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Health-Related Needs Assessment of Older Residents in Subsidized Housing

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Abstract

When a nonprofit organization with nursing-home and assisted-living experience purchased a 30-year-old highrise apartment building in downtown Portland, Oregon, the new owners were faced with how to manage a building that provided housing to more than 200 older residents whom they knew very little about. As long-term care providers, they knew that older people were at risk for developing chronic illnesses, disabilities, and other factors that could result in moves to nursing homes, hospitalizations, and early death. They also knew that older adults in subsidized housing, such as this Section 8 building, have higher levels of disability than their age cohorts in unsubsidized housing and apartment rentals (Redfoot and Kochera, 2004). What they did not know was whether and in what ways these residents' independence and quality of life might be jeopardized by unmet health and social service needs. In collaboration with the Portland State University School of Social Work, a multidimensional needs assessment was developed and conducted to identify the most important unmet needs of the residents as a group so that targeted services could be planned. Findings based on interviews with 130 residents revealed a heterogeneous population of older adults whose health status varied considerably, especially among the four different ethnic and language groups living in the building. This article describes how the results of such an assessment can be used to plan for enriching services to those most in need.

Introduction

Housing sponsors have increasingly begun to address the questions of whether and how to confront the health and supportive service needs of older tenants. Many older people move into independent housing hoping that they will never leave. Whether planned or not, subsidized housing for older adults serves individuals who are increasingly in need of assistance to maintain the level of stability required to reside in independent housing. This article presents a case study of how a housing sponsor, Cedar Sinai Park (CSP), and a university partner, the Portland State University (PSU) School of Social Work (SSW), implemented a health-related needs assessment of older tenants of a U.S. Department of Housing and Urban Development (HUD) Section 8 building. The goal of the assessment was to collect empirical data that would result in accurate statistics on the resident population that could be used to plan the most appropriate services to support aging in place.

“Aging in place” is a goal that some licensed facilities (such as assisted-living facilities and board-and-care homes) have espoused but not one that subsidized-housing providers have actively adopted. Instead, housing sponsors have traditionally offered services specific to property management, community-building activities, and information and referral regarding community programs (Heumann, Winter-Nelson, and Anderson, 2001; Kochera, 2002). Reasons that housing sponsors have not inquired about residents’ needs in the past include a respect for resident privacy, a commitment to providing independent housing, and a lack of financial incentive to provide services. Several forces have converged, however, to pressure sponsors to either offer or coordinate supportive services; those forces include an organizational desire to reduce costly and disruptive resident turnover, an awareness that current residents of subsidized housing are older than in previous decades (in part because they enter at older ages), and an increasing national interest in strategies that support aging in place as a more sustainable way to deal with a swelling demographic of older adults (Harahan, Sanders, and Stone, 2006).

What Services Should Be Provided?

Little is known about the health-related service needs of older adults who live in subsidized housing. Such tenants might require supportive services because they may have some combination of age-based chronic illnesses, disabilities, and limited social supports, in addition to having modest incomes. In HUD Section 202 properties, the average age increased from 72 years in 1983 to 75 years in 1999; in the oldest buildings (those built before 1975), the average age of residents was 78.2 years in 1999, and almost 39 percent were more than the age of 80 (Heumann, Winter-Nelson, and Anderson, 2001). The aging of the population has widespread implications for housing sponsors, as Heumann, Winter-Nelson, and Anderson (2001: 19) have explained:

The increase in average resident age, the increase in residents aged 85 and older, and the fact that projects are admitting older applicants have far-reaching implications for the management, staff training, and service orientation. Older tenants are likely to require unique support and services as well as barrier-free and supportive physical design.

The population of current older residents is more diverse than in previous years, with nearly one-fourth of the residents identifying themselves as non-White. In addition to increasing age and racial or ethnic diversity is an increased need for services. In 1999, HUD 202 managers indicated that 22.3 percent of residents were frail and that residents more than 80 years old listed the combination of support services, improved security, and increased social contacts as important reasons for moving into a Section 202 building (Heumann, Winter-Nelson, and Anderson, 2001).

A 2001 survey of properties financed through the low-income housing tax credit (LIHTC) indicates that 42 percent of properties completed between 1987 and 1998 were for older people (Kochera, 2002). The survey asked property managers to estimate the number of tenants who were frail or disabled (defined as having difficulty walking or performing everyday tasks); their responses indicate that about one-third of the residents were frail or disabled (Kochera, 2002).

In response to the service needs of residents, some subsidized-housing programs have hired designated staff, such as a service coordinator. This person coordinates the “provision of supportive services to the low-income elderly and non elderly people with disabilities to prevent premature and inappropriate institutionalization, thereby improving residents’ quality of life” (Levine and Robinson Johns, 2008: 1). Duties for the position include determining the service needs of eligible residents and then linking residents with services available in the local community. A survey of HUD-assisted developments reported that 46 percent had a HUD-funded service coordinator, 8 percent had a coordinator funded through other sources, and 43 percent never had a service coordinator (Levine and Robinson Johns, 2008). An older study of HUD 202 properties found that slightly more than one-third of the residents had a service coordinator (Heumann, Winter-Nelson, and Anderson, 2001). A survey of LIHTC-financed properties reported that 21 percent of residents had an on-staff service coordinator, and 47 percent of the properties reported that residents could access a community-based service coordinator (Kochera, 2002).

