

# Assessing the Quality of Care Found in Affordable Clustered Housing-Care Arrangements: Key To Informing Public Policy

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## Abstract

*Purposely planned or adapted affordable community-based housing arrangements are now available to accommodate low- and modest-income older people who have functional limitations and chronic health illnesses. These housing arrangements introduce various physical infrastructure and dwelling design changes and make available supportive and health-related services that enable their vulnerable older occupants to live independently and manage their health problems. They are known by various names, but are referred to in this article as “affordable clustered housing-care” or “housing-care.” Many of these housing arrangements are federally subsidized, rent-assisted, multiunit apartment projects with low-income older occupants who have aged in place or who have recently entered these properties. Despite support for these options from many advocacy groups, research findings that demonstrate the benefits of offering assistance and services in these housing arrangements are far from conclusive. Such evaluations are essential to justify organizational and funding support from the public and nonprofit sectors and to encourage the participation of housing and service providers. Drawing on the work of Donabedian (1992, 1966), this article constructs a theory-driven conceptual framework by which to organize and assess our current knowledge regarding the quality of the assistance and care found in these housing-care settings. To illustrate the practical applications of the framework, the article then describes an ongoing research investigation that is assessing whether supportive services offered in several federally assisted housing projects in Richmond, Virginia, have reduced emergency room use of their elderly occupants.*

## Introduction

This article focuses on purposively planned or adapted community-based affordable housing that is now available to low- and modest-income older people. The owners, sponsors, or building managements of this housing have variously introduced physical infrastructure and design changes, and they have made available supportive and health-related services to help their predominantly older occupants cope with their physical or cognitive limitations and chronic illnesses. The goal is to help them live independently longer and more securely and to better manage their health problems. More supportive housing environments are also expected to enable these vulnerable older people to avoid or at least delay moves to institutions such as nursing homes, which critics argue offer a more expensive and less satisfactory care environment (Mor et al., 2004).

Most of these housing arrangements consist of affordable multiunit rental buildings, but they also can be single-family dwellings clustered in the same neighborhood. A considerable literature has examined these housing arrangements and they are known by various labels, including service-enriched housing, affordable supportive housing, affordable residential care (assisted living), affordable congregate housing with services, affordable housing plus services, assisted living in subsidized housing, residential supportive services program (SSP), and service-coordinated housing (Golant, 1999; Housing Assistance Council, 2006; Jenkins, Carder, and Maher, 2004; Milbank Memorial Fund and Council of Large Public Housing Authorities, 2006; Pynoos, Feldman, and Ahrens, 2004; Pynoos et al., 2004; Sheehan and Oakes, 2003; Stone, Harahan, and Sanders, 2008; Washko et al., 2007; Wilden and Redfoot, 2002). I have earlier labeled these various housing options as *affordable clustered housing-care* arrangements (sometimes abbreviated “housing-care”) because they share several critically important core goals and features (Golant, 2008).

A substantial share of these housing arrangements are federally subsidized, rent-assisted apartment projects funded under the Department of Housing and Urban Development’s (HUD’s) Section 202, 221, 236, Project-Based Section 8, and Public and Indian Housing programs and under the Department of Agriculture’s Rural Rental Housing program (Section 515), or they are financed by the Low-Income Housing Tax Credit (LIHTC) Program. This category also encompasses the unintentional enclaves of older people found in Naturally Occurring Retirement Communities (NORC), who receive SSPs. In addition, it includes those private-pay, licensed assisted-living facilities that are occupied by a significant share of low-income, usually Medicaid-eligible older people, who often have higher acuity care needs (Golant, 2008, 2004; Institute for the Future of Aging Services, 2009; Milbank Memorial Fund and Council of Large Public Housing Authorities, 2006; Pynoos et al., 2004; Wilden and Redfoot, 2002).

Some of these housing arrangements were originally designed to accommodate their more vulnerable older occupants, but most were originally expected to provide affordable housing. Only later did their sponsors or managements variously introduce dwelling design features, such as common area improvements to facilitate service delivery, home security technologies, medical monitoring, preventative health and therapeutic care, household upkeep, and personal assistance solutions (Golant, 2009). Some sponsors or owners of privately owned HUD projects or public housing projects have undertaken far more substantial physical retrofitting to convert their properties to

state-licensed assisted-living facilities (HUD, 2005). Typically, the services offered by these housing providers are made affordable with the funding support of public programs and the contributions of nonprofit charitable organizations—usually different sources than those that made affordable rents possible for these same older occupants (Institute for the Future of Aging Services, 2009).

Most elderly occupants in these housing-care settings are more than 70 years old and are more likely to be women and living alone. They have typically aged in place, but larger numbers are also entering these properties at increasingly higher ages (Haley and Gray, 2008; Heumann, Winter-Nelson, and Anderson, 2001). Many report that they do not have family members able to assist if they become sick or disabled (Golant, 1999). Many properties have disproportionately high percentages of minorities who are also eligible for Medicaid assistance (Redfoot and Kochera, 2004).

Advocates of these housing-care arrangements argue that their distinctive demographics make it possible for housing providers and management companies, vendors, merchants, and care agencies to target and serve sizable clusters—critical masses—of residents with similar supportive service and health needs. These economies-of-scale advantages enable them to offer a coordinated and comprehensive array of health-related or independence-supporting services more effectively and less expensively (Golant, 2008, 1999). It becomes easier to justify expenses, such as physically retrofitting the dwellings and common areas of their buildings, hiring a service coordinator or case manager, offering onsite meals, or introducing a health clinic on the building's premises. This approach to providing support and assistance contrasts with that of service providers who must incur substantial travel times and fuel costs in their efforts to reach out to elderly clients who are geographically dispersed across a metropolitan or rural area (Evashwick and Holt, 2000; Medicare Payment Advisory Commission, 2001).

