visits by a physician and a nurse in addition to intensive social services to residents in an affordable senior housing apartment building located in Pennsylvania. Per Donabedian’s “Structure–Process–Outcome” model, the program demonstrated positive health care outcomes for its participants via a prescribed structure. To provide guidance for replication in similar settings, we qualitatively evaluated the processes by which successful outcomes were obtained. **Methods:** With program structures in place and outcomes measured, this case study collected and analyzed qualitative information taken from key informant interviews on care processes involved in the program. Themes were extracted from semistructured interviews and used to describe the processes that helped and hindered the program. **Results and Discussion:** Common processes were identified across respondents; however, the nuanced processes that lead to successful outcomes suggest that defined structures and processes may not be sufficient to produce similar outcomes in other settings. Further research is needed to determine the program’s replicability and policy implications.

Keywords

senior housing, geriatric health care, care coordination

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Introduction and Rationale

The goal of this project is to describe and evaluate a cooperative effort between a provider of senior services and a health care organization in the United States. The program provides on-site, primary care visits by a physician and a nurse in addition to intensive social services to residents in an affordable senior housing apartment building located in Pennsylvania. This study helps to delineate the processes involved in this successful joint effort, providing a potential road map for those wishing to duplicate the program while adding to the evidence base of the efficacy of partnering health care with senior housing (“housing plus”) organizations. As the U.S. population continues to age and health care utilization continues to rise as a result, there is an upward pressure on health care expenditures. By 2030, one in five Americans will be aged 65 or older (Administration on Aging, 2014). As per capita spending on health care increases with age, it follows, then, that there is potential for health care spending to reach prodigious heights over the next few decades. In addition, the overall system of health care in the United States aims to improve the health of populations while lowering costs, an ambitious goal that may seem

insurmountable given the status quo. However, one does not have to think that far outside of the box to see the potential in housing plus services for seniors to have an impact on the desired outcome.

According to a recent report from the United States Agency for Housing and Urban Development, assisted senior housing properties are the “hotspots” of health care need. The report states that older residents living in subsidized housing have more chronic conditions compared with their peers and run a higher risk of being hospitalized or using the emergency department (ED; Assistant Secretary for Planning and Evaluation, 2014). If that is true, then improved coordination of care for this population may prevent acute exacerbations of chronic conditions that lead to unnecessary health care utilization. As such, federal and state government funds have been invested in demonstration projects across the country to outline the effects of coordinated care in

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action. For example, in 2008, Cathedral Square Corporation based in Burlington, Vermont, developed the Support and Services at Home program to connect frail residents living independently with community-based support systems so that they could remain safely in their homes. In 2011, this program provided targeted support and in-home services to Medicare Fee-for-Service beneficiaries participating in the Multi-Payer Advanced Primary Care Practice Demonstration. Although preliminary outcomes of its first year of implementation are equivocal, there is a trend toward a slower rate of growth in total Medicare expenditures among early participants (RTI International, 2014).

Similar project goals are evident in Oregon's Housing with Services, LLC program. This collaborative model includes partnerships between housing providers, health plans, and social service agencies to improve health care outcomes while reducing health care costs for seniors and people with disabilities who live in subsidized housing in the greater Portland community. A summative evaluation is forthcoming; however, hypothesized results include reduced hospital use, delayed entrance into long-term care, decreased emergency room utilization, and measurable cost savings among an identified population of senior residents living independently (Carder, Luhr, West & Morgan, 2016).

By partnering community organizations with health care entities, projects like these seek to enhance coordination and collaboration of care across the care continuum. Although there have been documented challenges in bringing these distinct entities together (Carder, et al., 2016; National Coalition for Care Coordination, 2015), it seems a necessary challenge to close the gap between fragmented and patient-centered care. As new ideas continue to unfold and become translated into action, it will be important to document the various components of each attempt to understand both barriers and success factors to implementation.

The Pennsylvania-based partnership paired health care with social services and housing and sought to prevent unnecessary hospitalizations and ED visits by targeting those residents who utilized the most services. Data on hospital admissions and emergency room visits were collected over a 2-year period and showed a decline in both over time (see Figures 1 and 2), suggesting that the program was successful. The following retrospective analysis of the processes in place serves, in part, as a "recipe for success" for future providers, researchers, funders, and policy makers who also wish to translate ideas into action by changing the ways in which organizations serving seniors work together.