Although property managers can determine the need for some services required by older residents, property management staff might lack information about residents who fear that disclosure of medical, psychiatric, or social problems will affect their housing tenure. Service coordinators are more likely to have an accurate assessment of the service needs of residents, but, as indicated previously, these coordinators are not available to residents in many properties. Neither property managers nor service coordinators are likely to have the skills to accurately and systematically assess the bio-psycho-social functioning of older residents. All of these factors informed the decision of the housing sponsor described in this article to conduct the comprehensive health-related needs assessment described in this article.

Cedar Sinai Park

The housing sponsor initiating the assessment described in this case study, Cedar Sinai Park (CSP), is a nonprofit, faith-based organization that provides comprehensive retirement and long-term healthcare services to older adults. Multiple facilities are located on a 27-acre campus in Portland, Oregon, including a long-term care facility and assisted-living and active-lifestyle apartments. CSP recently purchased a 17-story apartment building located in downtown Portland as part of its organizational mission to serve the needs of low-income older people. The building, which has 235 one-bedroom apartments, was privately built in 1979 under a HUD Section 8 housing contract

to provide subsidized housing for low-income older and disabled individuals. The most notable feature of the resident population is that approximately 40 percent of the residents do not speak English and represent three distinct cultural groups: Chinese (both Mandarin and Cantonese) speakers, Russian speakers, and Farsi speakers. A small number of Korean speakers also live in the highrise building.

CSP aimed to extend the option for residents to age in place by making available needed long-term care services rather than expecting residents to move out if they require more care. Facing an expected demand for choice among lower income members of the baby boom cohort, CSP was motivated to explore a variety of community-based care models, including housing with services. As long-term healthcare providers, they realized that it is not financially sustainable to meet the level of demand for health-related services using traditional institutional approaches. Their objective was to collaborate with local service providers and with county, state, and federal government and organizational leaders, all of whom have a vested interest in creating successful models of housing with supportive services. CSP believed that to be considered successful, models must reduce healthcare costs and operational inefficiencies while maximizing the independence and quality of life of older adults.

CSP and PSU Partnership

The SSW at PSU and CSP have a long-standing partnership in providing practicum experiences in gerontology for graduate students in social work and in collaborative research on topics regarding long-term care. Research in gerontology is conducted by SSW faculty through the Regional Research Institute for Human Services, a research unit of the SSW that does evaluation and planning research in health and human services across the lifespan.

The housing sponsor and the first author, a member of the SSW gerontology faculty, met to discuss mutual interests in CSP's new sponsorship of the apartment building. The sponsor was primarily interested in acquiring a description of the mental, physical, and social needs of the residents, especially those of the large immigrant population, to help establish priorities and allocate resources for services. For example, the sponsor was considering an onsite day health and respite program, a potentially costly venture if neither the need nor resident support existed.

The SSW partners wanted to explore the residents' perceptions of health, well-being, and services using a modified participatory method. This approach would include resident involvement to actively identify and examine specific issues of health and well-being. Resident participation addresses the need for motivation and buy-in from targeted consumers to produce positive changes in health-related behavior. The process of conducting a health-related assessment could be leveraged to increase personal control and ownership over issues of health and well-being by involving the participants in the research process and outcomes. This buy-in would be important for implementing future health-related services and research.

Both partners wanted to explore the feasibility of linking the benefits of assisted-services technology with the needs of older and disabled tenants living in low-income housing. Both partners were also interested in better understanding the residents' needs and acceptable responses to the needs of the various ethnic groups that lived in the building. A needs assessment was an important first

step in pursuing the goal of providing services to enhance aging in place; it would be important when applying for funding from external sources after the needs were identified.

The SSW team provided expertise in conceptualizing and implementing the assessment and acquired a small planning grant from PSU to cover the assessment costs. The sponsor organized stakeholders to provide feedback on the questionnaire and to identify additional resources and partnerships. The stakeholders also helped interpret the study findings and develop program goals and objectives based on the findings.

Because this project was university based, it provided assurance to residents that confidentiality of information would be independently secured through the PSU Institutional Review Board for protecting research participants. This assurance was particularly important to residents who believed that disclosing information might affect their housing status. Information collected from specific residents remained confidential, and only the PSU research staff knew the identity of the participants.

