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NIC

The National Investment Center for the Seniors Housing & Care Industry (NIC) is a 501(c)(3) organization whose mission is to advance the quality of seniors housing and care by providing data and research to facilitate informed investment decisions. Since 1991, NIC has been the leading source of research, data and analysis for lenders, investors, providers, developers, and others interested in meeting the housing and care needs of America's seniors. NIC has sponsored the *Seniors Housing & Care Journal*, a peer-reviewed journal for applied research in the seniors housing and care field, since 1993.

One of NIC's major initiatives to further its mission is the NIC MAP[®] data and analysis service. NIC MAP is a Web-based research and analysis solution that operators, lenders, analysts, brokers, investors, consultants, appraisers, and equity firms use to stay informed of market trends that support strategic investment decisions and help to gain and maintain a competitive edge. It provides verified, quarterly information on all seniors housing segment types (AL, IL, MC and NC) inclusive of property inventory, property characteristics, properties under construction, properties being planned, sales transactions, aggregated rent comps, aggregated occupancy comps, demographics and much more.

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MATHER LIFEWAYS

Mather LifeWays is a unique, non-denominational not-for-profit organization based in Evanston, Illinois, founded more than 70 years ago. We are dedicated to developing and implementing Ways to Age WellSM by creating programs, places, and residences for today's young-at-heart older adults. Through conducting applied research, Mather LifeWays Institute on Aging has developed award-winning, evidence-based education programs for professionals who serve older adults. Staffed by nationally recognized researchers and educators, the Institute is a global resource for information about wellness, successful aging service innovations, and educational programming. In 2012, the Institute reached more than 6,000 older adults and professionals through its efforts, and more than 600 organizations implemented Institute-designed programs. Current initiatives focus on comprehensive wellness programs and assessment tools, aging-in-the-workplace issues, emergency preparedness, senior living staff development and retention, and online education and support programs empowering working family caregivers. In line with identifying, implementing, and sharing progressive practices for these initiatives, Mather LifeWays Institute on Aging collaborates with NIC to produce the *Seniors Housing & Care Journal*. To learn more about Mather LifeWays Institute on Aging, call (888) 722-6468 or visit www.matherlifewaysinstituteonaging.com.

INTRODUCTION

The 2013 *Seniors Housing & Care Journal* continues its tradition of disseminating empirically based research and commentaries about quality and progressive practices that are focused on critical issues faced by professionals in the field.

Demonstrating the richness of how program implementation, evaluation, and research can be used to improve planning, operations, and policies in all forms of senior living, **articles in this edition cover diverse topics, from family involvement in long-term care to the needs of older homeless adults.**

As in the past, the *Journal* editors selected one outstanding research article for special recognition, generously sponsored by Prudential Real Estate Investors. Families Matter in Long-Term Care: Results of a Group-Randomized Trial, written by **Sheryl Zimmerman, Lauren Cohen, David Reed, Lisa Gwyther, Tiffany Washington, John Cagle, Philip Sloane, and John Preisser**, presents an evaluation of an innovative program designed to help residents' families create meaningful roles for themselves, together with long-term care staff, in order to improve residents' quality of life and reduce staff burden. Based on a randomized trial across 24 sites, the researchers **found that the intervention benefitted families, staff, and residents in numerous ways, but at the same time, it increased family guilt and conflict.**

For the fourth time, NIC has offered a New Investigator Award, also supported by Prudential Real Estate Investors, for researchers in graduate school or who have recently graduated. The editors selected **Evan Plys** as the 2013 recipient for his article, co-authored with **Nancy Bliwise**, *Family Involvement and Well-Being in Assisted Living*. They **examined the effects of both quantity of family visits and quality of family relationships on assisted living residents' psychological well-being and found that quality matters more than quantity.**

Two other papers were deemed "Papers of Merit" by the editorial board. In *Effects of the Physical and Social Environment on Resident-Family Member Activities in Assisted Living Facilities for Persons with Dementia*, **Robin Stadnyk, Susan Jurczak, Vanessa Johnston, Haley Augustine, and Russell Sampson** qualitatively identified shared meaningful activities between assisted living residents and their families in light of the social and physical environmental features of assisted living facilities. Shifting the focus to sales in seniors housing, **Russell Watson and Anthony Mullen** explore what motivates successful salespeople in *What Distinguishes the Top Sales Performers in Seniors Housing? An Exploration of the Key Values and Motivators of the Industry's Top Sales Performers*.

Other articles give readers equally important concepts to apply in their own settings and provide broad implications for the field. **Lori Weeks, Donald Shiner, Robin Stadnyk, and Dany McDonald** find a link between sociodemographic characteristics and housing preferences in a large sample of community-dwelling older adults in Canada. **V. Tellis-Nayak and Deron Ferguson** examine the similarities and differences in how families, long-stay residents, and short-stay residents interpret nursing home life via a large and rich sample of customer satisfaction data. **Leslie Grant, Todd Rockwood, and Leif Stennes** identify common themes from focus groups regarding implementation of technology-enhanced nurse monitoring systems in assisted living. Moving beyond traditional nursing home and assisted living communities, **Iris Chi, Leilei Yuan, and Tao Meng** provide an in-depth needs assessment of low-income Chinese seniors in subsidized housing in Los Angeles.

This edition concludes with a pair of noteworthy commentaries, again highlighting the diversity of seniors housing and care. **Rebecca Brown, Lori Thomas, Deborah Flashman Cutler, and Mark Hinderlie** advocate for the advancement of permanent supportive housing for older homeless adults, pointing to the example of the Hearth model from Boston. Finally, **Steven Orfield** argues for a new movement in seniors housing

design: research-based design, which applies findings from aging perception and performance research to architecture.

This year we received more submissions than in any prior year, making us especially appreciative of the efforts of the *Journal's* editorial board members, who spent considerable time reviewing submissions to ensure their quality and significance. In fact, the large number of submissions necessitated several requests for ad-hoc reviews, and we would like to thank Margaret Calkins, Paula Carder, Dennis Watson, and Jacquelyn Benson for their excellent contributions to our review process. We further want to acknowledge our colleagues in the field who identified articles for consideration that are of benefit to readers, as well as referring numerous authors. Finally, we are indebted to Technical Editor F. Gill, as well as Associate Managing Editors Scott King, Amy Kerr (outgoing), and Jennifer Smith (incoming), who have shepherded this edition to conclusion.

The *Journal* continues to publish research that contributes to the senior living field and has direct relevance to day-to-day operations. As evidenced by this issue's quantity and quality of selections, the field continues to grow and mature. With this growth, we expect the range of research topics to expand as well. We look forward to your thoughts and views regarding the topics that should be considered for future editions of the *Seniors Housing & Care Journal*. If you would like to submit an article for publication in the 2014 edition, please direct emails to Associate Managing Editor Jennifer Smith at jsmith@matherlifeways.com.

Sincerely,

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***Families Matter* in Long-Term Care: Results of a Group-Randomized Trial**

Sheryl Zimmerman, PhD; Lauren Cohen, MA; David Reed, PhD;
Lisa Gwyther, MSW; Tiffany Washington, PhD; John Cagle, PhD;
Philip Sloane, MD, MPH; John Preisser, PhD

ABSTRACT

This group-randomized trial implemented and evaluated an intervention to reduce staff burden and improve family and resident outcomes by helping families create meaningful roles for themselves in residential care/assisted living and nursing homes. Across 24 sites, families ($N = 490$) and staff ($N = 397$) provided data over six months about family involvement, family and staff well-being and attitudes, and resident quality of life. Intervention subjects participated in workshops and created service plans to identify family roles. For families, the intervention decreased burden and improved resident quality of life but also increased guilt and conflict. Staff reported less burnout and greater partnership with families, and felt families were more empathic. Consequently, there are benefits to increasing family involvement, but attention must be paid to potential barriers and negative outcomes.

INTRODUCTION

The long-term care (LTC) workforce is in short supply of crisis proportion, a problem that promises to worsen as the population ages. By 2020, the demand for direct care workers (referred to as nursing assistants in nursing homes [NHs] and personal care aides in residential care [RC]/assisted living [AL] settings) will increase by more than 70% as baby boomers reach age 85 (U.S. Bureau of Labor Statistics, 2012). Supply will not meet demand for numerous reasons, including low wages, few benefits, and the lack of respect and opportunities for advancement that are attendant with this position (Pillemer, 1997). A less obvious reason, and one that is harder to combat through some of the culture change initiatives that are addressing workforce issues, speaks to the very core of the matter: this is a workforce that was developed on an assumption of endless supply—an assumption that is no longer valid, given the decreasing numbers of and alternate opportunities available to women 25 to 44 who comprise the bulk of the long-term care workforce (Dawson & Surpin, 2001; Koren, 2010).

Fortunately, there is at least a partial remedy to staff burden already in place and waiting to be mobilized: residents' families. The majority of LTC residents were cared for by family before their admission, and these same family members continue to visit on a regular basis and want to remain involved in care (Port et al., 2001; Port et al., 2005). At the same time, despite assertions that family involvement is important to care, LTC practices have tended to reflect a "visitor" philosophy that treats families as outsiders, or a "servant" philosophy that dictates the nature of their involvement, as opposed to a "client" philosophy that coordinates with family members to meet the needs of the resident, family, and staff (Caron, 1997; Montgomery, 1983). Consequently, family members are often at a loss as to their role after the resident is admitted to a LTC setting.

Thus, it is of major significance that the LTC system has not appreciated the resource that families

may constitute in supporting the work done by staff and in improving the quality of life of their family member. That said, this topic has received some research attention, evidenced by five prior efforts to address family involvement in care to improve family, staff, and/or resident outcomes. These prior efforts were promising, but due to their focus on select populations, settings, or outcomes, were limited. Most notably, all included only NHs, thereby excluding RC/AL settings, which provide supportive care to almost one million older adults (Park-Lee et al., 2011).

The earliest project, which examined outcomes of a dementia-specific Family Visit Education Program, focused on educational needs of families. It resulted in fewer behavioral symptoms and less resident depression, and also improved family and staff communication with residents, but there were few significant benefits for family members, none of which were sustained over six months (McCallion, Toseland, & Freeman, 1999). The second project, the Family Partnership Program (FPP), also focused only on families of residents with dementia and was grounded in the observation that families tend to advise staff regarding how to care for residents, rather than help provide care themselves. Results indicated that families did become more involved in care but were less satisfied than families in control sites because they felt obligated to substitute for staff as caregivers; in essence, families did not want to be responsible for routine care such as dressing, bathing, and toileting. Staff attitudes and resident outcomes were not assessed, however (Murphy et al., 2000).

The third program, Partners in Caregiving (PIC), addressed relationship and communication challenges between family and staff, based on the premise that families believe they must monitor care because they tend to distrust staff, and that staff believe families hold unrealistic expectations regarding the care that can actually be provided. A key limitation of PIC was that it addressed family-staff relationships and communication without considering the

intent of the interactions; that is, it focused on the “how” without simultaneously addressing the “what” of collaborative care. Although the program resulted in reduced staff depression and resident behavioral symptoms, and improved family-staff perceptions of each other, it was unclear whether improved perceptions reduced conflict, family burden, or staff burnout (Pillemer et al., 2003; Robison et al., 2007).

Another dementia-specific program, Family Involvement in Care (FIC), tested a negotiated written family-staff partnership agreement and found significant beneficial intervention effects, primarily on family outcomes—emotional reactions, perceptions of staff relationships, and perceptions of care (Maas et al., 2004). In another application of FIC, resident deterioration slowed (Jablonski, Reed, & Maas, 2005); however, the intervention did not reduce perceived family-staff conflict, staff stress, or staff perceptions of a genuine partnership. Of note, the PIC and FIC interventions found positive staff outcomes limited to licensed nurses in leadership roles, the staff less likely to be available to families in RC/AL communities (Stearns et al., 2007).

One final small-scale randomized trial in Canadian NHs tested the efficacy of a psychoeducational group empowerment approach with daughters of residents with dementia (Ducharme et al., 2005). Daughters in the experimental group increased their perception of competence in dealing with staff; however, the primary outcomes were limited to improved mental health outcomes for the daughter caregivers.

Given the potentially significant resource that families could constitute in LTC, their desire for involvement and need for role clarification, promising results from prior work, and models upon which to expand, this article reports on a new program called *Families Matter in Long-Term Care*. *Families Matter* was designed to help families work with staff and residents to create a role for themselves that would benefit the residents’ quality of life (or, in the case of residents who were severely incapacitated, benefit the overall setting) and also improve family-staff relations. Specifically, this article addresses

whether a program designed to engage family members in a meaningful way with or on behalf of their relative changes the amount and type of family involvement, family and staff well-being, attitudes, and perceptions of resident quality of life. *Families Matter* was evaluated in both NHs and RC/AL communities and was not specific to family members of residents with dementia.

METHODOLOGY

Families Matter was a group-randomized trial conducted in six NHs and 18 RC/AL settings in North Carolina participating in the Collaborative Studies of Long-Term Care (CS-LTC). The CS-LTC is a multistate consortium of LTC settings involved in research to inform the quality of care and quality of life in LTC. The Institutional Review Boards of the University of North Carolina at Chapel Hill and Duke University approved all procedures.

Identification and Recruitment of Settings

Power calculations and projections related to participation rates and the effects of clustering indicated a need to recruit 24 LTC settings. Due to the smaller average size of RC/AL settings, compared to NHs, more of the former were recruited. All settings had to be within an approximately one hour drive of UNC; they were matched in pairs by type (RC/AL or NH), region (urban or rural), chain affiliation (when possible), and size (within 25%), and one of each pair was randomly selected to be an intervention or a wait list control site. Administrators were sent a letter of invitation and then visited to explain the study procedures.

Identification and Recruitment of Subjects

To reduce the effects of clustering, a random sample of approximately 20 eligible residents was identified per setting, with eligibility limited to having a family member 21 years of age or older who visited at least once a month and was considered

to be the individual who knew the most about the resident. For each eligible resident, a direct care worker was identified who knew the most about the resident, was 21 years of age or older, worked at least 20 hours a week during the morning or afternoon shift, and had worked in the setting for at least one month prior to study initiation. Administrators provided a list of eligible family-staff pair subjects with the intent to maximize the number of different direct care staff. Families were sent a letter of invitation and then contacted by telephone to explain the study procedures; staff were informed about the study in person. All individuals provided consent before they were interviewed.

Families Matter Intervention

Families Matter encouraged residents' families to work with the resident and LTC staff to identify an activity in which they could participate that would promote the residents' quality of life in one or more of four areas: doing things, getting around, looking good, and eating well. These four areas were selected based on findings from the earlier FPP that identified them as areas in which families would be willing to be involved. A fifth area was later identified—helping the community—for families who could not conceive of a way to improve their resident's quality of life. A meeting was convened with representatives from 10 of the intervention sites to discuss the suitability of these areas as well as the overall *Families Matter* program; modifications were made accordingly.

Families Matter was introduced into each setting through a workshop presentation made separately to families (and residents, if desired) and staff; the workshop focused on family involvement, suggestions for involvement in the five areas noted previously, and the importance of effective communication between families and staff (adapting content from the PIC Program, which focused on effective communication strategies). In the days following the presentation, individualized in-person service plan meetings were held between a trained member of the

research team, the resident (if able), a staff member familiar with the resident (if available), and one or more of the resident's family members. The purpose of these meetings was to identify one or more roles in which the family could be involved, in collaboration with the resident and staff, to improve the resident's quality of life. The meeting concluded with a clearly articulated *Families Matter* Service Plan, which was written in triplicate so that the family, resident, and staff had a copy. If families could not attend the workshop and/or individualized meeting, the same material was covered through a telephone meeting. Materials were provided to support family involvement, such as jigsaw puzzles (doing things), pedometers (getting around), nail polish (looking good), and simple recipes (eating well).