Program Structure

The two entities began collaborating in 2010 when the senior services organization invited the health care organization to help analyze an assessment they had conducted of their residents. The survey revealed that a

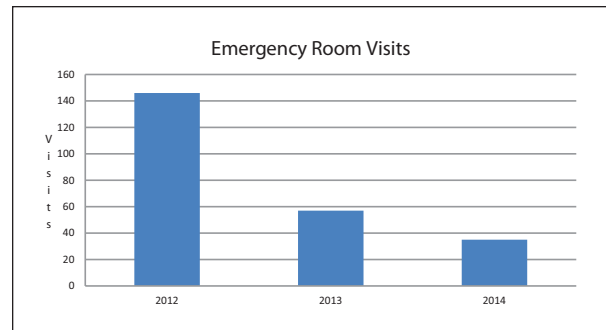


Figure 1. Emergency room visits of senior housing residents.

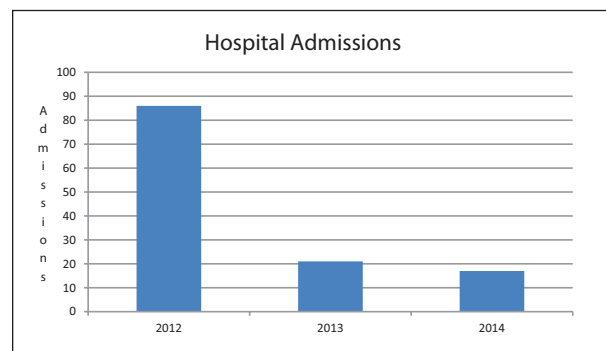


Figure 2. Hospital admissions of senior housing residents.

large proportion of consumers suffered from diabetes and other chronic health conditions. In response, the two organizations introduced a diabetes education and management program in two affordable senior housing communities.

After finding success around this initial effort, the two decided to broaden their scope to address the health of the residents more comprehensively. They ran a zip-code analysis of the areas served by the hospital and found that residents in the service organization's 150-unit property near their main hospital campus had a high rate of ED and hospital utilization among other things. In an effort to reduce unnecessary use of these services, the two organizations developed a program to help individuals better manage their multiple chronic conditions and more appropriately navigate the health care system.

The health care organization was interested in deterring inappropriate ED and hospital use for a couple of reasons. One was that numerous residents were using the ED for nonurgent needs, which was an inefficient and costly use of this resource and also slowed down staff response to patients who were in more critical need of care. In addition, inpatient stays for seniors can increase the risk of complications such as infection, embolism, and medication interactions. If an illness or complication can be diagnosed and treated early in the outpatient setting, the senior is more likely to be able to stay independently living in the community. The health care organization also knew they would likely form an

Accountable Care Organization (ACO) in the future and would need to think differently about the way they deliver care. As an ACO, they would be held accountable for their performance and the quality of their care and have a new incentive to keep individuals out of the ED and hospital. Their goal was for individuals to “get appropriate care in the appropriate place at the appropriate time.”

To help people stay healthy, the staff of the health care organization knew they had to get out into the community. When individuals are in their hospital, the health care organization can control everything they do and can assure all necessary care is conducted. Once the patient returns to the community, though, they lose that control. In exploring why residents were inappropriately using their ED, the health care organization identified barriers related to the social determinants of health (Centers for Disease Control and Prevention [CDC], 2010). For example, residents did not have transportation to get to their primary care providers, while the ED was in walking distance to their residences. In addition, if a resident was unable to see his or her primary care physician, the clinical team in the partnership served as a bridge to the resident’s physician to improve continuity and lessen care fragmentation.

Addressing a cluster of needs in a site like an affordable housing property provides an efficient opportunity to connect with higher risk patients out in the community. It also provides an opportunity for more insight behind a patient’s health. Visiting someone in their apartment allows the clinician to see that they have 15 medications, not two, or find out that they have no family when they say they do.

The organizations established a weekly half-day clinic at the housing property staffed by a physician, nurse navigator, and master’s-level social worker. Through the health care organization’s electronic health record (EHR), the nurse ran a daily report to identify residents who had been in the ED or hospital and scheduled them to be seen during the next clinic day. They also monitored a set of residents who were *high utilizers* and/or were at-risk for ending up in the ED or hospital (identified as 2+ chronic conditions), and the nurse scheduled these individuals when necessary. Residents could also request an appointment with the physician, nurse, or social worker for nonurgent reasons or for specialized assistance with health-related social service issues.

Each clinic day started with an open half hour in a community room on the first floor where any resident could talk with the nurse or the social worker. The physician and nurse spent the next 2 hr seeing scheduled appointments in the residents’ apartments. The social worker would also see residents for appointments, although these visits took place in an office. If requested, the social worker accompanied the physician and nurse on the home visit. The clinic staff had a laptop with them from which they could access EHRs to get information

about the patient as well as document their visit in real time. Outside of the clinic time, the nurse and social worker followed up and helped coordinate needed care and resources.