## **Rationale and Goals of This Article**

The availability of these affordable housing-plus-service arrangements depends much on the initiatives and capabilities of the housing sponsors, owners, or management companies. They must be inclined toward serving less independent older people as part of their mission, willing and able to secure funding for their operation from government programs or nonprofit charitable organizations, and able to establish partnerships with appropriate social service and healthcare providers and organizations, such as academic medical centers. Moreover, they must be able to overcome a variety of formidable financing, regulatory, insurance, and management obstacles (Golant, 2003a).

In light of these development and implementation challenges, it becomes especially important to demonstrate the benefits and advantages of offering supportive services and health-related care in these housing arrangements. Housing providers must have convincing evidence of the benefits they stand to gain by offering this assistance. Policymakers at the federal, state, and local levels who are charged with implementing and funding service- or health-related public programs must have a clear understanding of the various pathways by which these housing-care arrangements can positively influence the health and well-being of their lower income older occupants and of how they can realize financial or political benefits. The public health community must have compelling evidence that by helping older people cope more effectively with their chronic illnesses and

responding earlier to their needs, it can realize overall lower healthcare expenditures, such as by reducing the use of emergency assistance services.

Despite this need for information, the research findings to date are limited. There is no shortage of anecdotal information, case studies, and descriptive empirical studies pointing to the benefits of these affordable rental housing-care arrangements (Institute for the Future of Aging Services, 2009; Pynoos et al., 2004; Wilden and Redfoot, 2002). Many fewer studies, however, have relied on quasi-experimental research designs that would yield more rigorous and scientifically valid findings (Stone, 2009). Although many advocacy groups believe in the importance of these options, we still lack strong confirmatory research studies.

Drawing on the work of Donabedian (1966), this article constructs a theory-driven conceptual framework by which to organize and assess our current knowledge regarding the quality of the support and services now offered in these housing-care settings. Most experts agree that quality of care “is a remarkably difficult notion to define” (Donabedian, 1966: 167). Which indicators researchers decide to measure and the importance they assign to them will strongly influence their findings and, in turn, will determine whether major stakeholders judge these supportive housing arrangements as successful. Orderly and clear quality-of-care assessments are particularly important for findings to be generalized from one setting to another (Mark, Hughes, and Jones, 2004). To address these issues, this article identifies the extent that past studies have emphasized certain key constructs and policy-relevant indicators over others, points to possible biases and gaps in these assessments, highlights questions that deserve more investigative research, and suggests why past research has sometimes fallen short of providing compelling findings (Golant, 2008). To illustrate the practical applications of the conceptual framework, the article then describes an ongoing research investigation that is assessing whether the extent of support services offered in several federally assisted rental housing projects in Richmond, Virginia, reduces emergency room use by their elderly occupants.

## Framework To Assess Quality of Care in Housing-Care Settings

Donabedian’s (1966) conceptual framework proposes that quality-of-care assessments must encompass three components—*structure*, *process*, and *outcomes*. These three components dynamically interact, with the result that the *structure* of a housing-care setting can potentially influence how much and how well care is delivered (that is, *process*), and both these components (structure and process) can influence the optimality of care *outcomes*. Distinguishing the independent and combined influences of these components allows conclusions about whether the most needed services and best strategies for delivering care are selected and whether they are implemented in the most effective and skillful ways to achieve desired outcomes. Formulating these components to frame our review of quality-of-care studies results in the following three evaluative inquiries (see exhibit 1 for further detail):

1. **Evaluating structure.** What is the capacity of the housing-care setting and its community context to offer residents health-related and independence-supporting services?

2. **Evaluating process.** What is actually done and how well? How appropriately designed is the property and its dwellings? Are the health-related and independence-supporting services performed competently and effectively?
3. **Evaluating outcomes.** What resident behaviors or conditions are changed, maintained, and optimized and what housing provider, management, staffing, community, or public policy goals are achieved?

## **Exhibit 1**

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### **Structure, Process, and Outcome Indicators To Evaluate the Quality of Supports and Services in Housing-Care Arrangements (1 of 2)**

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#### **Evaluating Structure**

***What is the capacity of the housing-care setting and its community context to offer residents health-related and independence-supporting services?***

- Physical infrastructure of dwelling and building (size, condition, architectural design, common area space, accessibility and safety standards, monitoring and information transmission technologies).
- Philosophy of care of housing provider regarding acceptable vulnerability levels of residents, allowed health-related and independence-supporting services, and appropriate service delivery strategies.
- Number and mix of older tenants with physical and cognitive limitations, health problems, and demographic risk factors.
- In-house paid and volunteer building and service staffing; worker-resident ratios; duties, education, and training of staff.
- Outsourced/contracted paid and volunteer staffing; vendor and service provider partnerships (restaurants, home health agencies, public health clinics, visiting nurses, hospitals, pharmacies, academic health centers, adult daycare centers, nonprofit service organizations, Older Americans Act aging network).
- Affordability and accessibility of community-based, independence-supporting, and health-related services.
- Types and mix of health-related and independence-supporting services (housekeeping, homemaking, meals, preventative health services, paratransit services, personal assistance, and home health).
- Types of social and recreational amenities.
- Types of service and healthcare delivery strategies.
- Funding sources to make dwelling and services affordable (rules, regulations, and spending guidelines).
- Regulatory or licensing oversight by governments.