Data Collection

Telephone interviews were conducted at baseline and six months later with family and staff to determine the outcomes of *Families Matter*. If the same family or staff member was not available at the time of the six-month interview, he/she was replaced with who was then considered to be the individual most knowledgeable about the resident. Fidelity interviews were conducted with family in intervention sites between one and three times for up to six months after the service plan was created.

Measures

Data were collected related to outcomes (family involvement, and family and staff well-being, attitudes, and perceptions of resident quality of life), descriptive information, and fidelity. To achieve comparability in scoring and ease respondent burden, some measures were changed to a five-point Likert scale for response consistency.

Family Outcomes. Several family outcome domains were assessed:

- Involvement in 16 areas (reported by both family and staff), using a modified and expanded version of Murphy et al.'s (2000) Involvement Scale, which assesses involvement in both direct

and indirect (supportive) care. Family members reported the actual frequency of each activity for the past month. Because the distribution of frequencies was highly skewed and values grouped near round figures (e.g., 10, 20), the frequencies were grouped into ordered categories.

- Depressive symptoms, using the 10-item Center for Epidemiological Studies Depression Scale (CES-D) (Radloff, 1977)
- Perceptions of care, using three Family Perceptions of Care subscales (Management Effectiveness, Physical Care, and Activities for Residents) (Maas et al., 2004)
- Interpersonal conflict, using the Interpersonal Conflict Scale (Pillemer & Moore, 1989)
- Perception of caregiving role, using three subscales (Conflict with Staff, Guilt, and Loss) of the Family Perception of Caregiving Role instrument (Maas et al., 2004)
- Caregiving and burden, using the Lawton Caregiving Appraisal measure, which has three subscales (Burden, Satisfaction, and Impact) (Lawton, Kleban, Moss, Rovine, & Glicksman, 1989), and the Zarit Burden Interview, which also has three subscales (Social, Psychological, and Guilt) (Zarit, Reever, & Bach-Peterson, 1980)

When reporting on staff care and conflicts, families did so in reference to the staff members overall, not in reference to the individual staff respondent.

Staff Outcomes. Several domains also were assessed to evaluate staff outcomes:

- Burnout and stress, using the Maslach Burnout Inventory, which has three subscales (Emotional Exhaustion, Depersonalization, and Lack of Personal Accomplishment) (Maslach, Jackson, & Leiter, 1996); four of nine items from the Work Stressors Inventory caring for residents subscale (Schaefer & Moos, 1993); and the Hassles and Uplifts Scales (Elder, Wollin, Hartel, Spencer, & Sanderson, 2003)
- Depressive symptoms, using the Center for Epidemiological Studies Depression Scale

(CES-D) (Radloff, 1977)

- Interpersonal conflict, using the Interpersonal Conflict Scale (Pillemer & Moore, 1989)
- Perceptions of caregiving role, using the Staff Perception of Caregiving Role instrument, which has four subscales (Burden, Frustration, Dominion, and Exclusion of Families) (Maas et al., 2004)
- Attitudes toward families, using the Attitudes Toward Families Checklist, which has three subscales (Disruption, Family as Partners, and Family Relevance) (Maas et al., 2004), and the Family Behaviors and Family Empathy Scales (Pillemer et al., 2003)

When reporting on conflict and attitudes toward family, staff did so in reference to families in general, not in reference to a particular family respondent.

Resident Outcomes. Family and staff both rated resident outcomes in three areas:

- Depressive symptoms, using the Patient Health Questionnaire (PHQ-9) (Kroenke & Spitzer, 2001)
- Activity involvement and enjoyment using the Pleasant Events Schedule - AD (asked only of staff) (Logsdon & Teri, 1997)
- Quality of life, using the Quality of Life - Alzheimer's Disease (QOL-AD) measure (Logsdon, Gibbons, McCurry, & Teri, 1999) and a global question "Overall, would you rate (resident's) quality of life as excellent, very good, good, fair, or poor?"

When reporting on residents, family and staff did so in reference to individual residents, namely the family member's relation.

Descriptive Information. Descriptive information was obtained regarding the setting (e.g., age, size, case-mix), family (e.g., marital status, relationship to resident, health), staff (e.g., race, experience, role), and resident (e.g., dementia status, function, length of stay).

Fidelity and Dose of the Intervention. Fidelity interviews asked families to what extent the service plan was being followed as planned (scored as not at all

[0], somewhat [0.5], or completely [1]). For families, the dose of the intervention was calculated using the mean score of three components: workshop attendance (scored 0 for no, 1 for yes), creation of a service plan (scored 0 or 1), and the fidelity interview score. The mean produced a dose score between 0 and 1, with 0 indicating no participation of any kind and 1 representing the fullest possible participation. For staff, the dose of the intervention was calculated as attending the workshop (1) or not (0).

RESULTS

Linear and nonlinear mixed models were used to adjust for the clustering of staff, family members, and residents within NHs and RC/AL settings. Models testing the intervention effect included as predictors intervention status, time period (baseline or follow-up), and the interaction of the two, as well as setting-level and individual-level characteristics that differed between control and intervention

Exhibit 1. Sample and Baseline Characteristics: Settings, Families, Staff, and Residents.

	Control Mean (SD) or n (%)	Intervention Mean (SD) or n (%)	<i>p</i> ^a
Settings	<i>n</i> = 12	<i>n</i> = 12	
For-profit	12 (100)	12 (100)	--
Years in operation	13.0 (13.2)	11.7 (8.7)	.65
Number of beds	97.6 (33.1)	85.8 (24.8)	.47
Occupancy rate	0.84 (0.16)	0.88 (0.10)	.48
Percent of residents with dementia diagnosis	50.6 (31.5)	51.7 (30.2)	.97
Percent of residents without dementia diagnosis but who have memory problems/appear disoriented	5.1 (7.9)	27.5 (26.2)	.010
Percent of residents receiving Medicaid	49.7 (29.3)	44.6 (33.3)	.71
Families	<i>n</i> = 258	<i>n</i> = 230	
Age	57.7 (11.1)	59.2 (11.3)	.26
Female	188 (73)	169 (73)	.86
Married	175 (68)	179 (78)	.029
Minority race	71 (27)	47 (20)	.34
Relationship to resident			
Spouse	10 (4)	24 (11)	<.001
Sibling (includes by marriage)	23 (9)	22 (10)	
Child	162 (63)	151 (66)	
Other relative/friend	63 (24)	32 (14)	
Education: more than high school	194 (75)	173 (75)	.98
Employed	157 (61)	125 (54)	.30
General health: good to excellent	217 (84)	211 (92)	.041

Exhibit 1, continued. Sample and Baseline Characteristics: Settings, Families, Staff, and Residents.

	Control Mean (SD) or n (%)	Intervention Mean (SD) or n (%)	<i>p</i> ^a
Staff	<i>n</i> = 202	<i>n</i> = 195	
Age	40.1 (13.2)	39.1 (12.8)	.70
Female	192 (95)	185 (95)	.98
Minority race	133 (66)	137 (71)	.76
Months working in this setting	48.5 (66.8)	35.6 (48.8)	.29
Hours worked in typical week	37.3 (6.4)	38.2 (6.3)	.49
Education: more than high school	120 (59)	107 (55)	.59
Staff role			.64
Nurse (RN/LPN)	18 (9)	9 (5)	
Direct care worker (certified and not certified)	150 (74)	152 (78)	
Other	34 (17)	34 (17)	
Residents	<i>n</i> = 258	<i>n</i> = 230	
Age	80.2 (12.8)	81.9 (10.0)	.24
Female	196 (76)	171 (74)	.79
Education: more than high school	80 (31)	69 (30)	.95
Dementia	151 (60)	170 (74)	.21
Bed mobility, some dependence	65 (25)	77 (33)	.022
Chairfast in last seven days	97 (37)	60 (26)	.017
Length of stay (months)	32.9 (37.5)	25.4 (28.5)	.09

^a *p* values for family, staff, and resident characteristics are adjusted for clustering using mixed models with a random effect for setting.

groups at baseline and were relevant to the type of participant whose outcomes were being considered. Models were constructed for both intention-to-treat (ITT) analyses and dose of intervention analyses, because dose was found to vary substantially within the intervention group. The dose analyses are highlighted here, with ITT analysis results footnoted. For testing of intervention effects on the frequency of family member activities, a modified version of a published SAS macro (Williamson, Lipsitz, & Kim, 1998) was used to adjust for clustering by carrying out a generalized estimating equations analysis of ordered categorical data. Analyses were completed

using SPSS version 16 and SAS version 9.1.

Recruitment and Data Collection

Eight NHs and 21 RC/AL settings were invited to participate in the project; due to the time it took to obtain their agreement, it was not possible to engage two NHs and three RC/AL settings (75% and 86% participation rate, respectively). Baseline and follow-up data were obtained from 490 families and 397 staff (78% and 99% participation rate, respectively). If a family or staff member was no longer available at the six-month follow-up, he/she was replaced with the current best respondent; 1% of family and 24%

of staff respondents at follow-up differed from those at baseline.

All settings were for-profit and on average, one-half of residents had a diagnosis of dementia (see **Exhibit 1**). In control sites, 5% of residents did not

have a diagnosis of dementia but did have a memory problem or appeared disoriented; the comparable number for intervention sites was almost 28% ($p = .01$). Family members were on average 58 to 59 years of age, 73% of whom were female. In control

Exhibit 2. Baseline Means for Outcome Measures: Families, Staff, and Residents.

	Control Mean (SD)	Intervention Mean (SD)	p^a
Family involvement, number of times/month	($n = 258$)	($n = 230$)	
Visit resident	9.9 (14.8)	12.3 (10.7)	.13
Call or write resident	11.5 (17.1)	11.7(18.5)	.93
Take resident out of NH or RC/AL setting	1.9 (2.6)	2.8 (4.0)	.12
Involved in resident eating	4.8 (6.6)	6.3 (7.7)	.30
Involved in resident grooming/appearance	3.3 (6.2)	5.3 (9.3)	.047
Involved in resident mobility	6.6 (8.7)	7.1 (10.7)	.34
Involved in resident activities/conversation	14.1 (13.9)	14.9 (13.7)	.59
Involved in outside activities (e.g., shopping)	4.0 (3.9)	4.7 (4.8)	.15
Attend group or sponsored activity with resident	0.43 (1.1)	0.56 (1.1)	.21
Do resident laundry	1.2 (2.5)	2.3 (4.1)	.10
Monitor resident finances	5.6 (9.2)	7.0 (9.6)	.57
Discuss resident with staff	4.6 (6.6)	6.2 (7.7)	.09
Participate in service/care plan meetings with staff	0.23 (0.9)	0.3 (0.7)	.77
Attend training, seminar	0.03 (0.2)	0.05 (0.2)	.42
Participate in groups specifically for families	0.13(0.4)	0.2 (0.7)	.25
Do things on behalf of setting (e.g., lead activities)	0.7 (3.1)	0.7 (2.4)	.90
Family measures ^b (lower scores are favorable)	($n = 258$)	($n = 230$)	
Family Perception of Caregiving Role (FPCR) - Guilt subscale (range: 1 to 5)	2.39 (0.68)	2.16 (0.68)	.013
FPCR - Conflict subscale (range: 1 to 5)	2.49 (0.62)	2.44 (0.63)	.46
Lawton Caregiving Appraisal - Burden subscale (range: 10 to 50)	17.82 (6.54)	19.01 (6.73)	.12
Zarit Burden Interview (ZBI) (range: 0 to 88)	21.7 (12.2)	23.6 (12.2)	.22
ZBI - Social subscale (range: 0 to 24)	2.87 (3.71)	3.60 (3.73)	.07
ZBI - Psychological Burden subscale (range: 0 to 24)	4.73 (4.09)	5.34 (4.17)	.31

Exhibit 2, continued. Baseline Means for Outcome Measures: Families, Staff, and Residents.

	Control Mean (SD)	Intervention Mean (SD)	<i>p</i> ^a
Staff measures ^b (higher scores are favorable)	(<i>n</i> = 202)	(<i>n</i> = 195)	
Maslach Burnout Inventory - Personal Accomplishment subscale (range: 0 to 48)	40.62 (7.36)	39.44 (7.40)	.80
Attitudes Toward Families Checklist - Families are Partners subscale (range: 1 to 5)	3.96 (0.47)	3.91 (0.48)	.26
Family Empathy (range: 3 to 15)	8.63 (2.43)	8.45 (2.28)	.50
Resident measures ^b (higher score is favorable)	(<i>n</i> = 258)	(<i>n</i> = 230)	
Quality of life (single rating, by family) (range: 1 to 5)	3.50 (0.87)	3.52 (0.88)	.98
^a <i>p</i> values for family, staff, and resident outcomes at baseline are adjusted for clustering using mixed models with a random effect for setting.			
^b Family, staff, and resident measures are those for which significant effects were found. Other measures, for which significant effects were not found, were: for families, the FPCR - Loss subscale; the Lawton Caregiving Appraisal - Satisfaction and Impact subscales; the ZBI - Guilt subscale; the Family Perception of Care Tool and all subscales; the Interpersonal Conflict Scale; and the Center for Epidemiological Studies Depression Scale (CES-D); for staff, the Maslach Burnout Inventory - Emotional Exhaustion and Depersonalization subscales; the Attitudes Toward Families Checklist - Disruption and Relevance subscales; the Staff Perceptions of Caregiving Role and all subscales; Family Behaviors; the Work Stressors Inventory; the Interpersonal Conflict Scale; the Hassles and Uplifts Scales; and the Center for Epidemiological Studies Depression Scale (CES-D); and for residents, Quality of Life-AD and the Patient Health Questionnaire (PHQ)-9 (rated by both family and staff); and the Pleasant Events Schedule (rated by family). Means and SDs for all measures are available upon request.			

sites, fewer family members were married (68% versus 78%; *p* = .03) and rated their health as good to excellent (84% versus 92%; *p* = .04); also, fewer were spouses and were more distant families and friends (*p* < .001). Staff averaged 39 to 40 years of age and 95% were female; there were no differences in staff characteristics between control and intervention sites. Residents averaged 80 to 82 years of age, with 75% being female; those in control sites were somewhat less dependent in bed mobility (25% versus 33%; *p* = .02) but more often chairfast (37% versus 26%; *p* = .02).

At baseline, as shown in **Exhibit 2**, families visited on average 10 (control) to 12 (intervention) times per month (*p* = .13) and were involved in grooming/appearance 3 (control) to 5 (intervention) times per month (*p* = .05), and resident mobility 7 times per month (*p* = .34). Families in control sites had more guilt at baseline as measured on the Family

Perception of Caregiving Role instrument (2.39 versus 2.16 on a range of 1 to 5; *p* = .01); the five items in this scale include feeling guilty about interactions with the resident, feeling that he/she isn't doing as much now and did not do as much in the past (two items) for the resident as he/she could or should, and feeling nervous/depressed or comfortable (two items) about interactions with the resident. There were no significant differences between control and intervention sites on any other outcome measures, including resident quality of life, which was rated by family members to average 3.5 (range of 1 to 5). Given the extensive amount of data that were collected for this project, distributions are shown only for those measures that evidenced change; distributions of measures not shown are available upon request.