The health care team focused on making sure residents were properly managing their chronic conditions, taking the appropriate medications, and complying with discharge instructions. During their time with the residents, the team identified potential barriers to maintaining their health and assisted them in accessing appropriate services. This meant educating the resident about their disease and coaching them on needed behavior changes, identifying medication complications, obtaining assistive or monitoring devices, scheduling follow-up appointments or testing, and assisting with the process for insurance coverage of services. The physician was not intended to replace the individual’s primary care physician. Instead, the program acted as a reconnection or supplement to primary care. Residents were educated about when to contact their physician, the importance of an ongoing relationship with their provider, and how to make the most of patient/physician conversations. The clinical team contacted the patient’s primary care physician and documented in the EHR, so all providers involved in treating the patient were aware of the services and support provided.

The housing provider’s supportive service coordinator also played an integral role in this health improvement initiative by helping the team understand residents’ needs, as well as working together to assist residents with securing necessary resources. The supportive services coordinator role focused on assisting residents with making choices that supported their ability to age in place, as well as providing social support and services to those who may need additional assistance due to cognitive and physical limitations. A significant part of the successful partnership was the growth in understanding of how each organization provided service, the services that were available, as well as the rules and regulations governing each field. The supportive services coordinator was able to work with the team to help them understand her role in accessing community services, identifying resident needs, and supporting residents in aging in place. The team increased their understanding of how social issues and supports directly related to the health improvement initiatives they were developing. As a result of this partnership, the health care team worked in conjunction with the coordinator to understand barriers to receiving care, following up on care recommendations and developing a collaborative approach to assisting residents with additional supportive needs. Examples of this partnership include ensuring that a resident had access to transportation for specific medical appointments, linking residents with the health care team as needed, communicating with the team when transitions occurred to ensure supports are in place, educating the team on educational tactics for residents with low

Table 1. Description of Key Stakeholders Interviewed.

Organization	Position	Tenure with organization/tenure working with older adults
Health care organization	Registered Nurse (RN)	25 years
Health care organization	Physician (MD)	9 years
Health care organization	Master's level Social Worker (MSW)	5 years
Senior services provider	Social Worker	6 years
Senior services provider	Manager	5.5 years
Senior services provider	Resident	1 year
Senior services provider	Lead social services coordinator	8 years
Senior services provider	Vice president of operations	25 years
Senior services provider	Mission director	28 years
Senior services provider	Medical director	25 years

Table 2. Characteristics of Targeted Population in Senior Housing.

Average age	69.7 years
Average quality of life rating	2.8 (1—Excellent; 5—Poor)
Average physical health rating	3.0 (1—Excellent; 5—Poor)
33% of residents have fallen an average of 2 times in 12 months	
Top three health conditions: hypertension, arthritis/rheumatism, eye problem	

literacy, and working on common education for residents when trends were noted.

On average, the team saw about eight to 10 residents per clinic day. From the health care organization's perspective, each visit meant a possible hospitalization or rehospitalization had been avoided.

Qualitative Implementation Findings

Investigators referred to the CDC guidelines (CDC, 2009) to identify key evaluation questions to study the implementation of the program over the course of the years, utilizing written records along with semistructured interviews with key informants. Most of this information was used to help to understand the issues surrounding operations, with a particular emphasis on those that helped and those that may have hindered success with regard to outcome measures. By identifying strengths and challenges, future implementation and/or duplication may be improved.

From late 2014 through early 2015, investigators conducted a site visit in addition to several rounds of telephone interviews with a variety of key stakeholders over a several-month period (see Table 1). Copious notes were taken during the interview process and typed up by the research assistant.

Data from the interviews were analyzed using open coding of word and phrase repetitions (D'Andrade, 1991; Ryan & Bernard, 2003). The lead investigator informally analyzed the data, noting the words or synonyms that were repeated throughout and across the interviews. Once this was completed, another researcher coded the interviews and a final list of themes was

determined. Please refer to the appendix for the selection of implementation research questions and subsequent themes identified for this article.

The targeted population of independently living seniors (Table 2) is not atypical of other subsidized senior housing sites, where, on average, residents need assistance with about one quarter of their activities of daily living (Federal Interagency Forum on Aging-Related Statistics, 2010).

Findings

From the findings, it is clear that certain components are necessary above and beyond the obvious structures described in Table 3 that carry the processes for such an endeavor to be successful over time. In addition to these tangible structural components, results from the interviews suggest less tangible structural components associated with the processes such as "trust," "cultural competence" (coded as "shared language"), "increased awareness of how social issues impact health," and "misperceptions of home visits in a housing population" (see Table 3).