#### **Evaluating Process**

***What is actually done and how well? How appropriately designed is the property and its dwellings? Are the health-related and independence-supporting services performed competently and effectively?***

- Types, amount, regularity, and duration of performed services.
- Physical safety and accessibility records.
- Competence and effectiveness of performed duties, activities, and services.
- Service coordination and continuity patterns.
- Cooperation among housing management, service providers, and family members.
- Staff turnover rates.
- Extent of person-centered care approaches.

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## Structure, Process, and Outcome Indicators To Evaluate the Quality of Supports and Services in Housing-Care Arrangements (2 of 2)

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### Evaluating Outcomes

***What resident behaviors or conditions are changed, maintained, and optimized and what housing provider, management, staffing, community, or public policy goals are achieved?***

- Resident outcomes:
    - Objective indicators: morbidity/mortality rates, hospitalizations, emergency department visits, hospital-housing transitions, physical and mental health, healthy behaviors, disability levels, duration of independent living, departure rates, access to health and independence-supporting services, and social participation.
    - Subjective indicators: individual assessments of residential quarters, health-related and independence-supporting services, self-rated health, ability to live independently, information awareness and accuracy, loneliness and security assessments, and respect for individual rights.
  - Provider/management/staffing outcomes:
    - Objective indicators: apartment turnover and vacancy rates, housekeeping and repair crises, building maintenance demands, and tenant-management relations.
    - Subjective indicators: service coordinator satisfaction, manager/staffing satisfaction, and family satisfaction.
  - Community/public health outcomes:
    - Demand and costs for ambulance, emergency room visits, police visits, achievement of education and training goals for students in academic health centers; jobs creation and other economic impacts.
  - Public policy outcomes:
    - Service delivery costs and savings—Medicaid or other government program expenditures.
    - Demand and public costs for healthcare and emergency services.
    - Rate of nursing home admissions.
    - Funding agency satisfaction.
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## Evaluating the Structure of Housing-Care Settings

Structure refers to the stable physical, service-related, social, and organizational aspects of the housing-care setting (Closs and Tierney, 1993; Donabedian, 1992; Lezzoni, 1994). Its contents include the physical plant, staffing personnel, work assignments, monitoring, assessment, and information procedures and technologies of a housing-care property and also the management structure and administrative mechanisms that allow the organization to conduct, coordinate, and control its work activities (Jackson, Morgan, and Paolillo, 1986). Structure also encompasses the ambience of a setting; that is, whether its architectural design or layout makes it look and feel more like a residential than a medical environment. A full portrayal of the structure will identify the service resources offered by a housing provider and the different ways these are delivered to their elderly tenants. It will inventory the funding sources that make its services affordable and the rules and regulations that the housing-care management must follow to meet eligibility requirements. A depiction of structure also extends outside the housing-care setting to include the resources of its surrounding community. Housing providers often depend heavily on outside businesses, charitable organizations, and service providers to secure their tenants' care and assistance.

Altogether, the components and attributes of the structural environment define the housing-care setting's capacity to offer different types, levels, and amounts of care and assistance to their older occupants. Delineating these elements is critical therefore to better understanding the extent to which housing providers can potentially achieve specified service- or assistance-related goals or outcomes. Housing providers that offer their residents a preventative health program to improve their health monitoring behaviors can hope to achieve a reduction in the incidence of emergency medical episodes. They cannot, however, realistically claim to help residents cope with their physical limitations so that they can better satisfy their everyday household needs.

We also designate as part of the structural environment the demographic and vulnerability profiles of the older residents. Resident composition is at once a product of the structural environment and an influence on it. For example, older people with more demanding needs for supportive and healthcare services will likely select those housing-care settings that enable them to cope with their physical and cognitive disabilities and unmet social needs (Closs and Tierney, 1993). As they incur more demanding needs for assistance and services, housing-care operators may respond by modifying their physical infrastructure or adding more services.

Studies have offered far more information about the structural environments of housing-care settings than about either their process aspects or care outcomes. Two different explanations account for this bias. First, methodologically, it is far more straightforward to describe and assess the structural environment of a housing-care setting than it is to evaluate how well or effectively it is delivering care or assistance to its tenants, and it is certainly far easier than assessing its care outcomes. Second, housing-care settings consist of a very diverse array of properties and organizations. The emphasis on describing and assessing their structural environments is an acknowledgment that they differ substantially in their capacity to accommodate the service and care needs of their older residents.

Many analyses have focused on the physical infrastructure of housing-care settings. Most find that they usually do not have the physical design features (for example, nurses stations, wide corridors, medication carts) or staffing attributes (for example, workers in nursing uniforms as opposed to street clothes) that resemble a nursing home and its medical model of care. Still, some properties have more institutional-like physical features than others (Wilden and Redfoot, 2002).

Other generalizations are more difficult. These settings differ regarding how well their dwelling units address the safety and accessibility needs of their vulnerable older occupants and whether they contain common areas, such as commercial kitchens, dining areas, and spaces to perform health assessments and therapeutic activities. Haley and Gray (2008) argue that these variations influence the ability of older tenants to age in place in these properties.

Typically, housing-care settings that are licensed and regulated as assisted-living communities have the most extensive physical infrastructures, and they usually must offer additional design and security features if their residents suffer from dementias such as Alzheimer's disease (Redfoot and Kochera, 2004). Government-assisted rental properties that want to be licensed under their state's assisted-living programs have sometimes received funding from the Assisted Living Conversion Program. Since 2001, this HUD program has funded the costs of physically renovating and retrofit-

ting the apartment units and common spaces of its government-assisted rental properties (except public housing) (HUD, 2005). Public housing facilities have used their Section 9 Capital Fund Formula Grants and funding from the HOPE VI program to accomplish similar conversions (Milbank Memorial Fund and Council of Large Public Housing Authorities, 2006).