Families Matter Implementation

All families from the 12 intervention sites were invited to attend the workshop and participate in service planning; 166 (72%) and 163 (71%) participated in each, respectively. In reference to staff, 88 of the 195 invited staff participated in workshops (45% participation rate). The individualized service planning meeting was rarely attended by residents (only two attended) and not consistently attended by staff (97 attended). All told, families developed 306 service plans, which included a wide range of activities such as facilitating the establishment of a Red Hat Social Club (doing things), taking the resident out for car rides (getting around), giving the resident a manicure (looking good), and having a picnic (eating well). Fidelity interview data were obtained from 132 of the 163 families who had created a service plan (81%); results indicated an average dose of 0.6 ($SD = 0.4$) for family members, with 53 (23%) having a dose of 0 and 32 (14%) having a dose of more than 0.9.

Intervention Effects

Family involvement was assessed in 16 areas by both family and staff. Of these, adjusting for clustering and significant baseline differences including family marital status, relationship, and health, and resident mobility and chairfastness, and in both ITT and the full-dose conditions (i.e., families attended the workshop and their service plan was completely followed as planned), compared to those in control sites, staff in intervention sites reported a significant increase in family involvement with resident mobility. Specifically, the ITT and dose odds ratios and 95% confidence intervals (95% CI) were 1.86 (95% CI = 1.06-3.26) and 2.11 (95% CI = 1.21-3.72), indicating that the odds of a family member in the intervention group having higher involvement at follow-up were roughly twice the odds for a family member in the control group. Of note, this effect was evidenced only for staff report of family involvement in resident mobility and not based on family report. Staff reports of family involvement

also indicated that the odds of a family member in the intervention group having higher involvement monitoring the resident's finances at follow-up were lower (OR = 0.42; 95% CI = 0.19-0.88) than those of a family member in the control group.

Exhibit 3 presents the impact of a full dose for scales that evidenced a statistically significant intervention effect; bold indicates effects in the desired direction, and footnotes indicate the significance of the ITT analyses. Six family outcomes, three staff outcomes, and one resident outcome showed an intervention effect; all except two family outcomes were in the desired direction. The first family outcome—Family Perceptions of Caregiving Role guilt subscale (which has a range of 1 to 5)—evidenced a change of -0.06 points with no dose, whether it was the control group or the intervention group and a change for the intervention group under a condition of full dose of 0.14 ($p = .027$); given that lower scores indicate less guilt, families who received the full intervention reported more guilt at follow-up. A virtually identical change was noted for the Family Perceptions of Caregiving Role conflict scale (which also has a range of 1-5), with the control and no dose groups showing a change of -0.04 and the full dose intervention group showing a change of 0.13 ($p = .024$), indicating more conflict. The 10 items on this measure elicited information about having to be careful about making suggestions or requests about the resident's care so that staff would not think the family is interfering; feeling like an outsider/not having control in the resident's care/being allowed to approve care (three items); thinking staff ignore family directions/do not reach consensus on resident care (two items); thinking staff have the say about care/inability to control care (two items); and agreeing on what is important or trivial and rules/routines/efficiency versus individualized care (two items).

All other results were in the desired direction. Families receiving the full dose of *Families Matter* reported less burden on the Lawton Caregiving Appraisal burden scale (-2.5 on a scale of 10 to 50),

Exhibit 3. Outcome Measures with an Intervention Effect for Dose, Adjusted. ^a							
Test of effects (mixed model ^b)				Model estimated means			
	Effect	SE	p		Baseline	Follow-up	Change ^c
Family Outcomes – effect of family dose							
<i>Family Perceptions of Caregiving Role – Guilt subscale</i> (range 1-5; lower scores favorable)							
Change for control group over time	-0.06	0.05	.190	Control Dose = 0	2.38	2.32	-0.06
Difference between groups at baseline	-0.27	0.09	.007	Intervention Dose = 0	2.10	2.04	-0.06
Intervention effect ^d	0.20	0.09	.027	Dose = 1	2.10	2.24	0.14
<i>Family Perceptions of Caregiving Role – Conflict subscale</i> (range 1-5; lower scores favorable)							
Change for control group over time	-0.04	0.04	.27	Control Dose = 0	2.46	2.42	-0.04
Difference between groups at baseline	-0.06	0.11	.59	Intervention Dose = 0	2.40	2.36	-0.04
Intervention effect ^e	0.17	0.07	.024	Dose = 1	2.40	2.53	0.13
<i>Lawton Caregiving Appraisal – Burden subscale</i> (range 10-50; lower scores favorable)							
Change for control group over time	-0.90	0.33	.007	Control Dose = 0	17.5	16.6	-0.9
Difference between groups at baseline	0.86	0.82	.31	Intervention Dose = 0	18.3	17.4	-0.9
Intervention effect ^f	-1.64	0.66	.014	Dose = 1	18.3	15.8	-2.5
<i>Zarit Burden Interview – overall scale</i> (range 0-88; lower scores favorable)							
Change for control group over time	-3.36	0.63	<.001	Control Dose = 0	20.1	16.8	-3.3
Difference between groups at baseline	1.77	1.76	.32	Intervention Dose = 0	21.9	18.6	-3.3
Intervention effect ^g	-2.54	1.24	.042	Dose = 1	21.9	16.0	-5.9
<i>Zarit Burden Interview – Social subscale</i> (range 0-24; lower scores favorable)							
Change for control group over time	-0.81	0.20	<.001	Control Dose = 0	2.61	1.80	-0.81
Difference between groups at baseline	0.54	0.44	.23	Intervention Dose = 0	3.15	2.34	-0.81
Intervention effect ^h	-0.87	0.39	.028	Dose = 1	3.15	1.47	-1.68

Exhibit 3, continued. Outcome Measures with an Intervention Effect for Dose, Adjusted. ^a							
Test of effects (mixed model ^b)				Model estimated means			
	Effect	SE	p		Baseline	Follow-up	Change ^c
Family Outcomes – effect of family dose							
<i>Zarit Burden Interview – Psychological Burden subscale</i> (range 0-24; lower scores favorable)							
Change for control group over time	-0.51	0.22	.019	Control Dose = 0	4.42	3.91	-0.51
Difference between groups at baseline	0.53	0.70	.45	Intervention Dose = 0	4.96	4.45	-0.51
Intervention effect ⁱ	-1.03	0.43	.017	Dose = 1	4.96	3.42	-1.54
Staff Outcomes – effect of workshop attendance							
<i>Maslach Burnout – Personal Accomplishment subscale</i> (range 0-48; higher scores favorable)							
Change for control group over time	-0.21	0.53	.70	Control Dose = 0	39.9	39.7	-0.2
Difference between groups at baseline	-0.15	1.91	.94	Workshop No	40.0	39.8	-0.2
Intervention effect ^j	2.40	1.10	.029	Yes	40.0	42.2	2.2
<i>Attitudes Toward Families Checklist – Partnership subscale</i> (range 1-5; higher scores favorable)							
Change for control group over time	-0.13	0.03	<.001	Control Dose = 0	3.95	3.82	-0.13
Difference between groups at baseline	-0.03	0.09	.75	Workshop No	3.92	3.79	-0.13
Intervention effect ^k	0.14	0.06	.028	Yes	3.92	3.94	0.02
Staff Outcomes – effect of family dose^l							
<i>Family Empathy</i> (range 3-15; higher scores favorable)							
Change for control group over time	0.26	.16	.11	Control Dose = 0	8.45	8.70	0.25
Difference between groups at baseline	0.22	0.48	.65	Intervention Dose = 0	8.67	8.93	0.25
Intervention effect ^m	0.76	0.38	.048	Dose = 1	8.67	9.68	1.01

Exhibit 3, continued. Outcome Measures with an Intervention Effect for Dose, Adjusted.^a

Test of effects (mixed model ^b)				Model estimated means			
	Effect	SE	p		Baseline	Follow-up	Change ^c
Resident Outcomes – effect of family dose							
<i>Overall Quality of Life</i> (range 1-5; higher scores favorable)							
Change for control group over time	-0.11	0.06	.08	Control Dose = 0	2.40	2.29	-0.11
Difference between groups at baseline	0.03	0.13	.82	Intervention Dose = 0	2.37	2.26	-0.11
Intervention effect ⁿ	0.33	0.14	.015	Dose = 1	2.37	2.59	0.22

^aResults adjust for differences that were significant at baseline. For families, these include health, relationship to resident, and marital status, as well as resident bed mobility and chairfastness, plus the setting-level proportion of residents with memory/orientation problems; for staff, these include the setting-level proportion of residents with memory/orientation problems; for residents, these include the same variables as used for families. Intervention effects indicate the effect of the intervention given the full dose (i.e., dose = 1). Effects shown in bold are favorable. Measures with non-significant intervention effects are listed in the footnote of Exhibit 2.

^bWith a random effect for setting and individual participant, either family member, staff member, or resident, as appropriate.

^cFollow-up mean - baseline mean.

^dIntention-to-treat intervention effect (0.17) is statistically significant ($p = .026$).

^eIntention-to-treat intervention effect (0.11) is not statistically significant ($p = .08$).

^fIntention-to-treat intervention effect (-0.80) is not statistically significant ($p = .14$).

^gIntention-to-treat intervention effect (-1.51) is not statistically significant ($p = .14$).

^hIntention-to-treat intervention effect (-0.65) is not statistically significant ($p = .18$).

ⁱIntention-to-treat intervention effect (-0.58) is not statistically significant ($p = .10$).

^jIntention-to-treat intervention effect (3.39) is statistically significant ($p < .001$).

^kIntention-to-treat intervention effect (0.20) is statistically significant ($p = .001$).

^lIntention-to-treat intervention effect for Staff Perceptions of Caregiving Role - Dominance subscale (-0.12) is statistically significant ($p = .016$). This is the only instance when intention-to-treat analyses were significant when the dose effect was not significant.

^mIntention-to-treat intervention effect (0.38) is not statistically significant ($p = .16$).

ⁿIntention-to-treat intervention effect (-0.06) is not statistically significant ($p = .56$).

the Zarit Burden Interview overall scale (-5.9 on a scale of 0 to 88) and two of its subscales: social (-1.68) and psychological burden (-1.54), both on a scale of 0 to 24. Staff who attended the workshop reported less burnout (a higher score) on the Maslach Burnout Personal Accomplishment subscale and better attitudes on the Attitudes Toward Families Checklist partnership scale (2.2 on a scale of 0 to 48 and 0.01 on a scale of 1 to 5, respectively). Also, staff reported higher family empathy (1.02 on a scale of 3 to 15) when paired with residents

whose family members experienced the full dose of the intervention. Finally, families in the intervention group reported improved resident quality of life as rated on the single item measure (0.22 on a scale of 1 to 5 with a full dose).

DISCUSSION

In an effort to help families identify and implement roles for themselves in the LTC setting that may benefit resident quality of life, this study found that doing so increased family guilt and sense of conflict

but also decreased their burden; further, it improved their perceptions of resident quality of life. Staff benefits were uniformly positive, related to less burn-out and more of a sense of working in partnership with families and that families were more empathic. Staff also perceived a change in the nature of family involvement but families themselves did not.

In putting these findings in context, it must first be noted that all effects were modest, in the small-medium effect size range (Cohen, 1988), with the largest being a standardized effect size of 0.38 for resident quality of life, as rated by the family. For other statistically significant outcomes, the average effect size was 0.25 for family and 0.31 for staff. Of course, it is not possible to know whether resident quality of life actually increased more than did family and staff outcomes because these results may reflect the family's perception that their actions benefited the resident. Also, intervention effects were not found in many areas, including depressive symptoms among family, staff, and residents, family perceptions of care, staff perceptions of caregiving role, resident activity involvement, and some subscales under study.

Effect size notwithstanding, a few interesting implications emerge. When increasing family involvement in LTC settings, staff members see most evidence of it in relation to resident mobility and monitoring finances (i.e., such was not true of the other 15 areas of family involvement listed in Exhibit 2). Of note, service plans related to "getting around" (resident mobility and physical functioning) were the second most frequent type of plan created and accounted for only 34 (11%) of the 306 service plan activities. The most frequent type of activity represented in service plans was related to "doing things" (recreation) and accounted for 202 (66%) of the service plan activities. Thus, it appears that staff members are more likely to notice a change in family involvement in resident mobility than in more recreational-based activities, perhaps because family involvement in this area is less common than it is in recreational activities, or perhaps because it, as opposed to recreational

involvement, lessens staff burden. To the extent that resident mobility is important for function, social engagement, and quality of life (Bourret, Bernick, Cott, & Kontos, 2002) and is a contribution to care visible to the staff, it may be an area especially fruitful for family involvement. Similarly, staff (but not families) perceived a decrease in family involvement in monitoring finances. Other work has suggested that monitoring finances creates burden (Port et al., 2005), and it is plausible that the change in which families spent their time was in part responsible for their decreased burden.

The fact that family involvement in *Families Matter* decreased caregiving burden suggests that the tasks they identified were not taxing. The price, however, was that families felt more guilt and conflict. Indeed, identifying actionable roles for family may foster a greater sense of responsibility and perhaps a realization that they have not been doing as much as they could or should. Despite the fact that guilt compels people to act (Carlsmith & Gross, 1969; Taylor, 1991), there is need to temper this increased sense of obligation with support from staff. Over time, it is possible that guilt may lessen, but this has yet to be determined.

Increasing family involvement also increases the potential for conflict with staff. Our measure of family conflict included items about receptivity of staff to family instructions for care. It is possible that perceptions of conflict increased primarily because *Families Matter* necessitated more family-staff coordination. If so, this finding suggests that any efforts to increase family involvement in LTC must concurrently attend to potential conflict.

The need for family to coordinate their role with the staff speaks to the partnership that must be in effect if family involvement is to be achieved, and in the context of staff perceptions, it indeed seems beneficial: staff felt less burnout, and more partnered with and empathy from families. It is possible that the task-natured focus of *Families Matter* was responsible for these benefits, as families became care partners in ways the staff appreciated (e.g., pre-

paring special foods) (Natan, 2009).

Considering the results and their implications, the workforce shortages in LTC, and the presence of family members who want to be involved, it is important to consider next steps for *Families Matter* and related efforts. One step relates to how to implement such a program. In *Families Matter*, a train-the-trainer approach was initially envisioned, wherein the research staff would train a LTC staff member to coordinate and oversee service plan meetings with families, staff, and residents. Despite strong support from administrative leadership for *Families Matter*, this plan did not materialize; instead, the research team coordinated and oversaw these meetings and few staff ever attended them. Further, fidelity data indicate that 55% of staff did not attend workshops, one-quarter of families did not participate in workshops or service plan meetings, and overall, their fidelity was slightly more than half of what was optimal (i.e., the average dose was 0.6 on a scale of 0 to 1). Consequently, if a LTC setting is to promote family involvement, doing so must either become a component of an individual's work responsibilities for which he/she is actually supported or tasked to a contract worker or consultant.

Indeed, implementing any new care practice in a LTC setting is a challenging process. The extent to which change is adopted relates to a host of factors, including the nature of the innovation itself (e.g., the extent to which it is seen as an advantage); antecedents for change (e.g., leadership support); readiness for change (e.g., dedicated resources to implement the new practice); linkages to promote change (e.g., the extent to which the agent for change is part of the system); the ease of assimilation (e.g., the extent to which the process of change is complex); communication and influence (e.g., the presence of champions to implement the change); the outer context (e.g., mandates for change from ownership); characteristics of those implementing the change (e.g., the skills of the staff); and the implementation process itself (e.g., the training needs of the staff) (Greenhalgh, Robert, Macfarlane, Bate, & Oliva,

2004). Thus, the modest fidelity achieved in this project and the uncertainty regarding its sustainability is not unexpected.

CONCLUSION

It is advantageous to streamline new care practices to the extent possible. *Families Matter* is a multi-component intervention, and the question can be raised of whether it may be simplified by omitting either the workshop or service plan component. An in-depth examination of this matter found that both components related to decreased family burden: service plan creation related to reduced burden as measured by both the Zarit and Lawton measures, and workshop attendance related to reduced burden as measured by the Lawton measure (Washington et al., in press). Consequently, if one were to implement a more parsimonious intervention, it may be advisable to omit the workshop component.