Methods

Resident Sample and Recruitment

All tenants capable of providing informed consent were eligible to participate in the study. Several issues arose when acquiring a list of eligible tenants that could be used to select a probability sample. Turnover in tenant occupancy was especially rapid at that time because of the transition in building ownership, which took some time to resolve, and an unusually high rate of deaths and transitions to higher levels of care. Accurate tenant lists, especially those identifying ethnic groups, were not available at the time. Many residents, particularly those who did not speak English, could not be reached by telephone because they did not have one, or they required a translator if they did have a phone. More importantly, omitting residents for sampling reasons would have created considerable confusion and misunderstanding among those who were not selected and suspicion among those who were. Residents may have been justified to feel uncertain about their continued residency given their lack of familiarity with the new building sponsors. This uncertainty was a potential problem in establishing trust and resident motivation for future health-related collaborations. Although using a nonprobability recruitment strategy is problematic in assuring accurate representation of the population, the assessment used multiple recruitment strategies to enroll as many residents as possible in the study and to respond to residents' concerns. These strategies included the following:

- The assessment team held six open meetings, two in English and one each in the four other main language groups, to explain the needs assessment, discuss residents' perceptions of the study, and request their participation. They held two meetings in English to accommodate day and evening schedules. Because of the expense of interpreters, only one meeting each in Mandarin and Cantonese Chinese, Russian, and Farsi was held. These meetings were particularly helpful in building trust and beginning a public dialogue about health and community. At these meetings, residents were able to make an appointment for an interview or sign a list to be contacted for further information.

- Following the open meetings, the assessment team posted informational flyers in the residents' languages on the doors of those who had not been enrolled in the study and in public areas.
- Those residents who had been interviewed conveyed knowledge of the needs assessment to nonparticipating residents, which produced additional volunteers. This snowball effect was particularly effective among the Russian and Chinese speakers and resulted in a response rate of more than 80 percent for these two groups.
- Residents who spoke limited English often volunteered to act as consultants to provide information about the cultural behaviors and perceptions of their language group and provided ongoing feedback about the assessment. This information was extremely useful in recruiting and interviewing non-English-speaking residents and assessing the effectiveness and acceptability of research interviewers. Consultants also helped explain historical events that led to the immigration of the various groups and the regional differences represented within each group.
- The assessment team provided a \$15 gift card to the local supermarket as an incentive to each resident to participate in an interview. Although the gift card was a small amount, the participants appreciated the material gift; many of them said that the gift card was a primary motivation for participation.

The assessment team interviewed 130 residents (63 percent of the eligible population) for this study. The previous service coordinator, a member of the property management staff, reviewed the list of tenants to determine if the nonparticipants might represent a systematic bias in the characteristics of residents who volunteered for the study. Among the individuals not included were those who had guardians who needed to be contacted to provide consent to participate and individuals who were largely isolated from the staff and residents of the building. Also, older individuals with apparent dementia were underrepresented.

Data Collection. The questionnaire used for this project included basic physical, psychological, and social measures of functioning; questions about the resident's use of services; three questions concerning the resident's use of technology; and two open-ended questions about the resident's experience of the environment and community life of the apartment building. Open-ended questions were particularly helpful in identifying the issues of greatest concern to the resident. Answers to these questions enabled the researcher to check the validity and reliability of items identified in the structured aspects of the questionnaire and to identify and clarify items of concern not mentioned during the structured interview. The researcher selected the Older Americans Resources and Services (OARS) Multidimensional Functional Assessment Questionnaire (OMFAQ) developed at Duke University as the foundation for the questionnaire because it contains most of the content needed to assess functional abilities of residents and which services they use (Fillenbaum, 1988). The five basic areas of functioning contained in the OMFAQ are predictive of nursing facility placement (Brody et al., 2002), morbidity, and death (Miller and Weissert, 2000), and so are important indicators for ability to age in place. The researcher then modified the questionnaire to fit the characteristics of the resident population and the needs of this particular project. For instance, they modified the scale for economic resources and the health insurance options to be consistent with those available in Oregon. They also added other questions specific to the resident population. Because many of the residents had immigrated as adults from China, Russia, Iran, and Korea, immigration and citizen status were important in determining eligibility for services.

Both property owners and property management staff reviewed the questionnaire; they requested questions related to problems observed by staff, such as failure to manage medications successfully. Additional social and psychological scales were substituted to assess problems observed in social interaction and psychological functioning. All scales selected for the questionnaire were previously evaluated for reliability and validity and have been tested with older adults.

An ongoing issue in questionnaire construction was how to include the basic measures of functioning and services use, add content specifically requested by partnering groups, and keep the questionnaire to a length that could be administered during a single interview with individuals who may fatigue easily. The questionnaire was pilot tested by graduate students in a gerontology research course, and 30 older adults in various community-based settings completed an interview using the questionnaire and provided feedback to the SSW students about their understanding of the questions and interview length. Final modifications of the assessment tool, including a small reduction in length, were made based on participant and student feedback. A copy of the final instrument is available from the first author.