The HUD Section 202 Supportive Housing for the Elderly Program is often identified as an affordable rental property program that has produced exemplary housing-care settings. But much variation exists in the physical infrastructure of the properties produced under this program, often depending on when the properties were built. Those constructed more recently tend to be smaller and have fewer amenities than those built in the program's earliest phase (1959 to 1974). These smaller housing-care settings often lack the scale to justify the expenses required to introduce physical infrastructure improvements or do not have the physical space to set aside as common areas (Redfoot and Kochera, 2004). Those constructed during the mid-1980s, when government cost-containment measures influenced the design of the projects, are particularly unlikely to have common spaces for service delivery.

The physical layout of the property may also be influential. Efficiency units accommodating the more frail residents in a property may be concentrated in one section of the senior housing building to facilitate more efficient service delivery. But, as one report concluded (Milbank Memorial Fund and Council of Large Public Housing Authorities, 2006: 10), "When services are in one location, it may be difficult to increase or decrease program size as demand changes, which may lead to vacant units or people not receiving services."

Variations in the care and assistance capacity of housing-care settings can often be attributed to the service delivery philosophies of their owners or sponsors. They can hold very different beliefs regarding whether their properties should cater to older people who require help to arrange for their own assistance (Golant, 1999; Harahan, Sanders, and Stone, 2006; Levine and Robinson Johns, 2008). Housing providers can also be influenced by the preferences of their healthier tenants. Older people in some properties often do not welcome a more enriched service environment to help their frail neighbors because they fear that their property will begin to look like a nursing home and they will be continually reminded about the prospects of their own frailty (Golant, 1999).

Together these influences result in housing-care settings with very different care environments. Some owners or managers will assist only their most vulnerable tenants with their housekeeping and transportation needs, or help them find their own services. At the other end of the spectrum are providers who offer their tenants a comprehensive array of supportive services: housekeeping, communal meals, case management, health and wellness services, personal care services, and health-related services. A study of three senior housing communities in the Denver metropolitan area emphasized how housing providers can have very different care goals. Management companies ranged from being proactive to *laissez faire* in linking their needy residents with supportive services, although tenant participation in each of their service programs was voluntary (Washko et al., 2007). Studies rarely address whether the capacity of a housing-care setting's supportive environment is appropriate in light of the needs of its older occupants and whether it can reasonably accommodate the vulnerabilities of its occupants.

Housing providers also depend on different strategies to provide health-related and supportive services to their more vulnerable tenants (Sheehan and Oakes, 2006). Typically, the approaches fall along a continuum, ranging from providers who use their own in-house staff to offer services to those who contract or partner with their state's or local planning district's aging and health agencies, community-based home care and healthcare agencies, businesses, health professional schools, or hospitals.

Housing-care settings sometimes arrange for their tenants to use the supportive and health-related services offered by co-located or nearby PACE (Program of All-Inclusive Care for the Elderly) centers. A PACE center enrolls older people who meet the criteria for nursing home care and who are eligible for Medicare and Medicaid. It offers both acute and long-term care. Based on age, sex, and medical morbidity criteria, the program receives capitation funding from both Medicare and Medicaid and operates under global risk for all healthcare costs. PACE organizes and coordinates care and social support at a community day health center where participants gather every day; participants' dwellings are also used as gathering points. PACE relies on intensive case and care management of its older participants to control costs. A survey of PACE programs found that nearly all served tenants in multifamily senior housing, both nonprofit-sponsored facilities and public housing. Most were located within a 5 to 10 mile radius and nearly one-third of PACE programs co-located at least one of their day health centers with senior housing (National PACE Association, 2003).

The following list shows the diverse service delivery approaches that housing providers use (Institute for the Future of Aging Services, 2009: 4):

- Paid service coordinators who provide information and referral to community health providers.
- Use of resident volunteers and other lay people trained by health educators to assist residents with the management of chronic illnesses.
- Direct employment of health providers, such as nurses or nurse practitioners, by the housing sponsor to serve residents in one or more of its properties.
- Onsite health clinics operated at regularly scheduled times by community health providers such as a nurse, nurse practitioner or geriatrician.
- Formal collaborations with community health providers (for example, health systems, hospitals, managed care companies, physician practices, public health clinics, federally qualified health centers, pharmacies, etc.) to bring selected health and medical services, health promotion, and preventive care to residents.
- Collaboration with academic health centers to provide clinical learning experiences for medical, nursing or other health professional students.
- Co-location of health providers in or adjacent to the housing community, such as a physician office, a senior center, an adult day health center, or a PACE site.
- Networking one or more residential components co-located within the same campus, such as an assisted living facility and/or a nursing home, with the independent living

property so that residents have access to additional health programs and services (for example, nighttime and weekend emergency assistance, health education and preventive care offerings, personal care, etc.).

- Operation of a licensed home health agency, owned/managed by the housing provider on behalf of residents and the broader community.
- Partnering with a local home health agency to bring personal care services to residents at a more affordable rate.

When deciding on their service delivery strategies, housing-care administrators inevitably must make difficult tradeoffs. For example, contracting for personal care services from an experienced outside vendor may make it easier for a housing provider to initiate a supportive services program and make it unnecessary for the property to be licensed as an assisted-living community. It also reduces exposure to liability, simplifies staff payrolls, and allows the housing provider to offer a more complex menu of services (Milbank Memorial Fund and Council of Large Public Housing Authorities, 2006). In return, however, the housing provider must give up some control over the qualifications and experience of the staff and the frequency, regularity, and continuity of delivered services. There is a dearth of research that has investigated how housing providers decide to offer their services, the strengths and weaknesses of their approaches, and how these decisions influence outcomes.