Structures and Processes Necessary for Positive Outcomes

Structural components

- A. Identify a *targeted audience* for the program using a needs assessment
- B. Employ *mechanisms to reach targeted audiences* such as lunch and learns, media advertisements, and so on
- C. Identify *willing partnerships* between/among health care and senior housing providers

Table 3. Examples of Donabedian's Structure–Process–Outcome Model for the health Care Organization–Senior Services Provider Partnership.

Structure	Process	Outcome
Health care team	Home care visits *dispel myths of inefficiency of home health care	Reduced Emergency Department visits
Social worker	Provide transportation *social determinant of health	Reduced hospitalizations
Supportive services coordinator	Postdischarge follow-up care *need for shared language	Potentially reduced rehospitalizations
Weekly clinic	Care coordination *need for shared language	Reduced hospitalizations

*additional process components as noted in Appendix.

- D. Identify individuals within organization willing to commit as *teams*
- E. Staff teams with *members from all levels of the organizations*: care providers, administrators, property staff, and upper level providers
- F. Ongoing communication between health care and housing organizations
- G. Clarity of the *mutual benefit(s)* between participating organizations
- H. *Staffing* requirements
 - a. Health care nurse/physician team
 - b. Health care social worker (MSW) with senior services experience
 - c. Housing services coordinator (SW) with senior service experience
 - d. Housing/maintenance manager
- I. Ongoing *financing*—whether through grants or newly created business models
- J. *Time* allotted to employees of both entities to focus on the program

Although these structural components are required for a successful program, this investigation into the barriers and successes reveals these as necessary, yet not sufficient to successful implementation. Interviews and small focus groups unveiled several keys to successful implementation and, ultimately, outcomes to this program.

Process Components

- A. *Shared language*—When one speaks of a “shared language” and “cultural competency” in today’s health care environment, the assumption is that of multiple races, ethnicities, and languages indigenous to other countries. In this context, these concepts refer to shared understanding among providers in the health care environment. Continuously asking questions about how partnership organizations function and the language that is used helped to set parameters for each to function. Until the current silos begin to merge between health care and housing, it is important to understand the different rules and regulations under which each operate.

- B. Similarly, once a common language is agreed upon and understood, a sense of mutual *trust* emerges, which is a critical component of organizational buy-in. Organizational buy-in is one of the most crucial aspects to any major changes in an organization, from mergers to policy changes to necessary responses to external environment changes (Barney, 2010). In this instance, having a trusting relationship with the housing staff creates better resident engagement in the program where residents are more likely to reach out to the health care team (e.g., SW, RN, MD).
- C. Educational components to *dispel myths* regarding upcoming changes to programming are also necessary to successful implementation of any new program. Misguided efforts leading to barriers to implementation can relatively easily be remedied by providing education and evidence to dispel myths. For example, in this program, one barrier to successful buy-in was the myth that home health care visits are considered inefficient in health care (Hay & Mandes, 2004). In this instance, it appears that home health care visits are actually more efficient given the proximity of the clients, or a “one-stop shopping” opportunity for clients to be seen by the health care team. Thus, educating health care entities about the benefits of senior housing with services via site visits to successful programs, lunch and learns, and the like may lessen this barrier to implementation and lead to more acceptance of a more innovative way of thinking.
- D. Housing with services also provides synergistic relationships among various components of the *social determinants of health* as outlined by the CDC’s Healthy People 2020 (CDC, 2010), namely, Social and Community Context, Education, Neighborhood and Environment, Health and Health Care, and Economic Stability. Having the structures in place, including the master’s-prepared social worker (*according to key informants, the social work piece is the key component to addressing social determinants of health*), care coordinator, RN, and MD all under one roof allows the health care

professionals to assess the relationships among the social determinants of health, rather than perpetuating a fragmented system. Recognizing these relationships can assist with identifying the needs of the individual and directing him or her to the most efficient and cost-effective plan of action.

The need for a qualified, master's-level social worker. As mentioned above, the structure of the care team includes an MD, RN, and MSW in addition to an on-site care coordinator. It would seem a duplication of services to employ both an MSW and care coordinator with a background in social work. However, results from the interviews suggest that these two entities fulfill different roles in the success of the program. The MSW appears to have a greater understanding of the community resources at large, while the care coordinator plays more of an internal role with the residents, gaining their trust as a part of their community. The trustworthiness then transfers to the health care team that visits the residents, making for a much more valid and reliable information gathering session between the resident and the health care team. This, in turn, provides for a more cost-effective interaction among the team and eliminates the need for duplicate services and unnecessary care. In sum, this position as part of the team can assist residents in improving knowledge of the community by dovetailing with the service coordinator's ability to gain the trust of the residents which are key components to successful health outcomes for the targeted population.