Interviewing the Residents

The assessment team interviewed residents over a 6-month period. To enhance the quality of the data they collected, interviewers used face-to-face interviews with individual residents. They conducted interviews in the apartments of residents or in another location of the participant's choosing. The length of the interviews ranged from 1 to 2.5 hours and varied depending on the individual's cognitive abilities, complexity of health conditions, and extensiveness of open-ended comments. The SSW hired and trained three interviewers for English-speaking residents and five interviewers for the non-English speakers. Most interviewers were current or former university students or individuals who worked in social service organizations and were able to interview in the evenings or on weekends. All English-speaking interviewers were experienced in interviewing older adults and with administering evaluation instruments; they remained on the team throughout the study.

Locating and training interviewers who spoke both English and one of the other four languages were the biggest challenges to the project. Using the assistance of an interpreter to interview each non-English-speaking resident would have been cost prohibitive and would have greatly increased the length of the interview. Because of budget constraints, it was not possible to translate the entire questionnaire into each language and then back-translate it. When possible, translated versions of the scales were used, although the cultural validity of these instruments cannot be assumed for all translated versions. Instead, bilingual interviewers verbally translated the questions and the participant's responses. Suitable interviewers were sometimes difficult to find, and their availability was often unpredictable because of conflicts with academic or work schedules. Training the bicultural interviewers sometimes involved hours of dialogue as we worked through the questions to achieve an understanding of the instrument that was culturally acceptable and yet captured the concepts inherent to western medicine and supportive services. These interviewers provided invaluable insight into the non-English-speaking communities and identified important areas of cultural variation in the delivery of health-related services.

Residents' Participation and Debriefing

During the data analysis phase of the assessment, the assessment team held both formal and informal check-in meetings with residents. Following the completion of the data analysis and interpretation, the researcher prepared and had translated (as needed for each language group) written reports summarizing the survey results. Health characteristics and risks and prioritized lists of concerns and questions pertinent to each language group were emphasized in separate reports. These translated reports were distributed during meetings that the assessment team held with each language group. During these meetings, the CSP chief executive officer discussed the health and service initiatives he envisioned for the building and spoke with the residents about their concerns and suggestions. These efforts were used to further engage the residents as partners in their own health care as the partners planned the transition from data collection to the next phase of the project, identifying and implementing appropriate services (not discussed in this article).

Findings

Sample Description

A total of 130 residents were interviewed, although participation varied by language group: 50 percent of the English speakers ($n = 61$), 81 percent of the Chinese speakers ($n = 35$), 83 percent of the Russian speakers ($n = 20$), and 58 percent of the Farsi speakers ($n = 11$) participated, as well as three out of the six Korean residents.

The mean age of the entire sample was 75.5 years, and 30 percent were 80 years of age or older. This age is comparable to the mean age of 75.5 reported in a national survey of Section 202 residents (Heumann, Winter-Nelson, and Anderson, 2001). The Russian residents were significantly older than other groups with a mean age of 82.3, and 60 percent were 80 years of age or older. No statistical differences existed in the mean ages of the other groups, but only one of the Mandarin-speaking residents was 80 years or older.

Females made up 75 percent of the sample, and 32 percent reported that they were married or partnered, although not all were living with their spouse. Great educational diversity existed among the residents, both between and within the language groups. About 24 percent had less than a high school education, 19 percent completed high school, 19 percent reported some college or trade school, 29 percent completed college, and 9 percent had postgraduate degrees. Of the residents who immigrated to the United States, most (86.3 percent) did so when they were 50 years of age or older and 55 percent were 60 or older. The median number of years of tenancy with the building was 6, with the shortest period being 1 to 2 months and the longest being 23 years.

Health Status

Residents were asked to report their currently diagnosed illnesses, the extent to which these illnesses interfered with their activities, and their prescribed medications (see exhibit 1). The most frequently reported illnesses were common to older adults, although not all language groups reported the same illnesses. Hypertension (64 percent) and arthritis (63 percent) were predominant illnesses

Exhibit 1

Illness-Related Characteristics and Sensory Deficits of Residents (N = 130)

Illnesses	
Mean #	4.3
Min/max	0–10
Illness interfering	
Mean #	3.1
Min/max	0–10
Prescribed meds	
Mean #	5.4
Min/max	0–17
No med strategy	27%
Difficult pain	30.5%
Poor or blind vision	20%
Poor or deaf hearing	17.7%

across all language groups. The mean number of illnesses per individual varied by language group, ranging from 2.6 illnesses for one group to 6.9 for another group.

Similarly, medication usage varied among ethnic groups, with the average number of medications as high as 8.7 in one group to a low average of 3.4 in another group. Residents in this study took between 0 and 17 prescribed medications, and 25 percent of them took 8 or more. More than one-fourth of residents who took 2 or more medications could not identify a strategy for consistently taking their medications. We were interested in the complexity of the physician-prescribed medication regimen for the purpose of evaluating potential for a resident to adhere to the schedule. The use of nonwestern, alternative, and over-the-counter treatments and medications, however, was frequent among respondents and complicated both the adherence strategy and the coordination of resident care. Residents were asked (1) about frequency of pain and whether they used prescribed pain medications, (2) if they had poor vision or were legally blind with corrected vision, and (3) if they had poor hearing or were deaf without the use of hearing aides. Nearly one-third of the sample reported frequent and significant pain, and 20 percent had severe visual deficits that could not be corrected with glasses. Of the residents interviewed, 18 percent reported poor hearing or deafness without hearing aides, yet only 8 percent used hearing aides. Considerable variation existed among the language groups on these factors.