A change addressing family relations with staff must be sensitive to the complex nature of interpersonal dynamics, which extends far beyond the focus on family involvement addressed in this project. A more thorough understanding of this topic would consider issues that pre-date admission to the LTC setting such as caregiver stress and the quality of family members' relationship with the LTC resident, the policies of the LTC settings such as the extent to which they are "permeable" to family involvement, the residents' need for support, the proximity of the family to the LTC setting, and many other considerations (Gaugler, 2005). That said, the results from this project indicate that families do matter in long-term care, that there are important roles they can play to potentially improve resident quality of life, and that their involvement may actually decrease their sense of burden and improve their relations with the staff.

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Family Involvement and Well-Being in Assisted Living

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ABSTRACT

The current study investigated associations between the quantity of contact and the quality of relationship with a primary family caregiver and assisted living residents' emotional well-being. We also examined factors influencing the quality of relationship. Forty-four residents from four assisted living facilities completed measures assessing emotional bondedness to a family member, life satisfaction, and depression. Open-ended interviews assessed residents' perceptions of family interactions. A multiple regression analysis revealed that the quality of relationship better predicted well-being than the quantity of contact, and the relationship between the quantity of contact and well-being is explained through the quality of relationship. Results suggest the quality of family relationships has greater mental health benefits than the frequency of contact with family. In addition, family members can support strong relationships by engaging in activities that promote emotional bondedness.

INTRODUCTION

There are approximately 975,000 residents of assisted living facilities in the U.S. (National Center for Assisted Living, 2008). Assisted living facilities encourage family involvement and view external relationships as an integral part of care (National Center for Assisted Living, 2008). Institutionalized older adults report family relationships as having the greatest impact on perceived social support and quality of life (Tseng & Wang, 2001). In addition, older adults who lack social ties show higher rates of mortality (Berkman & Syme, 1979). Despite the physical and emotional benefits of family involvement, few studies have investigated these relationships in the context of mental health outcomes in an assisted living population.

Family caregivers continue to provide emotional and physical support for their older adult relatives following institutionalization (Gaugler, 2005; Naleppa, 1996; Port et al., 2001; Yamamoto-Mitani, Aneshensel, & Levy-Storms, 2002). Port et al. (2005) found that family members reported spending more than four hours each week visiting or calling relatives who lived in an assisted living facility. In addition, most family members stay stable in their frequency of visitations six months after admission to long-term care (Yamamoto-Mitani et al., 2002).

Eugene Litwak proposed the task-specific theory to outline specific roles for family and professionals that would optimize care of institutionalized older adult populations (Litwak, Messeri, & Silverstein, 1990). He argues that staff should be responsible for specialized technical tasks, while family should be more involved in non-technical tasks and economic issues (Dobrof & Litwak, 1977). Dempsey and Pruchno (1993) reported that a majority of adult children caregivers felt staff should be solely responsible for personal care and family should be solely responsible for finances, medical decisions, and writing letters. Rubin and Shuttlesworth (1983) developed a 100-item task inventory to compare the

responsibilities carried out by family and staff. Staff and relatives rated staff as primarily responsible for medical, dietary, and housekeeping tasks, and family as primarily responsible for providing extra items (e.g., plants, money, televisions, radios).

During visitations, families most frequently engage in socioemotional support activities (Abbey, Schneider, & Mozley, 1999; Gaugler & Kane, 2007; Thompson, Weber, & Juozapavicius, 2001). Abbey et al. (1999) found that 94% of family members reported providing emotional support for seniors housing residents during visits, while only 7% helped with activities of daily living such as grooming, transportation, and feeding. Similarly, visitors of assisted living residents spend more time sitting, reminiscing, and talking about family than laundry or business items (Thompson et al., 2001). Two important reasons family members spend more time engaging in socioemotional support are that many family members relinquish technical tasks to staff (Keefe & Fancey, 2000); and they believe that engaging in socioemotional support preserves residents' well-being (for review see Gaugler & Kane, 2007).

Family intervention programs demonstrate links between the content of visits and residents' well-being. McCallion, Toseland, and Freeman (1999) developed an education program for family members of long-term care residents with dementia. Residents of families who completed the program reported lower levels of depression and less irritability. Although these programs targeted family members of residents diagnosed with dementia, these findings suggest that families can impact the mental health of institutionalized older adults through visitations.

Promoting emotional well-being is of interest to many researchers studying institutionalized older adults, given the high prevalence of depression in this population. Older adults living in long-term care facilities report a higher rate of depression (15-25%) than community-living older adults (Masand, 1995). Greene and Monahan (1988) found strong negative correlations between the frequency of family visita-

tions and depression; however, they used a general psychosocial impairment scale that included depression as one of many factors, rather than an inventory designed to measure symptoms of depression. Harel (1981) found that continuity of social ties was significantly related to life satisfaction; however, this was not specific to family members. Another study reported that more frequent family interaction was the strongest predictor of perceived social support and quality of life; however, when physical health was controlled, this relationship only explained a small percentage of overall variance in these variables (Tseng & Wang, 2001). While many studies have focused on the number of visitations, there is another body of literature that finds that quality, rather than quantity, of family interactions to be more beneficial to the mental health of long-term care residents.

Conner, Powers, and Bultena (1979) argued there must be factors other than the frequency of visitations affecting long-term care residents' well-being. "We have been working from the assumption that more is better...attention should be shifted from questions of how many and how often to the meaning of social relationships and the interaction process" (p. 120). This emphasis on the quality of family relationships is congruent with themes from Laura Carstensen's socioemotional selectivity theory, which states that as adults enter old age they engage in a strategic selection process to cultivate social networks that maximize emotional gains and minimize emotional risks (Carstensen, 1992). Snow and Crapo (1982) found strong correlations between emotional bondedness to a family member or friend and life satisfaction and subjective well-being. In addition, self-rated health and emotional bondedness were the two strongest predictors of life satisfaction in this study. Another study reported that perceived quality, not quantity, of family interactions greater predicted well-being in older adult women (Beckman, 1981).

We first investigated the relationship between the quantity of contact with a primary family caregiver and the quality of relationship with that family caregiver, and the impact of both factors on life satis-

faction and depression. In studies where both quality and quantity of social interactions were measured, quality better predicted high emotional well-being in older adults (Beckman, 1981). Therefore, we predicted residents with high emotional bondedness to a family member would report higher levels of life satisfaction and lower levels of depression, and this effect would be greater than the frequency of contact. Next, we examined the relationship between practical and emotional care and its impact on the quality of relationship with a primary family caregiver. Since reciprocal relationships and emotional intimacy both predict greater quality of relationships (Rotenberg & Hamel, 1988; Snow & Crapo, 1982), we expected socioemotional support activities, rather than activities of daily living and instrumental activities of daily living, would correlate with higher emotional bondedness between residents and their primary family caregiver. Qualitative data also were collected to assess residents' perceptions of family interactions and the impact family has on emotional and physical well-being.

Our study also employed a multidimensional view of factors affecting life satisfaction and depression in assisted living residents. Previous literature found higher scores of self-rated health predicted both higher life satisfaction and lower depression (Park, 2009; Snow & Crapo, 1982). Relationships with other residents also were found to be one of the strongest predictors of life satisfaction and quality of life in an assisted living population (Street et al., 2007). Therefore, we created two models in which physical health, internal relationships, and family relationships were tested as predictors of life satisfaction and depression respectively. After controlling for physical health and internal relationships, we expect quality of family relationships to still be a significant predictor of life satisfaction and depression.

METHODOLOGY

Participants

Forty-four residents from four assisted living

Exhibit 1. Participant Demographic Information.					
	Range	<i>M</i>	<i>SD</i>	<i>n</i>	%
Age	78-103	89.59	5.31		
Sex					
Male				10	22.7
Female				34	77.3
Race					
Caucasian				42	95.5
Asian				2	4.5
MMSE	23-30	27.41	2.00		
Time in Assisted Living					
6 mo.-1 yr				8	18.2
1-2 yrs				16	36.4
2+ yrs				20	45.5
Education					
Less than high school				1	2.3
High school				9	20.5
Some college				10	22.7
College degree				11	25
Masters or higher				13	29.5
Contact with Family					
Per month	.5-56	11.99	12.22		
Hours per month	.5-38	10.90	10.05		
Self-Rated Health	4-10	7.45	1.81		
Number of Friends in Facility	0-8	3.27	2.20		

facilities participated in the current study. All facilities were private-pay communities with an average monthly room cost ranging from \$2,800 to \$3,500. Twenty-four residents were recruited from three facilities located in an urban setting in Atlanta, while 20 residents were recruited from a facility located in a small suburban community in New Jersey. The facilities ranged in size from 18 to 60

residents. There were no significant differences in any outcome measures between residents living in these different facilities. Participants' ages ranged from 78 to 103 ($M = 89.59$, $SD = 5.31$). Thirty-four participants were female (77.3%) and 10 were male (22.7%). Forty-two participants identified as Caucasian (95.5%), while two (4.5%) identified as Asian. See **Exhibit 1** for detailed participant demo-

graphic information.

Procedures

Recruitment letters explaining the purpose and procedures of the current study were mailed to 146 assisted living residents living in the four targeted facilities. Fifty-seven residents who were interested in participating in the study responded directly to the investigators or to the activity directors at each facility. All potential participants were informed that participation in the current study was voluntary and refusal to participate would have no impact on receipt of services from the facility. In addition, each facility was given the option of mailing letters to family members of potential participants so they would be aware of the study.

Prior to the interview, participants were asked a series of questions to determine eligibility for the study. Verbal consent was obtained to administer the Mini-Mental State Exam (MMSE; Folstein, Folstein, & McHugh, 1975) and collect demographic information. Residents were eligible for the study if they a) were a current resident of an assisted living facility; b) lived in the current facility for more than six months; c) scored 23 or higher on the MMSE; and d) had at least yearly contact with family. Of the 57 residents interested in participating in the current study, four did not meet criterion b, seven did not meet criterion c, and two did not meet criterion d. The 44 residents who met all of these criteria were then asked to continue with the interview process, and written consent was obtained for administration of the remainder of the study.

Author Evan J. Plys interviewed all participants in their rooms to ensure privacy and confidentiality. The interview included additional background questions, items on four closed-ended measures, and an open-ended interview. For each close-ended questionnaire, the interviewer read items while residents referred to laminated sheets that contained large print Likert responses. Each interview was completed in one appointment and no follow-up assessments were conducted. Participants were

informed they could stop the interview at any time and had the opportunity to have their data not appear in the study; however, each participant consented and completed the entire interview.

Ratings

Two independent raters were trained in recursive abstraction (Creswell, 2007) and applied this qualitative method to digital files derived from audio recordings of each interview. Each rater paraphrased the core meaning of statements made in response to general questions and sequentially extracted statements until a core set of four themes were identified. Two additional raters reviewed a randomly selected subset (25%) of interviews and counted the number of times each theme was mentioned.

Measures

Cognitive ability. The MMSE was used to assess cognitive ability (Folstein, Folstein, & McHugh, 1975). The MMSE evaluates orientation, registration, attention, calculation, recall, and language (Kurlowicz & Wallace, 1999). Scores on the MMSE range from 0 to 30, with scores of 22 and below suggesting moderate to severe cognitive impairment. The MMSE has strong reliability with test-retest values ranging from .80 to .98.

Emotional bondedness. The Emotional Bondedness Scale measured quality of family relationships (Snow, 1980). The scale was developed for older adult populations and has shown strong reliability with Cronbach's alpha ranging from .82 to .83 (Snow, 1980; Snow & Crapo, 1982). Respondents rate their relationship with reference to "the person you most trust or confide in." The current study modified this instruction to "the family member you most trust or confide in" to ensure responses reflected emotional bondedness to family members and not friends or staff. Twelve-item statements (e.g., "Is sensitive to my feelings and moods"; "Thinks highly of what I know and can do") are rated using a three-point scale: 1 = *Not at all true of him/her*; 2 = *Somewhat true of him/her*; and 3 = *Very true of him/her*. They are

Exhibit 2. Activities Inventory.

Activity:

1. Laundry (take home or do in facility)***
2. Making Doctor Appointments***
3. Accompanying to Doctors Appointments***
4. Personal Finances***
5. Cleaning the Apartment***
6. Grooming (hair, nails, etc.)***
7. Bathing***
8. Planning Events (birthdays, holidays, etc.)*
9. Administrative Duties (Paying for Room, Health Records, Family History, etc.)***
10. Go to Movies*
11. Go to Restaurant*
12. Go to Festivals*
13. Go to Theatre*
14. Go to Concert*
15. Go Shopping For Pleasure*
16. Bring Groceries, Clothes, Drugs, Toiletries, etc.***
17. Visit Family Home*
18. Holiday Events*
19. Family Dinners*
20. Church or Other Religious Meetings*
21. Car Rides*
22. Walks*

23. Play Cards*
24. Creating Memory Books*
25. Looking at Photographs*
26. Watch TV*
27. Eat Dinner Together in Facility*
28. Participate in Activities Sponsored by Facility*
29. Meet and Chat with Friends in Assisted Living*

Discussion:

30. Reminiscing**
31. Vent/Complain about Care**
32. Family Issues**
33. Feelings of Guilt**
34. Fears Associated with Aging**
35. Fears Associated with Mortality**
36. Current Events*
37. Mutual Friends/Gossip*
38. Generic Catching Up/"What's New"*
39. Humor*
40. Shared Interests (movies, sports, TV, etc.)*

*Socioemotional support

**Intimate conversation topics

***ADLs/IADLs

summed to form an overall emotional bondedness score.

Life satisfaction. The Life Satisfaction Index A-Short Form (LSITA-SF) consists of 12 statements (e.g., "The things I do are as interesting to me as they ever were"; "I would enjoy my life more if it were not so dull"), rated on a six-point Likert scale ranging from 1 = *Strongly Disagree* to 6 = *Strongly Agree*. Eight items are positively worded, with four negatively worded items reverse coded. Total scores range from 12 to 72. The LSITA-SF has strong

reliability: Cronbach's alpha = .90 (Barrett & Murk, 2006).

Depression. Depression was measured using the Geriatric Depression Scale-Short Version (GDS-S) (Sheikh & Yesavage, 1986). Participants respond *yes* or *no* to 15 questions that represent symptoms of depression (e.g., "Do you feel that your life is empty?"; "Do you often feel helpless?"). After reverse coding of positively worded items, scores of 5 or greater suggest mild to severe depression (Sheikh & Yesavage, 1986). The GDS-S has good reliability:

Cronbach's alpha = .76; high negative predictability: 97%, suggesting strong clinical diagnostic value (Van Marwijk et al., 1995).

Contact with family. Each participant was asked to self-report the frequency of contact he/she had with an identified family caregiver in an average month. Contact was defined as the average number of times a participant reported to be in correspondence with a primary family caregiver either through physical visits, telephone calls, emails, or Skype conversations.

Care Activities. A 40-item inventory (see **Exhibit 2**) of socioemotional care activities, activities of daily living, instrumental activities of daily living, and intimate conversation topics was presented to each participant during the interview process. Participants indicated which activities and discussion topics were typical of a physical visit, telephone conversation, email, or Skype conversation with a primary family caregiver. Each subsection was summed to create an overall number of activities of daily living, instrumental activities of daily living, socioemotional support, and intimate conversation topics.