Most experts agree that service coordinators are key front-line staff in the housing-care setting, because they have the following key responsibilities (Levine and Robinson Johns, 2008: 2):

- Determining the service needs of eligible residents.
- Identifying appropriate services available in the community.
- Linking residents with the needed services.
- Monitoring and evaluating the effectiveness of the supporting services.
- Performing other functions to enable frail and at-risk low-income elderly and nonelderly people with disabilities to live with dignity and independence.

Service coordinators, however, have a very uneven presence in housing-care settings. For example, even in the most lauded HUD Section 202 Supportive Housing for the Elderly Program, only 46 percent of the properties had HUD-funded service coordination and 8 percent had non-HUD-funded service coordination (Levine and Robinson Johns, 2008). Service coordination availability also differs by location. In rural areas and in the South, Section 202 properties were much less likely to have this staff person (Haley and Gray, 2008; Robinson Johns, 2008)—partly because of the smaller buildings in that area of the country. Service coordinators were even less likely to be found in other publicly assisted housing properties, such as those financed by the LIHTC Program (Redfoot and Kochera, 2004).

Generalizing about the job assignments of service coordinators is also not straightforward. Some coordinators are charged only with offering information to their tenants and referring them to appropriate providers. Others act more proactively on any signs of tenants' difficulties, initiating an evaluation of functional limitations, health status, and service needs; referring them to appropriate

services; and then monitoring the effectiveness of their care and assistance (Sheehan and Guzzardo, 2008b; Stone, Harahan, and Sanders, 2008). Along with differences in their job descriptions, the coordinators vary in their ability to carry out their responsibilities, which fundamentally is influenced by how many hours a week they work and the number of older tenants they work with, both of which also vary widely (Levine and Robinson Johns, 2008). The different job responsibilities of service coordinators—and their potential effect on resident outcomes—is a good example of why it is so important for studies to carefully describe and evaluate the variations in the service delivery strategies that housing-care settings use.

Housing-care settings will differ considerably regarding their ability to secure the community-based assistance and care that their tenants need (Golant, 2006). At one end of the continuum will be communities that have earned labels such as “healthy,” “friendly,” “livable,” or “life-long” places to age (Lawler and Berger, 2009), because they have local governments and nonprofit charitable organizations that are committed to creating living environments that enable their lower income and vulnerable seniors to age in place (Alley et al., 2007). In urban centers with large academic medical centers and an extensive network of nonprofit community service organizations, for example, there is a greater possibility that housing-care settings may offer onsite care clinics and the full spectrum of supportive and health services for their tenants (Yaggy et al., 2006). At the other end of the continuum are resource-poor, remotely located rural communities that have difficulty delivering most services (Golant, 2003b).

Even though HUD-administered programs make the dwellings of housing-care settings affordable, they infrequently fund the supportive services. Two notable exceptions exist. First, beginning in 1978, the Congregate Housing Services Program offered funding to privately owned, HUD-subsidized rental projects of up to 40 percent of the costs of nonmedical supportive services, such as transportation, personal assistance, housekeeping, meals, and the support of a service coordinator. Since the mid-1990s, the program has no longer accepted new applicants, but privately owned, HUD-subsidized rental projects currently operate 60 previously awarded programs. Second, since the 1992 Housing and Community Development Act, the hiring of service coordinators has been an eligible expense for all HUD-assisted, multifamily developments designed or designated for the low-income elderly (HUD, 1996). Public housing projects also receive service coordinator funding through the Resident Opportunities and Self Sufficiency (ROSS) grant program.

More commonly, the owners or sponsors of HUD-assisted, multifamily properties and public housing projects secure funding from multiple sources, such as private foundations, resident contributions, nonprofit charitable (often faith-based) social agencies, Older Americans Act, the Community Development Block Grant, and state development and service agencies. Funding their supportive service and healthcare programs is one of the biggest challenges housing providers face. When they consider financing alternatives, they must decide whether they are willing to abide by the inevitable rules and regulations that can restrict the incomes and care needs of those they serve. These standards can influence whether they can offer their older tenants light care (for example, help with housekeeping) or heavy care (for example, assistance with more serious mobility limitations). As one example, housing-care settings relying on Medicaid waivers to fund their services must restrict eligible applicants to those with extremely low incomes and limited

assets. Prospective tenants must also have the same level of care needs as those residents admitted to their state's nursing homes. These requirements were met by the Coming Home program that the National Cooperation Development Corporation developed and the Robert Wood Johnson Foundation funded in the early 2000s. It achieved an impressive record of developing affordable assisted-living communities in rural areas, but it required that 25 percent or more of a housing-care property's units and services be made "available to persons using Medicaid to pay for services and SSI (Supplemental Security Income) level incomes to pay for rent and meals" and excluded "providers who offer only 'light care' programs intended as a pre-nursing home service" (Jenkins, Carder, and Maher, 2004: 181).

## **Evaluating the Process of Housing-Care Settings**

Process evaluations focus on the extent that the occupants of a housing-care setting take advantage of its design changes and services and whether these are competently and effectively introduced or implemented. This layer of inquiry goes beyond examining a property's business plans, pay-rolls, contracts, service plans, and mission statements that indicate how things are supposed to perform. Evaluating the process of care reveals whether housing-care settings "are doing the right things, which ones are not, and where we need to improve" (Wenger, 2008: 7). It would reveal, for example, whether management and staff are treating their older tenants more as residents than as clients and how well their supportive services and delivery strategies are actually helping tenants live independently.