Functional Status and Physical Activity

Instrumental Activities of Daily Living. Most residents in this sample were independent in their instrumental activities of daily living (IADL), with the exception of heavy housekeeping (for example, cleaning the bathtub, scrubbing the floor, and cleaning the windows) and transportation to places beyond walking distance (see exhibit 2). A notable difference existed among the language groups in their level of independence in the other IADLs, with some groups reporting extensive need and others reporting only a need for some assistance with heavy cleaning. A need for heavy housekeeping services was common in all language groups and was reported by more than 40 percent of the

residents, many of whom reported being unable to perform these tasks even with assistance. More than 25 percent of the sample, consistent across most language groups, required some assistance with transportation that was beyond walking distance. Foreign language speakers mostly reported problems resulting from language barriers to navigating the many options for public transportation that exist near the building, while the English speakers reported problems with their ability to access public transportation because of health conditions.

When individuals reported that their performance of an IADL task was independent but difficult, carrying heavy objects and heavy housekeeping were most frequently identified as the reason for this difficulty. Many residents who reported such difficulty thought they could not continue performing these tasks unassisted much longer.

Personal Activities of Daily Living. Nearly all residents were independent in personal ADLs, and one language group reported nearly all of the need for assistance (see exhibit 3). The exception was assistance in bathing, reported by two groups. Most residents requiring help when bathing were afraid of falling (and some had previously fallen) when they stepped into and out of the bathtub.

Physical Abilities. In a measure of physical abilities separate from IADL and ADL, we looked at an individual’s core physical abilities that reflect endurance, strength, coordination, and range of motion. This measure provided a more explicit description of problems with ambulation and

Exhibit 2

Status of Instrumental Activities of Daily Living Skills (N = 130)

IADL Skill	% Independent	% Independent/ Difficult	% Some Help	% Unable
Finance management	90	(3)	3.8	3.8
Medications management	90	(3)	5.4	(3)
Telephone	90	4.6	3.8	(2)
Services	84.6	(1)	8.5	6.2
Meal preparation	78.5	6.9	3.8	10.8
Shopping	74.6	7.7	11.5	6.2
Light housework	72.3	7.7	4.6	15.4
Transportation	66.2	6.2	20.8	6.9
Carry objects	64.6	16.9	4.6	13.8
Heavy housework	46.9	10.8	8.5	33.8

IADL = instrumental activities of daily living.

Note: Numbers in parentheses indicate actual counts that are fewer than five residents.

Exhibit 3

Status of Personal Activities of Daily Living Skills (N = 130)

ADL Skill	% Independent	% Independent/ Difficult	% Some Help	% Unable
Dressing	84.6	11.6	(4)	(1)
Grooming	93.1	(4)	(5)	0
Bed transfer	88.5	9.2	(2)	(1)
Bathing	78.5	8.5	11.5	(2)

ADL = activities of daily living.

Note: Numbers in parentheses indicate actual counts that are fewer than five residents.

other physical movements. It is clear that a large percentage of residents reported deficits in core physical abilities (exhibit 4). In addition, approximately 30 percent of residents reported falling in the past year and that balance interfered greatly with their activities; 25 percent of residents regularly use canes or walkers. Language groups varied greatly; for instance, 89 percent of one group reported they had no problems with walking, while only 20 percent of another group reported no difficulties. Residents often mentioned concerns about experiencing undiagnosed problems with balance, strength, or range of motion. Some individuals received a few sessions of physical therapy after an injury or surgery, but the insurance benefits were too limited to achieve much long-term remedial benefit.

Residents were also asked whether they pursued any type of physical activity on a regular basis. Many individuals reported participating in regular exercise (69 percent), but the primary exercise reported was short walks on an irregular basis (for example, roundtrip destinations located within two to four blocks). For those who walked for exercise, many stopped their activity when the weather was inclement. Only one language group reported a varied exercise program that included classes and social sports several times a week.

Exhibit 4

Percentage of Residents Reporting Difficulties With Core Physical Skills (N = 130)

Core Skill	A Little	A Great Deal	Total
Walking	23.1	29.2	52.3
Balance	27.7	20.8	48.5
Stairs	22.3	32.3	54.6
Reaching	10.0	22.3	32.3
Lifting	24.6	23.1	47.7
Carrying	22.3	21.5	43.8

Social and Mental Health Status

Not all residents reported a support network of friends and family (see exhibit 5 below). Many residents have no contact with family but have developed support networks with other residents or individuals outside the residence. Only seven residents reported that they had no one they could call on for help if they had a problem or an emergency. Individuals who were unable to extend their social contacts to the broader community because of health or other factors, however, could depend only on the microneighborhood of the building to develop adequate social networks, which did not always occur.