Covariates. Covariates included in the analyses were relationship variables, self-rated physical health, and friendships within the facility. Relationship variables included self-reported time spent with a primary family caregiver (measured in hours per month) and primary means of contact with family caregivers (coded as physical visit, telephone, email, or Skype). Participants self-reported physical health at the time of the interview on a scale of 1 to 10 (1 = *poor*, 10 = *strong*). Internal friendships were measured as the number of residents living in the same assisted living facility participants identified as a "close friend." In addition, we assessed frequency of contact with non-resident friends, activity participation, satisfaction with staff, and perceived social support from family.

RESULTS

Caregiver Characteristics

Assisted living residents in the study reported that contact (face-to-face visits, telephone, Skype, or

email) with an identified primary family caregiver ranged from .5 to 56 times per month, with an average of close to 12 encounters ($M = 11.99$, $SD = 12.22$). In addition, participants reported they were in contact with their primary family caregiver between .5 and 38 hours per month, with a mean of 10.90 hours ($SD = 10.05$). Twenty-seven (61.4%) caregivers physically visited the facility as their primary means of contact, 16 (36.4%) caregivers used telephone communication, one (2.3%) caregiver used email as primary means of contact, and no resident reported using Skype as their primary means of contact with family.

Quantitative Analysis

Preliminary analyses revealed high negative skew for the Emotional Bondedness Scale. Prior to analysis, an inverse transformation was performed on reflected scores. Means, standard deviations, and Pearson's correlation coefficients for all study variables are presented in **Exhibit 3**.

Family Involvement and Mental Health

Analyses revealed a moderate positive association between reported frequency of family contact and emotional bondedness with a primary family caregiver, $r = .37$, $p = .015$, $r^2 = .14$. Frequency of contact showed a moderate negative relationship with depression, $r = -.31$, $p = .039$, $r^2 = .10$, but was not statistically significantly associated with life satisfaction, $r = .14$, $p = .383$, $r^2 = .02$. The quality of the resident-caregiver relationship, as measured by emotional bondedness, showed moderate and statistically significant associations with both depression, $r = -.48$, $p = .001$, $r^2 = .23$, and life satisfaction, $r = .34$, $p = .022$, $r^2 = .12$.

A hierarchical multiple regression analysis revealed that the emotional bondedness to a family caregiver was a stronger predictor of depression than the frequency of contact with that primary family caregiver. In the first step, depression was regressed on the frequency of contact, $\beta = -.31$, $SE = .03$, $t(42) = -2.13$, $p = .039$, explaining 10% of the total variance.

Exhibit 3. Means, Standard Deviations, and Pearson's Correlations of Variables.

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Life Satisfaction	46.89	9.61									
2. Depression	3.93	2.27	-.63**								
3. Emotional bondedness to family	31.98	4.64	.34*	-.48**							
4. Frequency of contact	11.99	12.22	.14	-.31*	.37*						
5. Number of socio-emotional support	13.80	5.12	.14	-.28	.47**	.50**					
6. Number of activities of daily living/ instrumental activities of daily living	3.16	2.15	-.14	-.07	.35*	.39*	.56**				
7. Number of intimate conversations	2.25	1.31	.01	-.10	.32*	.34*	.73**	.48**			
8. Self-rated health	7.45	1.81	.26	-.17	.15	-.04	-.14	-.28	-.10		
9. Number of friends in facility	3.27	2.20	.32*	-.37*	.11	-.07	.08	-.23	.07	.10	
10. Hours of contact with family	10.93	10.05	.11	-.26	.43**	.66**	.50**	.42**	.30*	.08	.09

Note: * $p < .05$. ** $p < .01$.

In step two, emotional bondedness was added to the model and explained an additional 15% of the variance, $\Delta F(1, 41) = 8.29, p = .006$. In addition, when emotional bondedness was added to the model, frequency of contact was no longer a statistically significant predictor of depression, $\beta = -.16, SE = .03,$

$t(41) = -1.09, p = .281$.

Since the frequency of family interactions was not significantly correlated with life satisfaction, a regression analysis was not performed for emotional bondedness and frequency of contact with primary family caregivers as predictors of life satisfaction.

Emotional Bondedness and Care Activities

The number of socioemotional care activities, $r = .47$, $p = .001$, $r^2 = .22$, intimate conversation topics, $r = .32$, $p = .032$, $r^2 = .10$, and activities of daily living/instrumental activities of daily living performed by family members, $r = .35$, $p = .019$, $r^2 = .12$, all yielded moderate positive correlations with emotional bondedness between residents and their primary family caregiver.

Model of Life Satisfaction and Depression

Self-rated physical health yielded a small positive correlation with life satisfaction, $r = .26$, $p = .084$, $r^2 = .07$, and a small negative correlation with depression, $r = -.17$, $p = .276$, $r^2 = .03$. It should be noted that both correlations were not statistically significant using a .05 alpha level. The number of friends in the facility was included to capture social relations in the immediate environment and showed a moderate positive correlation with life satisfaction, $r = .32$, $p = .034$, $r^2 = .10$, and a moderate negative correlation with depression, $r = -.37$, $p = .014$, $r^2 = .14$.

In the models of well-being, physical health was regressed first, followed by friendships in the facility and family relationships. Since it appears that quality explains the relationship between quantity of family contact and well-being, quantity was not included in the models. A hierarchical multiple regression analysis revealed that all variables together explained 24% of the variance in life satisfaction, $F(3, 40) = 4.12$, $p = .012$; see Exhibit 3. Similarly, a hierarchical multiple regression analysis revealed physical health, friendships in the facility, and quality of family relationships were significant predictors of depression, explaining 34% of the total variance, $F(3, 40) = 6.71$, $p = .001$; see Exhibit 4.

Qualitative Analysis

To capture participants' experience of family visits, a series of open-ended questions were asked in each interview. Interview responses fell into four general themes closely tied to the questions asked: 1) preferences for family involvement; 2) percep-

tions of family visits; 3) the role of family; and 4) why family relationships are important. Inter-rater reliability was established on a random selection of 25% of interviews. Following the initial extraction of the four themes, two raters independently counted the number of times each theme was mentioned. Pearson's correlation coefficients were calculated across participants for each theme. Preference for family involvement yielded a correlation of .99, perceptions of visits yielded a correlation of .91, role of family yielded a correlation of .55, and importance of family yielded a correlation of .79, with an overall inter-rater reliability across themes of .81.

Preferences for family involvement. When asked what made family visits important, the majority of participants stated the emotional support derived from each family visit (51.2%). An additional 23.3% stated the frequency of visits was most important, 20.9% felt both frequency and quality were of equal importance, and 4.6% felt neither frequency or quality was important for family relationships.

Perceptions of family visits. Participants stated that they looked forward to family visits primarily to continue family ties (42.9%). An additional 17.1% looked forward to visits because it made them feel cared for, 17.1% looked forward to visits because it was something to do, 8.6% looked forward to visits for the continuity of activities with family, 5.7% looked forward to visits to see familiar faces, and 5.7% looked forward to visits in order to give parental advice. Only one resident looked forward to visits to gain help with personal care.

The role of family. When asked what the role of family should be in the life of an assisted living resident, 34.1% of the participants felt family should provide emotional support. An additional 29.5% felt family should be involved in every aspect of life, 11.4% felt family should help with personal finances, and 6.8% felt the activities family engage in should depend on what the family member wants to do. Only 4.5% of participants felt family should handle medical decisions, and 4.5% felt family should do nothing.

Why family relationships are important. When asked

Exhibit 4. Summary of Hierarchical Multiple Regression Analysis of Variables Predicting Life Satisfaction.

Variable	Model 1			Model 2			Model 3		
	<i>b</i>	<i>SE</i>	β	<i>b</i>	<i>SE</i>	β	<i>b</i>	<i>SE</i>	β
Self-rated health	1.40	.79	.26	1.24	.77	.23	1.03	.74	.19
Resident friendships				1.29	.63	.30*	1.18	.61	.27
Family involvement-quality							44.67	21.82	.29*
R^2	.07			.16			.24		
<i>F</i> for change in R^2	3.14			4.21*			4.19*		

Note: * $p < .05$.

Exhibit 5. Summary of Hierarchical Multiple Regression Analysis of Variables Predicting Depression.

Variable	Model 1			Model 2			Model 3		
	<i>b</i>	<i>SE</i>	β	<i>b</i>	<i>SE</i>	β	<i>b</i>	<i>SE</i>	β
Self-rated health	-.21	.19	-.17	-.16	.18	-.13	-.09	.16	-.07
Resident friendships				-.37	.15	-.35*	-.32	.13	-.32*
Family involvement-quality							-15.86	4.80	-.43**
R^2	.03			.15			.34		
<i>F</i> for change in R^2	1.22			6.05*			10.91**		

Note: * $p < .05$. ** $p < .01$.

about the relationship with family, 27.7% of the participants stated family relationships make them happy, 23.4% said it was important to stay involved in family matters, 14.9% said family relationships made them feel cared for and not alone, 8.5% said it gave them pride to see their children as adults, 6.4% said it gave them a link to the outside world, and 6.4% said they felt sad when family members left. Only 4.3% of participants said family relationships made them feel safe and secure, 2.1% said they did not want to be a burden on family, and 2.1% said

family relationships provided them the ability to see youthful faces.

Reminiscence. Reminiscence emerged from both quantitative and qualitative analyses as important to the relationship between family caregivers and assisted living residents. Due to the high frequency of families engaging in reminiscence ($n = 35$), the association between reminiscence and emotional bondedness was tested. An independent samples *t*-test revealed a relatively large difference in emotional bondedness, $t(42) = -1.98$, $p = .027$, $d = .72$,

between families who reminisced ($M = 32.86$, $SD = 3.36$) and those who did not ($M = 28.56$, $SD = 7.16$). Due to the abundance of literature on the psychological benefits of reminiscence therapy (Goldwasser, Auerbach, & Harkins, 1987; Davis, 2004), additional tests were performed to investigate the relationship between reminiscing and life satisfaction and depression. An independent samples t -test, $t(42) = -1.13$, $p = .133$, $d = .52$, revealed residents who reminisced with family showed higher scores of life satisfaction ($M = 47.71$, $SD = 1.54$) than those who did not ($M = 43.67$, $SD = 3.78$). This effect was moderate but not statistically significant. In addition, an independent samples t -test revealed a small difference in depression, $t(42) = 1.26$, $p = .107$, $d = .39$, between residents who reminisced with family, showing slightly lower scores of depression ($M = 3.71$, $SD = 2.36$), than those who did not ($M = 4.78$, $SD = 1.72$), although this effect also was not statistically significant.

DISCUSSION

Conner et al. (1979) proposed that the quality of social interactions has greater consequences for the well-being of older adults than the quantity of social interactions. In the current study, the frequency of contact with a primary family caregiver correlated with lower scores of depression but not higher scores of life satisfaction. The quality of relationships, as defined as emotional bondedness to a primary family caregiver, correlated with higher scores of life satisfaction and lower scores of depression. When both quantity of contact and the quality of relationship were tested as predictors of depression, only quality significantly predicted lower scores of depression. These findings are similar to Beckman (1981), who reported that the perceived quality, not quantity of social interactions, greater predicted well-being in older adults. The results of the current study indicate that the quality, more than the quantity of family interactions, promote high life satisfaction and low levels of depression in the sample of assisted living residents.

There has been much debate over what the role of family should be in the lives of institutionalized older adults. Litwak's task-specific theory proposed that staff should be responsible for specialized technical tasks, while family should be more involved in non-technical tasks (Dobrof & Litwak, 1977). Litwak does not specifically name socioemotional support as a non-technical task; however, the current results suggest that family members can contribute to care by bolstering a bond with their loved ones and providing emotional support. Therefore, the task-specific theory can be generalized to family involvement by stating that staff should be primarily responsible for aiding with specialized health care tasks, while family should be responsible for providing emotional care through relationship-building interactions.

Given the positive impact of the quality of family relationships on residents' well-being, the current results have major implications for families, staff, and residents of seniors housing facilities. Regularly contacting institutionalized family members may not be enough to maintain emotional well-being. Psychologists and social workers have developed programs for family members to improve the content of visitations (Levy-Storms, 2011; McCallion et al., 1999). These programs, however, previously targeted families of seniors housing residents with cognitive impairments. The current results suggest that even in a population where cognitive impairment is absent, improving family visits by focusing on emotional support can positively impact residents' well-being.

It is important to understand what factors contribute to producing greater emotional bondedness between residents of assisted living and their family members. The number of socioemotional support activities yielded the strongest correlation with emotional bondedness. An interpretation of these results is that engaging in socioemotional support activities is similar to providing invisible social support. In previous literature, adults receiving invisible social support showed a greater negative change in scores

of depression than those receiving visible social support (Bolger, Zuckerman, & Kessler, 2000).

There were no differences in scores of emotional bondedness between families whose primary means of visitations were face-to-face encounters or telephone calls. Interestingly, families whose primary means of contact were telephone conversations did engage in more intimate conversation topics. These results suggest that family members talking on the phone engage in socioemotional support through different mechanisms than families who physically visit residents. Due to the lack of ability to engage in physical activities, families using phone calls as their primary means of contact rely on conversation topics to show emotional support. Just as there is a need for structured family visitation programs to maximize the quality of family relationships, similar programs can target families who use telephone conversations as their primary means of contact.

Families who reminisced showed higher scores of emotional bondedness. Reminiscence therapy is often implemented in group therapies for older adults. Goldwasser et al. (1987) reported levels of depression in participants of a reminiscence therapy group as significantly lower than control groups in a nursing home population. The current study suggests that the act of reminiscing has benefits to building a strong, emotional connection between family and residents of seniors housing facilities. Residents who reminisced with family did show higher scores of life satisfaction and lower scores of depression; however, these effects were small to moderate and not statistically significant. These results suggest that the positive impact of reminiscence therapy may be derived through emotional bondedness to a group, therapist, or peers. Future research is needed to test the role emotional bondedness plays in the relationship between reminiscence therapy and well-being in older adults.

Qualitative analyses confirm that emotional support is derived through the quality of relationship with a primary family caregiver and not the frequency of contact. Analyses of interview themes support this

conclusion as the majority of residents stated the most important role of family should be providing emotional support, more than financial help or medical decisions. In addition, when asked why residents look forward to family visits, the majority of responses were categorized as receiving emotional support. Only one participant mentioned looking forward to visits for help with personal items.

We targeted three distinct variables of life satisfaction and depression: physical health, internal relationships, and family relationships. Each model was a significant predictor of the outcome variable, suggesting that these three factors are important to psychological well-being of assisted living residents.

Our study found that self-rated health was significantly correlated with higher scores of life satisfaction but not with lower scores of depression. In addition, when predicting life satisfaction and depression, self-rated health explained only a small amount of overall variance in both variables. These results may reflect sampling bias, which is discussed more in depth with the study's limitations.

The number of friends in the facility was a strong predictor of both life satisfaction and depression in the current sample of assisted living residents. Therefore, residents who cultivated numerous relationships within the sampled facilities showed higher scores of life satisfaction and lower scores of depression. Street et al. (2007) suggest that the benefits of friendships are increased when unrelated individuals live together in seniors housing. Since family members live in a different setting, this limits the amount of support they are able to provide. The proximity of other residents may make them an important factor for emotional well-being. Previous research on internal peer relationships suggests that many seniors housing residents fail to develop friendships with other residents. Wells and Macdonald (1981) found that 52% of residents interviewed did not name any other residents as a close friend. This finding makes the current results relevant because internal relationships may be of great importance to residents' well-being yet may be an aspect of life that

is neglected by many seniors housing residents.

The quality of family relationships was a strong predictor of depression and life satisfaction, even after controlling for self-rated health and internal relationships, in the current models. This result suggests that having a strong bond with a family member is paramount for well-being in assisted living.