Theoretical Framework

This partnership can easily be illustrated by Donabedian's (1988) Structure–Process–Outcome model. The Donabedian model is a conceptual model that provides a framework for examining health services and evaluating quality of health care. According to the model, information about quality of care can be drawn from three categories: "structure," "process," and "outcomes." Structure describes the context in which care is delivered, including hospital buildings, staff, financing, and equipment. Process denotes the transactions between patients and providers throughout the delivery of health care. Finally, outcomes refer to the effects of health care on the health status of patients and populations. According to Donabedian's model, certain structures and processes must be in place to achieve successful outcomes.

In the case of this program, named structures are already in place and outcomes have been measured. Thus, the missing piece is the process involved to achieve the outcomes (e.g., reduced ED visits; hospitalizations). While processes involved are also outlined above in the description of the program, results of this study suggest that there are several less obvious components to the program that make it successful. In other words, for replication purposes, the defined structures and processes may not be sufficient to produce the same successful outcomes if replicated in other settings.

At first glance, this model appears relatively straightforward and replicable. However, as indicated by the asterisks in Table 3, there are more nuanced processes that are required for a program such as this to continue to be successful. These themes were reported frequently by key informants as integral to the success of the processes. In other words, *trust* between the resident and the health care team is essential to create ongoing relationships where honest exchanges take place to direct the resident to appropriate services. Although these less concrete processes may take more time to establish, it appears that they play a fundamental role in the success of the program, resulting in healthier consumers and cost savings.

Limitations

Every research study faces limitations and challenges. One limitation to this study is that it involved a relatively small sample of key informants. As such, these informants were also either self-selected or suggested by program participants. Future studies will increase the number of informants as well as recruit a wider variety of informants.

This study is a retrospective look at a program already in progress, with outcome data already collected. Furthermore, there was no control group, making this more of a descriptive study rather than one with a priori hypotheses. This makes it difficult to ascertain exactly what impacted the outcomes experienced. Relationships uncovered could be explored with additional resources to support a more rigorous design.

Finally, the outcome data used in this study were collected by hand over a 2-year period, which could have led to operator error and miscalculations. A more rigorous design could include a uniform data collection method using EHRs to improve reliability and validity.

Conclusion

Results from this project hold a promising outlook on addressing the current state of health care in the United States by reducing unnecessary utilization of services while potentially improving the health of seniors. This suggests that the right combination of services for community-dwelling seniors may prove fruitful in reducing costs and, ultimately, delay institutional placement. However, without more evidence and replication, there will be no way of knowing if the success of this program is isolated to the partnership between *this* health care organization and senior services provider. This road map will hopefully assist in the development of other partnerships in other locations to support further research on the synergy between housing and health care for seniors. On a policy level, successful replication of such endeavors will encourage state and federal entities to invest resources in demonstration projects to expand the scope

of programs that result in cost savings and improved outcomes.

Appendix

Selected Evaluation Questions and Thematic Findings.

- I. What are the necessary program components for program to be successful?
 - Common goal/win-win situation
 - Shared language*
 - Consistent point person at the residence
 - Knowledge of care transitions/follow-through
 - Consistent team* of RN, MSW, and MD
 - Consistent and frequent communication*
 - MD understanding role as the “go to person,” not a figure head
 - Knowledgeable and available SW
 - Professionals with knowledge of aging issues
 - Knowledge of community networks
 - Trust*
 - Knowledge of how human services systems work
 - Physicians doing convenient house calls in a uniform way that is reimbursable
 - Engagement of leadership and members of both organizations
 - Concentrated area of consumers
2. What are the barriers to program delivery?
 - Language barriers/cultural backgrounds among residents and staff
 - Language barriers/culture between health care and housing provider staff
 - Resistance from primary care physicians (PCP)
 - It takes time to build trust*
 - Lack of financial resources
3. What factors external to the program influence program delivery?
 - Perception of home visits as not efficient*
 - Level of trust* and transparency among providers
 - Uneducated population of seniors who do not use primary care as prevention
4. Have there been any unanticipated consequences of the program (good or bad)?
 - Discover underlying health conditions before they get more serious
 - Broadened awareness of how social issues impact health*
 - Awareness of importance of community-based providers
 - Housing plays a huge role in health care for seniors
 - Awareness of care fragmentation and confusion in senior population

*additional process components

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