An example is helpful. If management of a housing-care setting contracts a nurse to perform wellness services twice a week—6 hours each visit—this service strategy would describe an aspect of its structure—the "capacity" of the housing-care setting to deliver services. An evaluation of process, however, would focus on the actual count of service episodes or visits that the nurse conducted (over some period), along with how well he or she performed these duties.

The research literature offers very little information about how well these housing-care arrangements provide care and whether errors, omissions, inconsistencies, or other failings occur. We know little about whether hired staff members have sufficient training or experience, whether they receive clearly specified job descriptions, and whether they competently attend to the needs or problems of the elder residents. We lack evidence regarding whether housing-care settings implement services using the person-centered approach recommended by many advocates of a social model of care, which emphasizes the importance of management and staff respecting the individuality, privacy, and autonomy of residents (Calkins and Keane, 2008).

What we do know comes mainly from studies of the performance of service coordinators and their relationships with their housing-care setting's management. Sometimes, the job description is at odds with the demands of the position. Service coordinators have complained that they have too many residents in their properties to effectively do their job and report that they are "totally overwhelmed" (Sheehan and Guzzardo, 2008b: 240). The management of the housing-care arrangement may expect coordinators to assess the competence of all applicants, even though they presumably only assist residents who voluntarily accept their services.

Coordinators may also interpret their job descriptions differently than their property managers do, sometimes resulting in “a lack of clear distinctions between the manager’s and service coordinator’s responsibilities and lines of decision-making authority” (Sheehan and Guzzardo, 2008b: 242). One concern is that if older residents see the service coordinator as simply a representative of management, “they may be less inclined to share personal problems with her” (Sheehan and Guzzardo, 2008b: 240). Guidelines may also be unclear regarding whether service coordinators can share personal information about residents with management—and thus possibly violate their confidentiality rights. Another source of disagreement is the extent to which housing managers assume service coordinators’ responsibilities—such as learning about a health problem or resolving residents’ complaints and then acting without having carefully consulted with the service coordinator. This practice is potentially troublesome, because managers and coordinators often have divergent interests. The manager is often more inclined to evict rather than help a troubled resident, and the coordinator is more inclined to advocate for the tenant.

Sometimes, how service coordinators interpret their position may not be in the best interests of their older residents. They often “view their responsibility to care for the elder as an emotional obligation and express personal concern for their client” (Sheehan and Guzzardo, 2008a: 260). They describe their relationships with older residents as “family-like” and “feel a strong sense of obligation or duty to care for familyless or isolated elders” (Sheehan and Guzzardo, 2008a: 267). A possible danger is that service coordinators may abuse their influence because of their close, trusting relationships with the older residents. This situation can result in their “disregarding residents’ decisions or coaxing residents into changing their mind.” Residents may fear retribution if they refuse help. Thus, rather than “empowering residents, these actions may make them more vulnerable” (Sheehan and Guzzardo, 2008a: 276).

An examination of the research literature strongly suggests that the process of care is the most understudied of the three Donabedian assessment components. Ultimately, to evaluate process in these settings, researchers must collect data on numerous key variables, such as the skills and actions of any direct-care providers or the effectiveness of supportive services that outside service agencies, vendors (for example, pharmacies), partnered organizations, and contracted management programs offer. Researchers must measure how physical infrastructure and design changes translate into greater resident safety and accessibility. Reliably measuring these variables is significantly more difficult in housing-care settings than in more regulated environments such as nursing homes and hospitals, where mandated data collection and reporting are routine, most staff have a common employer, and parameters are more clearly defined.

## **Evaluating the Outcomes of Housing-Care Settings**

The range of outcome categories (see exhibit 1) draws attention to the multiple stakeholders who can benefit from the supportive and health-related services offered in housing-care settings. It also emphasizes that judgments regarding the success or failure of these housing-care settings depends largely on who is doing the evaluating—residents, providers, community leaders, or those with public policy agendas. The typology also distinguishes research assessments by whether they rely more on objective ratings than on the subjective appraisals or assessments of individuals—

residents, housing managers, or service coordinators. Past housing-care evaluations have focused on only a limited number of these indicators and some more than others. This failing is potentially important because these indicators will measure very different housing-care setting consequences and thus potentially result in very different judgments of success or failure.

When comparing two or more housing-care settings and attributing outcomes to their property and service environments or contexts, research investigations have not always carefully controlled for the effects of their tenants' demographic and vulnerability profiles (Oakes, 2004). Research investigations have paid even less attention to the complex and reciprocal pathways by which the housing-care arrangement's structural environment and process behaviors have influenced its outcomes.

Federal agencies such as HUD and state government agencies charged with conducting long-term care programs have most frequently judged these housing-care arrangements by whether, in delaying or preventing their tenants from occupying nursing homes, they result in lower long-term care costs (Black, Rabins, and German, 1999; Weinberger et al., 1986).

This evaluation protocol was emphasized early in studies of HUD's Congregate Housing Services Housing Program and the HOPE IV Program. Both programs were designed to link low-income, rent-assisted older residents with a broad range of supportive services. A HUD-contracted report found that these services did not consistently lower nursing home use, hospital admission rates, costs, or mortality rates, nor did they produce gains in individual physical functioning (Ficke and Berkowitz, 2000; Monk and Kaye, 1991).