Limitations

A limitation of our study is that the participants and facilities are a non-representative sample of the assisted living population. Participants signed up for the current study on a volunteer basis. Therefore, it is possible that residents who participated were those with frequent and meaningful contact with family, had high scores of life satisfaction and low scores of depression. In addition, participants were screened for cognitive impairment. About one-third of assisted living residents have mild to severe cognitive impairment (Hawes, Rose, & Phillips, 2000). The current sample had an average MMSE score of 27.41, which falls in the normal range of functioning. Seniors housing residents who do not have cognitive impairment also report stronger physical health, which may explain the small contribution of self-rated health in the current model (Laurin, Verreault, MacPherson, & Rockwood, 2001). In addition, residents with low physical and cognitive functioning are less socially engaged (Mor et al., 1995), and the current sample of assisted living residents did report higher rates of internal friendships ($M = 3.27$, $SD = 2.20$) than previous findings (Wells & Macdonald, 1981). Also, the current sample consisted of residents of private-pay communities. The current study replicated previous findings that residents of private-pay communities are highly educated, mostly Caucasian, and have consistent contact with family (Port et al., 2001); however, these demographics are not representative of different types of facilities. Therefore, these results cannot be generalized for all residents of seniors housing facilities.

Another limitation of our study is that it did not control for social desirability effects. Therefore,

responses on both qualitative and quantitative measures may reflect idealistic responses from residents. In addition, it should be noted that qualitative analyses in the study assessing the role of family showed weak inter-rater reliability.

Future research should address the limitations of the current study by sampling a more diverse and representative sample of assisted living residents. Given the importance of internal peer relationships, research on social networks in seniors housing is needed to determine the differences between and impact of resident-resident and resident-family relationships on emotional well-being and social support. In addition, researchers and clinicians should develop intervention programs to promote strong bonds between families and cognitively intact seniors housing residents. These programs should aim to plan physical visits, telephone conversations, and Skype calls that improve resident well-being through strong emotional bonds.

CONCLUSION

In conclusion, the quality of relationship with a primary family caregiver is shown to have greater mental health benefits for assisted living residents than the frequency of contact with that family member. Families can promote strong relationships with residents by engaging in socioemotional support activities. There also may be emotional benefits to reminiscing with institutionalized older adult relatives. In addition, relationships with other residents are important to the mental health of assisted living residents.

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Effects of the Physical and Social Environment on Resident-Family Member Activities in Assisted Living Facilities for Persons with Dementia

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ABSTRACT

This study examined the shared activities of residents and their family members in relation to physical and social environmental characteristics of assisted living facilities for persons with dementia. Data were collected through interviews with 12 family-resident pairs from two facilities. The Professional Environmental Assessment Protocol and Policy and Program Information Form environmental assessment tools were used to identify environmental domains that were important to residents' and family members' experiences. Four themes emerged from interviews: keeping family traditions, integrating into facility life, facility activities, and food as a crosscutting theme. Most family traditions and relationships were maintained through outings, but facility-based activities became increasingly important as dementia symptoms increased. Environmental domains of environmental supports to maximize function, policy clarity, and provision of privacy emerged as most important to fostering family activities.

INTRODUCTION

Assisted living is a model of facility-based care aimed at reducing inappropriate placement of older adults in nursing homes. Kane, Chan, and Kane (2007) found that most assisted living facilities offered private rooms and bathrooms, assistance with activities of daily living, three meals a day, housekeeping services, wellness programs, medication administration, and emergency call systems. Ideologically, assisted living facilities emphasize privacy, autonomy, and choice (Hawes, Phillips, Rose, Holan, & Sherman, 2003). Assisted living provides less intensive medical supervision and care than nursing home care (Canadian Healthcare Association, 2009) and often employs a social rather than a medical model of care (Verbeek, Van Rossum, Zwakhalen, Kempen, & Hamers, 2008).

In the U.S., the 2010 National Survey of Residential Care Facilities found that the assisted living industry is growing rapidly, with more than 970,000 beds available in 2009. This survey also found that 42% of assisted living residents have dementia (Mollica & Houser, 2010). In Canada, assisted living facilities have been available for approximately 20 years and are increasingly present in the continuum of long-term care offered in many provinces, though no information is available about the total number of beds (Alberta Health and Wellness, 2008; Canadian Healthcare Association, 2009).

Research about assisted living facilities indicates that encouraging social participation and family involvement can improve resident quality of life (Ball et al., 2004; Burge & Street, 2010; Cutchin, Owen, & Chang, 2003; Mead, Eckert, Zimmerman, & Schumacher, 2005; Mitchell & Kemp, 2000; Street, Burge, Quadagno, & Barrett, 2007).

The purpose of this study was to explore assisted living social and physical environments and their potential to foster shared meaningful activities between residents with dementia and their family members.

Conceptual Model

The conceptual framework for this study is the Person Environment Occupation Model (PEOM) (Law et al., 1996). PEOM incorporates components from the work of eight environmental behavioral theorists, including gerontology and architecture. In this model the person, environment, and occupation are seen to influence each other in a transactive manner. The environment includes physical (built) and social (cultural, socioeconomic, institutional, interactive) features of the facility (Law et al., 1996; Townsend & Polatajko, 2007). Occupation is defined as “a set of self-directed, functional tasks and activities in which a person engages over a lifetime” (Law et al., 1996, p. 16). In this study, the occupations of interest are activities in which residents and family members engage together inside and outside the facility.

Literature Review

Previous research has explored the social and physical environments of assisted living, the experiences of people with dementia in assisted living, activities of residents in assisted living, and family experiences with assisted living; however, there is no literature that simultaneously addresses all of these factors.

In Day, Carreon, and Stump’s (2000) review of therapeutic design of environments for people with dementia, they found that a non-institutional character (lighting, outdoor areas, homelike bathrooms, kitchens, dining rooms) improved well-being and social interaction. More recent reviews highlight the importance of private bedrooms and smaller units with higher quality of life (less sadness, less restraint use, more friendship formation) (Calkins, 2009; Fancey, Keefe, Stadnyk, Gardiner, & Aubrecht, 2012) and more ambient light with less agitation and sleep disturbance (Calkins, 2009). Street et al. (2007) found that organizational factors affecting quality of life and feeling “at home” in assisted living included privacy, food quality, friends in the facility, and good relationships with staff.

Residents and family members differ in their opinions of important features of assisted living. Edelman, Guihan, Bryant, and Munroe (2006) found that both residents and family members thought staff interactions, activities, and safety were important, but in Levin and Kane's (2006) research, family members rated these features as more important than did residents. Family members also rated availability of resident transportation and care provision that relieved them of responsibilities as important features (Edelman et al., 2006). Port's (2004) qualitative study of 93 resident/caregiver pairs found that transportation issues, poor relationships with staff members, a lack of private space, and difficulty exiting locked units emerged as important barriers to family involvement.

Most research about assisted living and nursing home activities for people with dementia focuses on organized recreational activities that have been proven to be beneficial, such as music and reminiscence groups, tai chi, or walking (Harmer & Orrell, 2008; Hyde, Perez, & Forester, 2007; Marshall & Hutchinson, 2001). In a small qualitative Canadian study, Phinney, Chaudhury, and O'Connor (2007) found meaningful activities for older adults with dementia included leisure activities, household chores, social involvements, and work-related activities; however, participation in household chores often is not possible in assisted living environments due to health regulations (Hyde et al., 2007).

Phinney (2006) found that family members support people with dementia to stay involved in everyday activities, using strategies like reducing demands of involvement, guiding, and accompanying people in their activities. In a quantitative study of 400 residents with dementia in assisted living facilities and nursing homes, Dobbs et al. (2005) found that activity involvement was related to family involvement in care and staff encouragement (after adjusting for resident age, gender, race, cognitive and functional status, and comorbidity). While there has been some research on the roles of family members in care and support (Gaugler & Kane, 2007; Hyde, Perez, &

Forester, 2007), there has been little research on shared activities that sustain relationships between assisted living residents and their family members.

METHODOLOGY

This study had two objectives: a) identify the shared meaningful activities of assisted living residents and their family members, and b) describe the meaningful activities in context of the physical and social environment of the resident's assisted living facility. This study received ethical approval from Dalhousie University as well as the health region in which the facilities were located.

To meet the first objective, six residents and their most frequent visitors were selected from each of two facilities to participate in semi-structured interviews. Residents met the following criteria:

- a) resided in the facility for at least three months
- b) were not identified for discharge to another facility
- c) had a family member or friend they had contact with at least once every two weeks
- d) had sufficient verbal skills to answer basic questions

Family members were eligible if they were the resident's most frequent visitor and if they visited the resident at least once every two weeks. Unit supervisors identified eligible resident-family member pairs. A unit clerk, who was perceived to be less of an authority figure and therefore less potentially coercive than a supervisor or researcher, was asked to approach residents and family members for their consent to participate. The first six consenting resident-family member constellations from each site were interviewed. After the research commenced, it became apparent that there was often more than one family member that met the criteria. Therefore, pairs of family members were interviewed together if they requested it.

Exhibit 1. Environmental Domains Influencing Family Member and Resident Experiences of Activities.			
Domain	Physical Environment PEAP category	Social Environment POLIF Category	Environmental Aspects Emerging from Interviews^a
<i>Maximizing awareness and orientation</i>	Maximizing Awareness and Orientation The extent to which users can effectively orient themselves to physical, social, and temporal dimensions of the environment		Cues given by staff to reinforce resident awareness and orientation
<i>Safety and security</i>	Maximizing Safety and Security The extent to which the environment both minimizes threats to resident safety and maximizes sense of security of residents, staff, and family members	Acceptance of Problem Behaviors	Measures staff take to ensure resident safety and security
<i>Provision of privacy</i>	Provision of Privacy The extent to which input (e.g., noise) from and output (e.g., confidential conversations) to the larger environment are regulated	Provision of Privacy The amount of privacy given to residents	Provision of private space, particularly bedroom and bathroom, and actions staff take to ensure that privacy is maintained
<i>Regulation and quality of stimulation</i>	Regulation of Stimulation Quality of Stimulation Minimizing undesirable stimulation and providing positive sensory opportunities	Acceptance of Problem Behaviors	
<i>Environmental support to maximize function</i>	Supporting Functional Abilities The extent to which the environment and the rules regarding the use of the environment support the practice or continued use of activities of daily living and instrumental activities of daily living	Expectations for Functioning The minimum capacity acceptable of an individual to perform daily living functions Acceptance of Problem Behaviors The extent to which aggressive, defiant, destructive, or eccentric behavior is tolerated Availability of Daily Living Assistance The availability of assistance available for daily living tasks	

Exhibit 1, Continued. Environmental Domains Influencing Family Member and Resident Experiences of Activities.

Domain	Physical Environment PEAP category	Social Environment POLIF Category	Environmental Aspects Emerging from Interviews ^a
<i>Personal control</i>	<p>Opportunities for Personal Control The extent to which the physical environment and the rules governing the use of the environment provide residents with opportunities, consistent with level of actuality, for exercise of personal preference, choice, and independent initiative to determine what they will do and when it is done</p>	<p>Policy Choice The extent to which the facility allows the residents to individualize their routines Resident Control The extent to which residents are involved in the administration of the facility and influence the policies and procedures</p>	
<i>Continuity of the self</i>	<p>Continuity of the Self Measures to preserve continuity between present and past environments and the self of past and present; this can be expressed through presence of personal items belonging to the individual, and by creation of a non-institutional ambience</p>		Measures taken by staff to reinforce past identities and family relationships
<i>Facility social/recreational opportunities</i>	<p>Facilitation of Social Contact The extent to which the physical environment and rules governing its use support social contact and interaction among residents</p>	<p>Availability of Social-Recreational Activities The availability of organized activities within the facility</p>	Less structured (spontaneous) activities that may be facilitated by staff
<i>Availability of health services</i>		<p>Availability of Health Services The availability of health services in the facility</p>	
<i>Policy clarity</i>		<p>Policy Clarity The extent of formal institutional mechanisms for defining expected behavior and communicating ideas</p>	
<p><i>Note: Descriptors are based on definitions in PEAP and POLIF documentation.</i></p>			
<p><i>^aInformation in this column describes aspects of the physical or social environment that emerged from interviews or assessments of the two facilities but that did not appear in the definitional material for the PEAP and the POLIF.</i></p>			

The interview guide (see **Appendix A**) was developed by author Susan C. Jurczak, based on her review of the literature and experience as a clinician-researcher in long-term care facilities. Questions focused on:

- a) meaningful activities done with family members
- b) most and least favorite spaces in the facility
- c) ways the facility helped or did not help residents and family members to do their meaningful activities

The facilities were chosen based on the following criteria:

- a) assisted living characteristics, which combined housing, supportive services, and personal care in a homelike setting that offered the residents privacy, autonomy, and choice
- b) served residents who have mild to moderate dementia
- c) served at least 25 residents

Facility A was publicly funded by the health region and was selected because it was the only facility operated by the funders of this research that met the selection criteria. Facility B was selected from other eligible facilities because it was closest in size to Facility A. It was operated by a nonprofit organization. The building design, staffing model, and overall philosophy of the two organizations were similar. The residents from both sites came from similar socioeconomic and cultural backgrounds. The study was not intended to be evaluative, or comparative, or representative of the experience of assisted living residents in the region; rather, the intent was to learn about a range of resident and family experiences in the context of facility environmental characteristics.

The interviews of residents, family member, or friend were analyzed using qualitative content analysis that was data derived (Sandelowski, 2010). The data from the semi-structured interviews were coded

by two researchers and were then compared for consistency. Four themes and nine subthemes emerged from the coded data based on discussions between three of the researchers.

To help meet the second study objective, two tools were used to gather information about the physical and social environments of the assisted living facilities. The Professional Environmental Assessment Protocol (PEAP) is an environmental assessment designed to evaluate dementia care units (Weisman, Lawton, Sloane, Norris-Baker, & Calkins, 1994). The PEAP captures aspects of the physical environment related to nine therapeutic goals (see **Exhibit 1**). Jurczak, who was experienced in using this protocol, collected data. The Policy and Program Information Form (POLIF) was used to provide a description of the social environment. The POLIF is a subscale of the Multiphasic Environmental Assessment Procedure (MEAP) designed for evaluating the environment of group residential facilities (Moos & Lemke, 1996). It consists of nine subscales relating to behaviors, individual freedom and institutional order, and provision of services and activities (see Exhibit 1). Jurczak administered the POLIF by interviewing the administrator/general manager (or their designate), and a resident companion/personal care attendant (as recommended by the MEAP administration guidelines).

Although the PEAP and the POLIF can be formally (quantitatively) scored, in this study, they were used as guidelines for qualitative descriptions of the facilities. There are two reasons for this decision. First, in reviewing the scoring protocols, it became apparent to Jurczak that there was a “ceiling effect” on the goals and subscales because facilities built in the study region routinely incorporate the desired design elements described in the tools. Therefore, facilities would receive high scores on goals and subscales such as “maximizing awareness and orientation” (PEAP), “facilitation of social contact” (PEAP), and “provision of privacy” (PEAP and POLIF). The second reason is that jurisdictional

legislation mandated many of the features to be scored in POLIF subscales, such as “maximizing safety and security,” “acceptance of problem behaviours,” “expectations for functioning,” and “daily living assistance.” Therefore scores for the goals and subscales would not reflect individual environmental design decisions of facility developers; however, the goals and subscales provided a useful categorization and conceptual framework to qualitatively describe each facility, and to contextualize information gathered in the interviews with residents and family members.