Non-English speakers are more vulnerable to isolation because of the language barriers that may discourage them from easily taking part in community activities. Having a close network of individuals who share the same language, however, provided support for many non-English groups. Most non-English speakers mentioned a language barrier as the most important issue in their open-ended remarks. They requested English classes, more translation services, and access to media in their languages.

Many residents reported feeling lonely occasionally, but reports of frequent loneliness were rare. The degree to which residents reported that they would like to have more relationships with other

residents in the building varied greatly among language groups. Interestingly, the degree of reported loneliness was not always associated with the desire for more relationships with other residents.

Depression, as measured by the Geriatric Depression Scale, was reported across all language groups; however, the percentages of individuals reporting depression varied among language groups from a low of 9 percent in one group to a high of more than 50 percent in two other groups. Most reports of depression scored within the mild range. About one-half of the residents evaluated their current mental health as about the same as 5 years earlier, while about one-third of residents felt it had worsened. The perception that their mental health had worsened was usually attributed to health problems (including memory problems) or the death of individuals close to them.

The Mini-Mental State Examination (MMSE) was used as a brief screen for cognitive impairment. MMSE scores of 26 or lower were identified (see exhibit 5) as possible instances of dementia based on an adjustment of cutoff scores that was suggested by Van Gorp et al., (1999). The authors determined that the best overall cutoff score, intended to reduce instances of misclassification of undiagnosed cases of dementia (false positives), is a score of 26 or less. This adjustment produces more accurate classification rates than either the original MMSE cutoff score of 23 or the sole use of age and education as adjusted norms. Approximately 22 percent of residents across all language groups reported MMSE scores of 26 or lower (ranging from 19 to 26). Because our recruitment efforts did not reach individuals who were cognitively unable to volunteer or independently follow through with study participation, the rates reported in this survey were probably conservative and tend to represent milder forms of impairment.

Exhibit 5

Percentage of Residents Reporting Social/Mental Health Needs (N = 130)

Health Need	Percentage
At risk of social isolation*	31.5
Often lonely	9.4
More opportunity for relationships	
A little	41.5
A great deal	32.3
Depression**	29.5
Mental health worse than 5 years ago	31.5
MMSE score of 26 or lower	22.4

MMSE = Mini-Mental State Examination.

**Scores lower than 12 on Lubben Social Network Scale.*

***Scores 5 or greater on the Geriatric Depression Scale.*

Service Use

Exhibit 6 summarizes the most frequently used services by residents. Nearly all residents across language groups saw a physician within 6 months before the interview, and approximately 22 percent had been admitted to the hospital during this period. Two of the language groups accounted for most of the hospitalizations. Patients' stays in the hospital ranged from 1 to 20 days, with most lasting only 1 to 2 days. One language group reported using more services than any of the other

Exhibit 6

Percentage of Residents Using Services in Past 6 Months (N = 130)

Services Used	Percentage
Doctor visit within past 6 months	91.5
Hospital admission within past 6 months	21.5
Physical therapy	14.0
Homemaker	21.7
Shopping	11.6
Meal preparation	14.0
Personal care	11.6
Mental health services	10.9

Note: R-square for the current formula is 0.787; 0.927 for the Administration's proposal.

groups. Only four residents reported using medication consultation or a service to check and organize their medications, while an additional three individuals reported receiving assistance in managing their medications from an informal source.

Discussion

This section provides a brief discussion of the four primary assessment domains followed by a summary and implications.

Health Status

In general, most residents reported that their illnesses interfered very little or not at all with their life. Illnesses such as hypertension, diabetes, or glaucoma, however, may be silent, threatening one's independence if these conditions go undiagnosed and untreated (Butler, 2008). For instance, hypertension is one of the two most frequently reported illnesses in this sample, yet it does not have the same immediate and noticeable effect on ability to perform daily activities as arthritis, the other highly reported illness, does. Providing education and health guidance for high-risk but silent conditions before they produce functional decline is one important way of promoting aging in place.