On the other hand—

...receipt of services was significantly related to a range of positive outcomes...Service recipients scored significantly higher in four major mental health dimensions (anxiety, depression, loss of behavioral/emotional control, and psychological well-being), social functioning (quantity and quality of social activities), vitality (energy level and fatigue), and other measures of social well-being. (Ficke and Berkowitz, 2000: 3)

Thus, these same authors concluded—

These findings are consistent with the assumptions in the research designs and the results of prior studies that show the impacts of similar programs address quality of life and care, rather than changing such overt outcomes as institutionalization or otherwise having to leave one's home due to frailty. (Ficke and Berkowitz, 2000: 3)

As four decades of research testify, showing that affordable housing-care settings or, for that matter, any home- and community-based service program can produce cost savings or delay the entry of older people into nursing homes is notoriously difficult (Grabowski, 2006; Muramatsu et al., 2007; Wiener and Brown, 2004). Moreover, the validity of reported outcomes is sometimes unclear, because studies have not consistently implemented careful, randomized treatment control designs that take into account the vulnerabilities of their tenants or the variations in the capacity of housing-care settings to address tenant needs. Regarding the "evaluating the process" section discussed previously, these studies have also not typically evaluated whether the services were

delivered competently and effectively. At least one expert has argued that focusing on overall cost savings or reducing nursing home use “creates an especially lofty and difficult-to-meet standard of success” and runs a greater risk of “unfavorable program assessments that weaken arguments for initiating or continuing a supportive service program” (Golant, 2003a: 40).

In contrast, studies that have measured success by relying on less ambitious goals have more positively evaluated the quality of care offered in these settings. These studies have measured the extent to which the tenants report successfully accessing and benefiting from the physical amenities and service resources of the housing-care setting, or the extent to which they have experienced measurable health and well-being outcomes (Harahan, Sanders, and Stone, 2006).

A study of the Massachusetts Supportive Housing Program reported many favorable outcomes. Developed in 1999, the program was designed to create “an assisted living like environment in state funded, public elderly housing” (Mollica and Morris, 2005: i). It offered “service coordination and case management, 24-hour personal care, on-call response, homemaker services, laundry, medication reminders, social activities and at least one meal a day” (Mollica and Morris, 2005: 2). Among the reported findings: earlier recognition of tenant needs; tenant and family members’ greater sense of safety, security, and support; avoidance of tenant crisis situations; the benefits of relieving property managers of tenant “supportive service” responsibilities; reduced tenant turnover; and more effective intervention strategies.

Researchers studying nutrition and human services interventions that targeted older and younger people with disabilities living in the Seattle Housing Authority’s Low Income Public Housing program reported similarly favorable outcomes (Siu, 2009). HUD’s ROSS Resident Service Delivery Models—Elderly and Persons with Disabilities grant program funded the study. Using a quasi-experimental research design, researchers reported greater social interaction with other residents, fewer residents with chronic conditions, lower eviction rates, improved grocery delivery service, and more frequent preventative health procedures.

A clinic operated by student nurses, which provided health screening, education, and outreach and referral services 2 days a week in the community rooms of several public housing properties, also reported favorable results: better access of older residents to needed care, better identification and management of hypertension, improved diabetes disease outcomes, and better preparation for emergency medical situations (Ellenbecker, Byrne, O’Brien, and Rogosta, 2002). Comparable healthcare use outcomes were tracked in a case study of clients using an academic nursing clinic located in a highrise apartment building for low-income seniors. Hospitalizations and emergency room use were reduced over a 1-year period (Badger and McArthur, 2003).

Assessment and intervention programs specifically designed for elderly people in public housing have tended to prudently focus on the most demanding health issues, such as psychiatric illness. Evaluation of the PATCH (Psychogeriatric Assessment and Treatment in City Housing) Program adds to the evidence base regarding mental illness and elderly people in public housing. This randomized clinical trial compared usual care with a specific intervention: training case-manager personnel to provide onsite referrals coupled with mobile onsite nurse assessment for psychiatric illness. Positive outcomes included reduced symptom severity, but, when comparing the treatment

group with the usual care group, no reduction in residential moves of the elderly people was found, as measured by evictions or the frequency of shifts to other settings, including nursing homes and board-and-care facilities (Rabins, et al., 2000; Robbins et al., 2000).

A very promising ongoing monitoring and evaluation system is being conducted at two NORC sites within the Charles E. Smith Life Communities in Rockville, Maryland. Here, the residents are receiving onsite social and health services from four service agencies. The evaluation is focusing on service provision and utilization patterns, staff compliance, and client satisfaction. The study is one of the first to recognize the importance of measuring the initial health status of a tenant sample with the intention of measuring how health outcomes change over time (Cohen-Mansfield and Frank, 2009). Worth noting, however, is that it would be difficult if not impossible to implement this research design in HUD-assisted housing because laws related to the Fair Housing Act would not allow for the mandatory collection of individual resident health data. Acknowledging individual privacy rights while increasing understanding of resident healthcare needs remains a challenge (Fair Housing Act, 1968).

Studies have not specifically examined how PACE sites, which may have different care patterns, influence the outcomes of senior housing occupants (Mukamel et al., 2007; Temkin-Greener, Bajorska, and Mukamel, 2008). Hospital admission rates of the frail older population in PACE centers, however, usually match the general Medicare population rate and are well below rates experienced by nursing home residents (Wieland et al., 2000). In addition, the number of hospital and nursing home days, in general, is also reduced (Hirth, Baskins, and Dever-Bumba, 2009; Sands et al., 2006).

The most consistently reported outcome in housing-care settings is the high ratings of service coordinators that both residents and managers give (Ficke and Berkowitz, 2000). Service coordinators receive credit for increasing service awareness, better linking older people with needed services, and finding solutions to their problems (Levine and Robinson Johns, 2008; Sheehan and Guzzardo, 2008b). Older residents emphasize they have a greater “sense of security and emotional support” and stronger social supports (Sheehan and Guzzardo, 2008a: 263).