The PEAP and POLIF qualitative descriptions of both facilities were analyzed by summarizing the data collected under each goal and subscale of the tools. This article discusses only the highlights from these findings. Since there was considerable overlap of data collected for the two tools, a matrix was developed comparing the PEAP goals and POLIF subscales. From this analysis, 10 social-physical environmental domains emerged. Finally, interview themes were analyzed by these 10 environmental domains using a second matrix analysis (Miles & Huberman, 1994).

RESULTS

Overview of Facilities

Both facilities in which the research was conducted are described as supportive care dementia units in the same politicogeographic jurisdiction. The province regulated the facilities, and residents were qualified to live there through a government-organized, centralized, needs-based assessment process. Care costs were covered by public funds, while accommodation costs were borne by the resident. The facilities selected for this research admitted only ambulatory people (although some required walkers).

Facility A was built in 2001 and accommodated 36 people with dementia. There were three independent houses, each accommodating 12 residents. Each resident had a private room and bathroom. Each house had a living room, family-style kitchen, and laundry

room. A common area between the three houses had sitting areas, space for a day program, a beauty salon, and other amenities such as a guest room and private dining room. All houses had access to a courtyard and patio. Some services were shared with another nearby facility run by the same organization. Facility A is an Eden Alternative facility, which means that it has embraced design features and a culture of care designed to “eliminate helplessness, hopelessness, and boredom” (Eden Alternative, 2009).

Facility B was opened in 2005 and accommodated 38 people with dementia. The facility was built around a central courtyard. A circular interior walkway looked out onto the courtyard and connected four pods. Off each pod were patio doors to the courtyard. Each resident had a private room and bathroom. Facility amenities included cooking facilities, an activity area, a large dining room, quiet area, beauty shop, guest room, and private bus for outings. On the same campus were other residential options for seniors, including a nursing home.

Results of the PEAP and the POLIF

The results of the PEAP indicated that both facilities had most of the desired qualities of facilities related to the nine functional goals. At the time that the resident interviews were conducted, Facility B was less than three years old, and staff members were still learning the best ways to use their physical space; e.g., while there was always a garden courtyard available, recent renovations to this space provided a better surface for walkers (ambulatory aides) and more spaces for people to sit and enjoy the area. Resident and staff usage of the facilities’ kitchen space evolved over time by reconciling the philosophies of assisted living with the safety concerns involving people with dementia. For example, for safety reasons, kitchen equipment such as stoves, kettles, and knives had to be secured when staff members were not present.

For both facilities, many aspects of the behavior and provision of POLIF “services and activities” subscales were mandated by regulations regard-

ing assisted living in the region. There was more variation in the “individual freedom and institutional order” subscales, which included “policy choice,” “resident control,” and “policy clarity”; e.g., Facility A had more information available to families about services and routines through newsletters and posted schedules and more opportunities for input such as formalized committees. This may be because Facility A had been running for four years longer at the time of data collection and thus had developed these mechanisms.

Interview Results

Twelve resident–family member pairs participated in interviews (see **Exhibit 2**). Most residents were present when family members were interviewed. Although residents A2, A5, and B1 were interviewed separately from family members, they had difficulty answering questions, probably due to the cognitive demands of the interview. Therefore, resident interview transcripts were used primarily as a means of verifying the information gained from family member interviews.

The most noteworthy difference between resident participants of the two facilities was their reason for selecting the particular facility. The families who chose Facility B often did so because it was the first facility available, while more families choosing Facility A seemed to do so because of a preference for their facility. Many of the participants from Facility B also moved from other supported living arrangements versus their own apartment or condominium. They may have felt more pressure to relocate quickly because their previous setting may have been unable to provide sufficient care and supervision.

Four themes emerged from the analysis of interviews with residents and family members (see **Exhibit 3**):

1. *Keeping family traditions and connections* remained important for residents and their family members after moving to an assisted living facility. Participants talked about connections with the larger family, which often revolved around holidays and traditional

gathering days (Sunday dinner, Christmas), and the day-to-day connections that close family members maintained with the resident.

2. *Integrating into facility life* involved the transition to the facility and the family members’ and residents’ process of learning to integrate into the new environment.

3. *Facility activities* were a way for family members to connect with and became increasingly important to family members when residents were less able to leave the facility.

4. *Food* played an important role in connections with families, both outside and inside the facility.

Throughout the interviews, participants described many aspects of facility environments that impacted their family activities.

Interview Themes and Environmental Domains

Keeping Family Traditions and Connections.

Getting out: For the most part, activities promoting family traditions and connections were located outside of the facility, in the former home of the resident, their spouse’s home, or the homes of their children. “We do always include her in our dinner gatherings when we get together; when the family gets together for meals, we include her.” (A2) Outings appeared to normalize the relationships between adult children and residents; they were simply including the resident in a regular family activity. Family members spoke of the importance of these outings in making the resident “feel a part of things” (A5) and giving them a break from facility life.

Maintaining connections: Family members recognized that residents could no longer be involved in family life in the same way and made great efforts to maintain contact even when they could not physically be with the resident. Photos were used to prompt memories of events residents had taken part in and to learn about events that they had not been able to attend. The telephone also was used as a way to maintain everyday connections.

Exhibit 2. Characteristics of Interviewees.

Participant Identifier	Resident's gender and age	Family member(s) interviewed	Living situation prior to moving to the facility	Reason facility was chosen
A1	male, not known	wife and daughter	own condominium	first choice, proximity to family
A2	female, 90	daughter	own condominium	resident volunteered here for ten years, proximity
A3	female, not known	husband and resident	seniors condominium	first choice, proximity
A4	female, not known	son and resident	own apartment	first available, proximity
A5	female, 80s	daughters	own condominium	proximity
A6	female, 87	daughter	seniors residence	first choice
B1	female, not known	son- and daughter-in-law	private residential care	not known
B2	female, not known	daughter	seniors apartment	not known
B3	female, 90s	daughter	seniors lodge	first available
B4	female, not known	sons	seniors lodge with husband	more availability, new, proximity
B5	female, 89	daughter	seniors lodge	first available, close proximity
B6	female, 76	son and daughter	own home	first available, proximity

Environmental domains related to keeping family traditions and connections: Previous research describes the maintenance of family ties as a way to enhance resident quality of life (Hyde et al., 2007) but has not mentioned the importance of getting out to maintain family relationships. *Environmental support to maximize function* was an important domain to support outings. Family members appreciated when staff recognized that the resident needed help to get ready for an outing and were frustrated if this did not happen. Thus *policy clarity* also was important, so that family members knew how to ask for assistance. The provision of private rooms enabled families to

store photos, display possessions, and thus *privacy* and *continuity of self* were important environmental domains. *Environmental support to maximize function* fostered telephone use. If a resident cannot have his/her own phone (because of problems with use or judgement) then an environment that allows both access and support to use the telephone appropriately is important.

Integrating into Facility Life.

Transition to the facility: The circumstances of the move to the facility figured prominently into family members' narratives and influenced their impres-

Exhibit 3. Themes Arising from Analysis of Interviews.

Themes	Subthemes
Keeping family traditions and connections	Getting out Maintaining connections
Integrating into facility life	Transition to the facility Adjusting to congregate living Information - knowing about the facility Negotiating care boundaries Sense of belonging
Facility activities	Activity choices for the resident Family inclusion in activities Autonomy versus safety in activities
Food as a crosscutting theme	

sions of the facility. Some family members had a history of stress and confusion related to the placement, often related to the assessment process. Some residents longed for a previous life and location while others enjoyed their new surroundings.

Adjusting to congregate living: Some residents embraced congregate living and the social atmosphere of living with others. Family members frequently spoke of friendships that the residents had made, as well as the help and commiseration that they offered each other. Other residents and their family members found the congregate living arrangement challenging because of the lack of privacy and potential problems with security of belongings. There was recognition that some people with dementia had behaviors that would unintentionally compromise the privacy and security of others. One daughter of a resident stated that her mother used to carry money in her pocket, but now she was advised not to do that as “she could give it away, or somebody could come in the room and see it just lying on the table and pick it up. It’s not quite the same here as your own [home].” (A6) Some family members expressed difficulty in negotiating privacy for family visits. One resident’s daughter noted that often there was no private space for spending time together other than

her parent’s room. “...You don’t really have somewhere to go. If you sit in the dining area, you get a lot of other people.” (A5)

Information—knowing about the facility: The activities and rules existing at assisted living facilities were new to most residents and their families. For the most part, residents were quickly socialized into their new life by staff and other residents. Learning about facility life was not so straightforward for family members. One common theme was the lack of information received by family members about activities, be it they recreational or informational (such as resident conferences or informational meetings). One resident’s daughter said, “They had a lot of groups—I know they have groups come in here, but we’re not aware of it. She gets the schedule, but we don’t.” (B1) Another resident’s son explained that the facility is “very short on notification” and that he would “love to partake” in some of the meetings that go on. (A4) Sometimes the facility rules were a burden on the resident and their family members. One frequently raised issue was the need to find a staff member in order to exit the unit and that the unit could only be exited through one door. “I know for good security reasons why they would be doing that, but it is a little bit inconvenient for both the

staff and ourselves in the sense that I have to go try to find somebody...by the same token, I want to have the ability to egress as easy as it is to access the facility." (B1)

Negotiating care boundaries: Many family members experienced a protracted period of providing extra support to their family member while awaiting placement in the facilities. Family members assumed that they would still have an ongoing role in taking the resident to medical appointments or shopping but were often surprised that they were required to buy the resident paper products such as tissues and toilet paper, or to help tidy resident rooms. Family members often looked forward to the placement and a reduction in the amount of care and vigilance required of them. Some family members found that the level of help provided did not seem appropriate given the (dementia-impaired) abilities of the resident. As one resident's daughter explained, her mother "...doesn't remember to eat, she doesn't remember to change her clothes, she's incontinent. They expect her to make her own bed, put away her own laundry, tidy up her room. She doesn't remember to do any of those things." The daughter described herself as "in limbo," (B1) not sure if staff would follow up on health-related problems or if it was a family responsibility. A few family members also commented on difficulties with the level of monitoring provided for medical issues; however, for other family members, the help received was a welcome relief from having to be both family member and provider of care. One resident's daughter recounted that before moving into the facility, she felt that there were always things she had to do for her mother and the mother-child relationship "...was just awful...With all those things taken care of, when we come, we just visit and enjoy Mom. So the care portion is taken away, the worry is taken away." (A5)

Sense of belonging: Over time, residents and family members developed a sense of belonging to the facility. A sense of belonging was brought on by the recognition of one's room and possessions.

Some individuals were able to connect with fellow residents through their shared experiences with dementia. One resident stated: "I like the people that have the same disease I have, so it makes it intimate with other people because people that don't have this disease don't understand it. But they do here." (A5) Family members recognized that the atmosphere that the staff created was an important part of the resident becoming acclimatized to the facility. This was seen through the friendliness of staff members and efforts at trying to involve everyone at the facility. "The staff are here because they want to be; they seem to really enjoy the work, and they're so good to the people; they're just like family. And they sit down and eat with them, so they are like a family." (A2)

Environmental domains related to integrating into facility life: Previous research showed that family support is critical to a successful transition for assisted living residents (Ball et al., 2004; Burge & Street, 2010; Mead et al., 2005). In this study, some transitions went well, while others were characterized by frustration, turbulence, and a lack of information. *Policy clarity* is arguably the most important environmental domain to successful transition. While facilities had orientations and information available to family members, it is debatable how well family members were able to assimilate the information. Moving into an assisted living facility often was described as an emotionally charged and stressful time for family members. Providing information about the scope of care provided, lines of communication, how medical emergencies are handled, timing of resident meetings and conferences, as well as facility activities and events appears to be important. Information must be provided in a way that families can access it in different ways, at different points in time, depending upon their own readiness.

Environmental support to maximize residents' function was critical. This is, after all, why most people require an assisted living facility. Staff support that provided appropriate assistance and monitoring appeared to be the aspect of assisted living that

was most appreciated by family members and that engendered the most frustration when family members perceived that it was not optimal. For some families, there appeared to be a period of time in which staff and family understanding of the support needs of residents were not congruent and dementia-related limitations of residents made this particularly problematic. Previous research supports the notion that family members need to feel confident that adequate care of residents is being provided (Edelman et al., 2006).

Changes in the level of privacy and potential safety and security were noted between the former and current living situations of residents, particularly those who had moved to the facility from their own home. The importance of having a room that was comfortable and appealing was highlighted in many interviews. Perceived changes in the security of person and possessions was spoken of by some family members and constituted an important factor in adjustment to facility life.

Facility Activities.

Activity choices for residents: Facility activities helped residents engage in the communal life of their residence. Family members often commented on the variety of recreational activities available to the residents. Some families commented on the continuity of previously enjoyed activities that the resident could maintain in their own room, such as watching sports on television or reading the newspaper. The privacy afforded by single rooms and the resident's general enjoyment of his/her own room contributed to contentment. Many family members commented that rather than residents engaging only in organized recreational activities that were familiar to them, they often were open to trying and learning new things; e.g., one resident took up hymn singing. His daughter observed that this "really wouldn't have happened before!" (A1)

Family inclusion in activities: For many families it became increasingly difficult to take residents out of the facility, and as a result, some family

members became more involved in the activities offered within the facility. Families participated in a continuum of activities with the residents, from social events organized around holiday such as Christmas or Thanksgiving, to regularly scheduled recreational activities, to more spontaneous activities such as bringing in ice cream to the facility. For some family members, a shortage of free time or poor health limited their involvement in facility activities. Sometimes events were scheduled during daylight hours, which was optimal for the residents but often precluded involvement of family members who worked. Family members mentioned that once the resident's ability to comfortably manage outings declined, they also started holding family celebrations, such as the resident's birthday, within the assisted living facility.

Autonomy versus safety in activities: There appeared to be tension between the ideals of an independent and private life espoused by assistive living environments and the needs for supervision and elevated safety concerns that arise when the residents are living with dementia. Maintaining autonomy was challenging as clients had cognitive deficits that put them at risk of harming themselves or others. As mentioned previously, family members also noted that the residents had trouble initiating activities. Some residents were not participating in valued activities unless reminded to do so. "I think that my mom needs that cueing now, and I don't think that [staff on the unit] provides it, but the regular activity staff, they provide it, and then she does go." (B5) The residents' need for help in initiating activities or monitoring safety meant that spaces that may hold interesting activities did not always live up to their potential because there was not enough staffing available to help the residents; e.g., family members saw the potential for activities involving the residential kitchen areas but also realized that staff availability may limit such activities. "Like, in theory, you can have a cup of tea; like, if Mom had three of her friends, you could get to sit down and have a cup of tea together over here, but it

really doesn't happen in a practical manner because nobody is there helping and kind of making it into an event." (B4) Similarly, family members noted that courtyard areas, while open and accessible to residents, were underused because the pathways were not walker-friendly (paving stones had been used) and there were no staff outside to structure an engaging activity for residents.

Environmental domains related to facility activities: Many environmental domains were important to the resident and family members' activities in the facility. Perhaps most obvious is *facility social/recreational opportunities*. This domain refers to the programming of activities but also the encouragement of social connections through environmental provisions such as the availability of gathering spaces and coffee. Recreational programming was seen as valuable for the residents and sometimes for the participation of family members as well.

Safety and security were important in both the design of the facility and the actions of staff members to ensure the safety of residents who, due to their dementia, may wander or use items (such as kitchen equipment) inappropriately if unsupervised. Design features to create a more homelike atmosphere—kitchen facilities in pods, for example—sometimes had to be countered by policies and practices that controlled access of residents. The more homelike atmosphere also included more opportunities for residents to compromise their safety, and so staff had to be used to supervise or facilitate some activities. The optimal design features for promoting a homelike atmosphere were only optimal when staffing allowed for enough supervision for residents to interact safely with these environments. *Environmental support to maximize function* was thus critical to residents' participation in facility life, and family members had the impression that there was insufficient numbers of staff to make optimal use of facilities.