In this sample, the large number of medications taken by a sizable percentage of the residents is worrisome, especially given that few residents felt they needed any assistance in managing their medications, and many residents could not identify any strategy for taking multiple medications accurately. The average number of prescription medications used by these residents is 5.4, which is comparable to residents of licensed assisted-living facilities who average 6 medications (Armstrong, Rhoads, and Meiling, 2001). Even in assisted-living facilities, where most residents receive care services, finding the best medication management strategy is a challenge (Carder, Zimmerman, and Schumacher, 2009). The implications for poorly or mismanaged medications include increased negative drug interactions, increased side effects, increased falls, and increased instances of resident hospitalization and institutionalization (Hanlon et al., 2002; Tinetti and Speechley, 1989). Many residents, including both English and non-English speakers, said that they substituted and added alternative treatments to their medication regimen without the knowledge or recommendation of their primary care physicians. A final problem for residents with multiple illnesses and

medications is that treatment requires more out-of-pocket expense, which may exceed affordability for low-income people. Inadequate finances may lead to reduced compliance with medical treatment and inadequate contact with medical professionals. Residents with high numbers of illnesses and prescribed medications often reported a lack of resources to meet medical needs, most often resulting from high numbers of medical copays. Improvement to existing services include, greater access to consultations on specific medications, greater access to information about alternative treatments and potential negative interactions with other medications in the patient's regimen, and more assistance in developing strategies to assure adherence to prescribed regimens. These consultations should also be accessible to those who do not speak English and may have nonwestern views of medicine.

Finally, this diverse sample of residents highlights the need to consider the distinct health profiles that various ethnic and racial groups may have. The assessment results helped to identify some of the differences among language groups that may represent distinct health risks, patterns of service use, and lifestyle behaviors that contribute to health resiliency. Identifying these differences can allow for more specific and cost-effective targeting of health-related services. For instance, attention should be given to the need to locate bilingual health providers and individuals who can accompany non-English-speaking residents to medical appointments when they do not have friends or family to provide an accurate translation of medical information. Non-English-speaking residents often complained of excessively long waits to see a physician and did not always understand their physician's diagnoses or recommended treatments.

Functional Status and Physical Activity

Functional status is usually the basis for determining an individual's eligibility and cost of long-term care services, so it is important in any assessment of needs (Kane, 2000). As a measure of an individual's functional status, both IADLs (Lawton and Brody, 1969) and ADLs (Katz et al., 1963) were assessed. An individual's loss of ability to perform these activities (that is, a decline in their functional status) increases their risk of institutionalization and death (Miller and Weissert, 2000).

Heavy housekeeping and lifting are the most widely reported unmet service needs among residents across language groups. These needs were often reported by individuals who were not eligible for homemaker services but could not afford to purchase them privately. Transportation to places beyond walking distance was the next most frequently reported need. Most residents had easy access to different forms of transportation and rarely reported a complete inability to use transportation. Providing language-appropriate instruction to diverse residents about the use of local transportation systems, especially to new tenants, would be particularly helpful in this setting.

Residents seldom reported unmet personal care needs. The assessment, however, provided data on structural problems in the building that contributed to falls and limited accessibility for residents using wheelchairs and walkers in bathrooms equipped with bathtubs only. A group of mobility-impaired residents provided specific information on inaccessible areas of the building or areas that were difficult to navigate safely. The assessment also identified which non-English-speaking groups were receiving needed services from providers sponsored by their ethnic communities and which were without such resources.

Most residents reported that they exercised, but very few approached the level of activity recommended in Healthy People 2000 and The National Blueprint: Increasing Physical Activity Among Adults Age 50 and Older (CDC, 2007). A frequent response to the open-ended questions concerning health-related suggestions included access to onsite exercise equipment and a desire to pursue an exercise program. Extensive literature supports the strong positive effects of exercise on many of the most debilitating health conditions of older adults, including but not limited to falls, diabetes, obesity, hypertension, cardiovascular disease, pain, depression, and even cognitive deficits. Increasing the physical activity of older residents and promoting a culture of health among residents would greatly improve both the general effectiveness and cost effectiveness of health-related supportive services in subsidized housing. The Centers for Disease Control and Prevention (2007) and Environmental Protection Agency (2007) both provide strategies for reaching this goal.

Social and Mental Health Status

About one-third of the participants in this study reported social networks that may not provide adequate social support. Inadequate social support (social isolation) has been considered a health risk by the World Health Organization for more than 20 years and has been extensively researched (CDC and NACDD, 2008). Supportive ties to others have been found to enhance the physical and mental health of individuals, providing a preventative effect and reducing the severity of existing health problems. Social networks can also provide an individual a safety net in times of need. Methods that may address this need include creating opportunities for enhancing meaningful social connections through activities that build community and an individual's sense of belonging and through the use of mental health services that address individual barriers to developing social connections.

Mental and emotional health is an important part of overall health and well-being, not only for the distress that conditions such as depression can cause, but also because these conditions affect physical health and motivation for self care (Stephens, 1988). Providing mental health support to address depression, a condition frequently experienced by older adults, and other mental health disorders is a critical and often missing piece of health-related services. Untreated mental health conditions can contribute to the development of social behavioral problems that influence length of tenancy for individuals in independent housing. Services that address these mental health conditions are not adequately funded (Kleyman, 2005), and geriatric-mental-health professionals are often difficult to locate (Rosen, 2005). Mental health support was an important unmet need reported by all resident groups in this study.