The operators of rent-assisted housing-care properties have consistently emphasized that they can manage their buildings more easily and effectively because the service coordinators take responsibility for addressing their residents’ assistance and health needs. The following bullet points list some of the favorable outcomes (Commission on Affordable Housing and Health Facility Needs for Seniors in the 21st Century, 2002; Golant, 2003a; Levine and Robinson Johns, 2008; Stone, Harahan, and Sanders, 2008):

- Lower apartment turnover and vacancy rates.
- Fewer housekeeping and repair crises.
- Decrease in legal fees/evictions/time in court.
- Greater marketability of units.
- Fewer unscheduled visits from human service professionals.

- Fewer crises, such as fires or accidents.
- Fewer off-hour emergency calls to management and local paramedics.
- Better bricks and mortar building management.
- Fewer failed unit inspections.
- Reduced time pressures on administrators.
- Better tenant-housing management relations.

## **An Evidence-Based Research Investigation: Emergency Room Use in Publicly Assisted Rental Housing in Richmond**

A research project just under way applies this articles' quality-of-care conceptual framework to evaluate whether lower income older residents occupying more service-enriched affordable rental complexes are less likely to use acute care health services—as indicated by their ambulance-related emergency room usage (the outcome indicator).

### **Research Plan**

The focus is on the federally funded rent-assisted housing buildings in the southeastern city of Richmond, Virginia. Three major rental housing programs are included: (1) Section 202, (2) seniors-only and mixed-age Public Housing Authority buildings, and (3) privately owned conventional apartment buildings occupied by elderly residents who are recipients of Section 8 vouchers. Older recipients of Section 8 vouchers are specifically included as a control or reference group, because their buildings are less likely to offer any supportive services or health-related services. Emergency room use patterns are treated as baseline measures that are compared with those of older residents in the other two programs, which are more likely to offer services.

The settings will be structurally distinguished by their physical features, the demographics of their older tenants, the types and delivery strategies of their supportive services, and, specifically, the availability of onsite staffing, such as service coordinators or equivalent positions. We will distinguish several characteristics of the neighborhoods of these buildings, particularly the poverty status of their populations.

Process indicators will include the roles played by service coordinators in the service delivery process and the frequency and timeframe of the service delivery strategies by which tenants receive different types of supportive and health-related services.

### **Research Methods**

HUD administrative data for elderly people occupying the rent-assisted housing in Richmond, Virginia, will be linked with individual-level ambulance records from the Richmond Ambulance Authority database for a 2-year period (calendar years 2005 through 2006). U.S. census tract data will be linked with tenant-level data from HUD's Public Information Center (PIC) and Tenant

Rental Assistance Certification System (TRACS), which HUD uses to manage its rental assistance programs. PIC enables housing authorities to electronically submit tenant-level information to HUD, including resident characteristics such as age, race, and gender. TRACS contains data fields describing household characteristics, such as financial income and sources, rent and expense allowances, unit characteristics, the presence or absence of disability, previous housing circumstances, and reasons for moving out.

A telephone survey will be administered to the managers of the rent-assisted and voucher-occupied buildings to obtain measures of service availability (for example, presence of onsite social worker, care coordinators, or nursing services). The interview schedule will be pretested within one public housing, one Section 8, and one Section 202 building to assure content validity of interview questions.

Planned multivariate statistical analyses will disentangle the effects of housing program type, building-specific characteristics, community context features, service resource capacity, service use, and resident characteristics on the tenants' emergency room use. Of particular interest will be emergency room use comparisons with buildings occupied by housing voucher recipients who cannot avail themselves of onsite supportive services—representing a control group for this analysis. Although this analysis does not provide direct resident-level health status information, it does begin to evaluate the differences between and among program types and demonstrate how the availability of support services influences one type of healthcare use, namely, emergency ambulance transport. Higher rates of ambulance transport are likely to indicate that differences in the health status of individuals exist within the housing programs, but they may also reflect the absence of structured support programs.

More comprehensive and definitive future evaluations that also measure individual physical well-being from healthcare records and resident assessments can build on the findings of this study. The current missing link in studies evaluating the effectiveness of support services in housing programs is the availability of resident-level health data that can be linked to health and cost outcomes. A need exists to develop randomized studies that include the structure of the housing setting (context) combined with resident health characteristics (including level of frailty), while assessing the effect of the process of care delivery on health outcomes over time. Only then will we be able to fully define and evaluate housing service outcomes that can support policy change. Donabedian's conceptualization provides an easy-to-apply framework to help guide the designing of evaluation research focused on residents and their housing programs.

## **Summary**

Affordable clustered housing-care arrangements have emerged as an important option that can help frail low- and moderate-income older populations maintain their health and independence. Despite the many descriptive studies of these housing arrangements, we still lack carefully constructed evidence-based assessments to justify their receiving stronger public policy commitments and funding support or to gain the participation of most affordable-housing providers. Given the economic constraints facing governmental programs for housing and health care, we must offer

more compelling evidence of the beneficial outcomes that result from linking affordable housing with independence-supporting and health-related services. We need more research on what works, who benefits, and why. We have proposed an evaluative framework based on the work of Donabedian to identify the range of quality-of-care assessment questions and issues, have reviewed how the current literature now informs this assessment framework, and have outlined an ongoing research study illustrating its applicability. Affordable clustered housing-care settings offer one important public policy solution that can respond to the aging-in-place demands of tomorrow's older baby boomer population and should be included in any discussions on how American society can best cope with its age wave, which is building in strength and nearing the shore.

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