Individuals with varying stages of cognitive impairment are a major challenge for any aging in place initiative. In this study, 22 percent of residents demonstrated performance on the MMSE that suggests some problems with cognitive functioning, especially memory loss. Because many things can produce alterations in cognitive abilities, evaluation for underlying causes is an important first step. Barriers to the evaluation of cognitive functioning in non-English-speaking populations include the availability of culturally appropriate assessment instruments and personnel capable of administering them. It should not be assumed that individuals diagnosed with progressive dementia cannot live independently in subsidized housing, especially during the earlier stages of the illness. Subsidized housing combined with appropriate supportive services can extend the duration of an individual's independence; the degree to which this is possible is just beginning to be explored.

Service Use

In general, the residents who reported heavy service needs were also heavy users of services. When we review IADL and ADL needs, heavy housekeeping and lifting stand out as the two most widely reported unmet services need among residents.

Other needs identified by the assessment included medication management, mental health services, and physical therapy, yet the use of services in these areas is meager. Poor adherence to a medication regimen is often not acknowledged as a problem by individuals because they are unaware of their actual compliance rate and because they often lack awareness of the potential dangers in the complexity of their drug regimen (both prescribed and not prescribed.) Mental health services are probably underutilized because of the unavailability of affordable mental health services for older adults, the questionable acceptability of such services (especially to many non-English-speaking individuals), and a lack of awareness and knowledge of mental health symptoms. Finally, given the high number of reported difficulties with core physical skills and fall risk, a significant need exists for physical therapy and other remedial and preventative programs to address physical deficits in strength, balance, endurance, coordination, and range of motion. Many residents need consultation with a physical therapist to develop a personalized rehabilitative or preventative program, including evaluations for fall risk and generating appropriate referrals.

Summary and Implications

Conducting a multidimensional needs assessment is an effective tool for identifying the service needs of older adults who reside in subsidized housing. This case study suggests that most residents of this Section 8 building are not at near risk of hospitalization and nursing home admission; however, a significant few are. The findings helped the housing sponsor determine that most residents did not need onsite adult day care. Assessment data such as that described in this article can be used to identify and target services to the residents who are at highest risk, thus preventing costly mistakes made from less objective approaches to decision making. Residents in this study identified significant needs differences among language groups and age groups, trends that can be used to plan culturally sensitive and age-appropriate responses.

After service options are implemented, evaluation of each service option's effectiveness should be weighed against its identified goals. Service modifications can be made throughout the evaluation to further improve the services and model of service delivery. Periodic reassessments of residents' health status could be used to inform the housing sponsor and service provider, if any, if the residents' profile of health needs has changed. Resident participation in these efforts helps to ensure that services are consumer focused and that older adults stay active in their own health care.

University-community partnerships can be win-win relationships. Subsidized housing for older adults can provide rich opportunities for university researchers and evaluators to explore questions critical to gerontology while providing valuable information to property owners and older residents. University-community partners can apply for external funding to pursue needs assessments, program evaluations, and other applied research projects. Both students and residents benefit from

university-sponsored internships and class projects that integrate learning and service opportunities. Housing sponsors, in turn, receive systematically collected information to help them plan and evaluate services. Universities usually provide an accepted protocol for collecting personal health information in research-defined projects. This protocol allows residents the opportunity to discuss their health and housing concerns with professionals who are not affiliated with the housing provider.

In the case of the present study, a school of social work with faculty expertise in gerontology was an existing partner of the housing sponsor. Other disciplines with training in geriatric assessment might include nurses, physical or occupational therapists, physicians, or psychologists. A college or university with a designated program in aging (gerontology or geriatrics) would be a good starting point for identifying such professionals.

We need to know more about the residents of subsidized housing for older people. Future projects should include multiple housing communities, possibly in partnership with state or local housing and aging services offices, to profile the larger population of older people who live in subsidized housing. We need to evaluate how the information gained in comprehensive health-related assessments will improve the health and quality of life of residents at the same time that it addresses organizational needs of housing sponsors, such as reduced tenant turnover and readmissions from hospitals, housing stability, and community partnerships.

It is important to keep ahead of the game. Providing services to those in need is an important goal of aging in place, but identifying and addressing health risks that will lead to functional losses and needs for supportive services are critical. Screening for these risks, educating and encouraging older adults to pursue proactive health behaviors, and creating a culture of health awareness is critical for reducing unnecessary disability and costly services.

Finally, federal attention to the need to coordinate housing and services is increasing, as indicated by a recent letter to housing authority directors from HUD and the Centers for Medicare and Medicaid Services (CMS) that “urges” public housing authorities to provide a “local admission preference” for current nursing home residents (HUD, 2009). This call for admission preference responds to the Supreme Court’s 1999 *Olmstead* ruling that states must afford people with disabilities the opportunity to reside in the community rather than in an institution (Folkemer and Coleman, 2006). How authorities will respond to this joint HUD-CMS request is currently unfolding, but this federal attention suggests that housing providers and service agencies will need to work together to systematically assess residents’ needs. They can then use the findings to strategically coordinate services for individuals whose health-related needs might be greater than, if not comparable to, those described in this article.

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