Cueing residents to participate in activities may be seen as running counter to the environmental domain of *personal control*, a core value in assisted or supportive living. While assisted living facilities are

characterized by adoption of a social model of care, there is still a need to recognize and account for health conditions experienced by residents that may influence their behaviour and choices.

Food as a Crosscutting Theme.

Family members often described food as a major aspect of socialization and tradition. In the first set of themes (keeping family traditions and connections), "getting out" often involved a family celebration or a trip to a restaurant or coffee shop. Facility celebrations involving family members, such as a Christmas party or birthday parties, often revolved around food. Family members appreciated being able to share coffee or tea with the resident and were pleased when this was available on the unit. They found it less welcoming when hot beverages were not available to share or when they did not know whether they were allowed to take part in snack times.

Environmental domains related to food: In the North American context, food and drink are a normal part of socializing. Street et al. (2007) found that food quality affected the residents' quality of life and sense of belonging. Other research reviewed had little to say about food, although it did comment on the importance of homelike environments (including kitchen areas) (Day et al., 2000; Verbeek et al., 2008).

The assisted living environment provided many opportunities and potential barriers to the ways in which family members and residents interacted over food. Within the facilities there were limits to the *personal control* that residents or even staff had over food choices, although there was some flexibility regarding when meals (particularly breakfast) could be taken. Sharing hot beverages and snacks during social visits was part of the prevalent culture outside the facility, and families appreciated these opportunities inside the facility.

Both family members and residents appeared to enjoy *facility social and recreational opportunities* that revolved around food. Families appeared to appreciate beer evenings, special event meals, birthday

parties, and even snacks after recreational events.

Policy clarity about what was acceptable regarding bringing food in, sharing it, and/or storing it in common areas (such as pods or house refrigerators) was helpful to family members. Family members were sometimes unclear about whether they were actually welcome to participate in meals with residents. The interviews suggest that in order for family members to be effectively notified, information regarding such events should be conveyed often and in a variety of ways.

Limitations

This study was focused on only two facilities in one geographic region and thus findings are not necessarily generalizable to other facilities, other jurisdictions within Canada, or other countries. As is common in qualitative interview studies, the sample size for the study was small; however, given that many assisted living facilities share the attributes used in facility selection criteria in this study, our results may provide a starting point for further, larger qualitative and quantitative studies of assisted living environments and family activities. Demographic details about the sample have been provided (Exhibit 2) so that the reader may assess transferability of findings to facilities serving similar clientele.

While it was originally anticipated that the perspectives of both residents and family members could be included in this study, in reality, the resident interviews did not yield much useful information. The limitations of using proxy data to assess long-term care resident quality of life has been well demonstrated by previous studies (Kane, Bershadsky, Degenholtz, Kling, Totten, & Jung, 2005; Moyle, Murfield, Griffiths, & Venturato, 2011); however, since the focus of the study was on family relationships and activities, it is believed that family interviews would provide the most relevant information.

CONCLUSION

Previous research has demonstrated the impor-

tance of meaningful activity to residents of assisted living (Cutchin et al., 2003; Harmer & Orrell, 2008; Phinney et al., 2007). This study contributes to the discussion of what kinds of activity are found to be meaningful by family members and residents. Most family activities that maintained family traditions and connections were located outside the facility whenever possible. Inside the facility, residents and family members appeared to enjoy special events as well as both familiar and unfamiliar activities organized by the facility. In addition, the families continued to enjoy more private activities, from sharing a cup of coffee to celebrating important family milestones. When family members engaged in activities with residents, four environmental domains assumed importance. Certainly one could anticipate that *environmental supports to maximize function* were important because they freed family members from responsibility for assisting the resident with activities of daily living and they helped prepare residents to participate in family activities. One may also anticipate that *facility social and recreational opportunities* would be important in that they would offer the family members a venue in which to engage in activities with residents; however, one of the most important findings was that *policy clarity* emerged as a key environmental domain in relation to almost every theme. It was critically important for family members to understand “how things work” in the facility, what they would be allowed to do, and how they may be included in facility life. A second crucial finding was the importance of the *provision of privacy*. Many family-focused activities were either located off site or else demanded an element of “family only” participation that required privacy. Private rooms were an important feature of facility life for families to maintain connections. Private gathering space for family activities involving several people became an important consideration as the resident became less able to participate in outings.

These results strongly suggest that further considerations (whether in research or practice) of the environmental domains of relevance to family and

resident activities must integrate the social and physical features of the facility; the best design features cannot be used to their potential without adequate staff levels and training. Privacy requires not only spaces but supportive policies and practices. Additionally, sometimes there are tensions between the “ideal” social and physical environmental features of assisted living and the care, support, and supervision needs of persons with dementia.

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APPENDIX

Interview Questions

What is your relationship to the resident?

Tell me what you enjoy doing with your family and friends (*family member or friend*)?

Can you tell me why?

Where is your favourite place in the facility for visiting with your family and friends (*family member or friend*)?

Can you tell me why?

Where is your least favorite place in the facility for visiting with your family and friends (*family member or friend*)?

Can you tell me why?

Do you like to prepare foods or snacks for visitors (*with your family member or friend in their room*) in your room?

Do you like eating a meal with your family members or friends (*with your family member or friend*) in the dining room?

If yes, which is your favourite meal to share? If no, why not?

Do you enjoy spending time out of doors with family and friends (*family member or friend*)?

If no, why not? If yes, what activities do you enjoy?

What special occasions do you enjoy celebrating?

Can you tell me about some of the ways you celebrate these occasions?

Can you describe a recent family celebration that included your family member or friend? What things made it easy for you to include him/her? What things made it difficult to include him/her?

What kinds of things do you do for your family member or friends (*family member or friend*) when you spend time together?

Do you talk to your family members or friends (*family member or friend*) on the telephone? If no, why not?

(Resident-specific question) Do you have a telephone of your own? If no, why not?

Do you use a computer (email) to keep in touch with family or friends (*family member or friend*) who live out of town? If no, why not?

Is there anything else that you enjoy doing with family members or friends (*family member or friend*) that I missed?

Can you tell me what things about Facility A/Facility B help you do things with your family members or friends (*family member or friend*)?

Can you tell me what things about Facility A/Facility B make it hard for you to do things with your family members or friends (*family member or friend*)?

Is there anything else you would like to tell me about doing things with your family members or friends (*family member or friend*)?

Key:

Regular Font = Wording of questions for resident

Italics = Wording of questions for family members/friends



What Distinguishes the Top Sales Performers in Seniors Housing? An Exploration of the Key Values and Motivators of the Industry's Top Sales Performers

Russell J. Watson, EdD; Anthony Mullen, MS, CPA

ABSTRACT

In an exploratory, industry-specific study ($N = 1,800$) of what motivates leading seniors housing sales professionals, three key values emerged in the response pattern of top performers: utilitarian/economic, social/altruistic, and theoretical. An additional qualitative study was conducted that provided rich content from comments harvested anonymously from the industry's top-performing sales people. Several seniors housing organizations of various sizes volunteered their sales staffs to participate in the TTI/Success Insights™ Workplace Motivators™ self-assessment, a globally validated assessment. Statistical analyses were conducted on the top and lower quintiles of the sales population. Salespeople are money-driven; although, in the seniors housing industry, other values emerged with equal prominence, creating a unique blend of values in the top-performing salespeople. The intent is to inform our peers of what was learned so that they may use this knowledge to increase their own sales effectiveness within their organizations. Additional testing and study replication should be conducted.

INTRODUCTION

Many readers will agree that seniors housing sales requires a unique mix of skills in salespeople. The salesperson is assisting a client or customer with what may be the last large purchase of his/her or a couple's lifetime. The sales process is a balance of providing information, coaching, support, and moving toward a signed contract for sale. This is different from real estate sales because of the potential complexity of additional service options, and this creates a unique sales environment for seniors housing.

In this study, we explored top performers in sales at a variety of seniors housing organizations, attempting to answer a set of questions:

- What do these top salespeople have in common?
- What are the values (motivational drive factors) of the top performers?
- Are these values different from mid-level and lower sales performers?
- Can these values be measured in some way?
- What do the top salespeople say about themselves when asked about what motivates them to achieve?
- What can we learn about sustaining a higher level of motivation among our own salespeople?

These are some of the questions that we explored in this investigation. The intent is to provide both a quantitative and qualitative dataset from which the industry may learn some information that may be helpful in sustaining and encouraging top-performing salespeople. There also may be information that could assist in bringing the average and lower sales performers into a higher level of effectiveness.

METHODOLOGY

Several seniors housing organizations of various sizes were asked to participate in each of the studies. Each organization provided a list of all salespeople and email addresses. A memo was sent from the sales principal of each organization to the sales force, telling them of the online instrument, that each would receive their own results in a report, and that no one

else in the organization would see their results. The instrument used was the Workplace Motivators™ instrument published by TTI/Success Insights.™

All reports were provided on a courtesy basis for each of the participating organizations. All salespeople were given the opportunity to respond to the instrument so as not to single out only the top-performing salespeople. Each of the participating organizations provided a confidential list of their top and lowest quintiles of salespeople. Selection for the top quintile was based on high numbers of move-ins, maintaining high occupancy census, high customer satisfaction while also maintaining the highest of ethics based on the records and data from their managers and supervisors.

In the first study, conducted in 2011, there was an exploration of the differences between the top, middle, and lower sales performers from the top, middle, and lower quintiles. One of the purposes was to explore the overall sensitivity of the instrument to distinguish between the three groups of salespeople. There are six scales in the TTI Workplace Motivator instrument, and statistically significant differences were found across three of the six scales in distinguishing between the top-, middle-, and lower-performing salespeople.

The second study was conducted in 2012 and was a quantitative and qualitative exploration of the response patterns of the top-performing salespeople. The qualitative aspect of the study provided additional insight into the motivation of the top performers. Selection for the second study was identical to the first study, with salespeople responding to the instrument, and a confidential list of the top performers created the aggregate group, also from a variety of different sized organizations.

The instrument used in both studies was the TTI/Success Insights Workplace Motivator instrument, with different populations of salespeople in each study. The instrument is a rank-order self-assessment with 12 questions, and each question prompt having six responses that are rank-ordered by the respondent from highest to lowest. The raw score

scale ranges from 12 to 72 points. The first choice in each of the 12 questions receives a score of 6 points, the second choice receives 5 points, the third choice receives 4 points, and then down to the last choice, which receives 1 point for scoring. Each of the response options is a statement that addresses one of the six value themes measured on the instrument. The six themes are theoretical, utilitarian/economic, aesthetic, social/altruistic, individualistic/political, and traditional/regulatory. A manual of the reliability and validity of the instrument is available through TTI/Success Insight (Klassen, 2012).

The qualitative portion of the second study provided open-ended questions sent to the top-performing salespeople through an online question and survey vendor. Six questions were asked, and open-ended responses were harvested anonymously. The six questions were:

1. What do you like best about your career as a seniors housing salesperson?
2. What do you like least?
3. If someone asked you, "What are the two or three primary components of your personal success," what would you tell them?
4. If you go home some days and think, "Yes! This is great!" or have a strong feeling of a big "win," what happens on the job that gives you that up-beat feeling?
5. How do you reconcile or explain the drive for money and also the drive to help others...both as high drivers of top performers in the seniors housing profession?
6. What do you appreciate most and least from your sales manager or supervisor in helping you stay optimally motivated?

RESULTS

The Utilitarian/Economic Motivator

In our investigation of motivators in top sales performers, the utilitarian/economic factor was the strongest motivator for the top performers who scored higher than the lower performers on this scale (M

= 50, SD = 9.5); however, this motivator in some other industries has been observed to be at even a higher level; e.g., we have observed higher utilitarian/economic in the competitive field of large contract information technology (M = 68, SD = 10.2) (see **Table 3** and **Figure 3**). That substantially higher level score was absent from the top sales population in the seniors housing industry, indicating that they have developed a sensitivity to successfully build (in our opinion) a sales triad of winning a successful contract: trust, credibility, and rapport. Our industry's top performers appear to know the sensitivity needed in the sales process and seem to keep it tipped in their favor.

The lower sales performers scored lower on the utilitarian/economic scale (M = 42, SD = 8). For many of the lower performers, the money drive was second in rank below the social/altruistic drive to help others. Based on the aggregate results of the Workplace Motivators reports, with the lower performers in the industry there emerged a theme that seemed to indicate that they appreciated being a "coach and counselor" substantially more than they did being a salesperson.

Figure 1 shows mean scores on all subscales of the measure. In order, the six rows are U/E - utilitarian/economic (drive for money), S/A - social/altruistic (drive to help others), T - theoretical (drive for knowledge), A - aesthetic (drive for balance and harmony), I - individualistic (drive for uniqueness and independence), and T/R - traditional/regulatory (drive for order and structure).

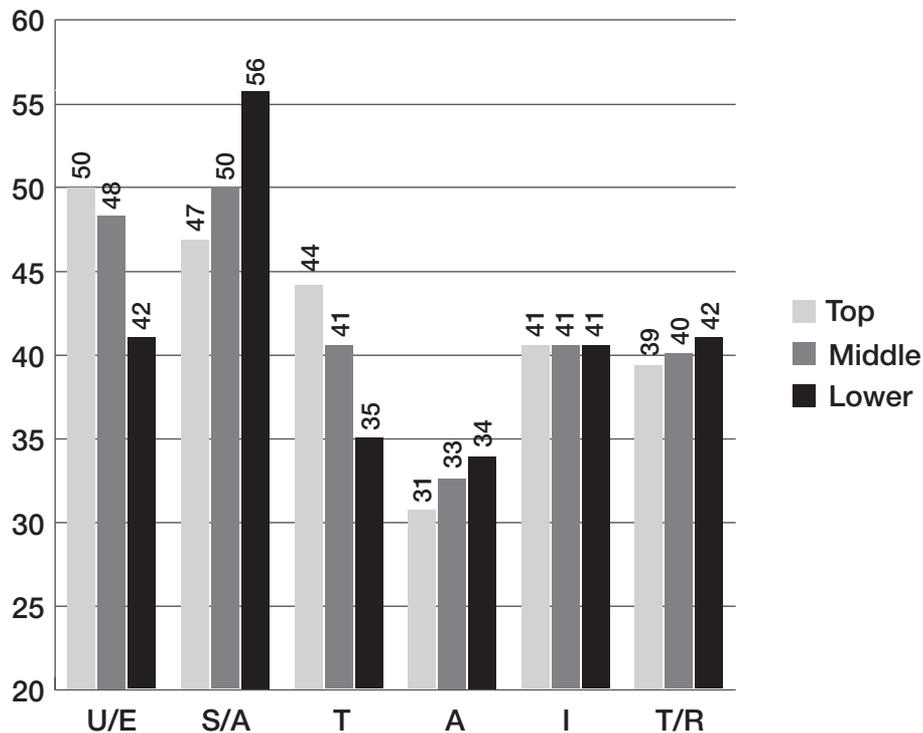
A linear relationship appeared in the utilitarian/economic motivator subscale such that the top performers indicated a stronger drive for financial gain than did the middle and lower quintiles. (See **Table 1**, row 1, and **Figure 1**, column-set 1.) *T*-tests were performed between the top and lower quintiles for each of the scales; middle quintile scores are posted as additional reference points. It is likely difficult to train these motivators into an individual or into a sales force, as these may be more intrinsic drives than simply a set of skills to be learned. This higher economic drive may assist the top performers in pre-approach,

Table 1. Mean Scores and Standard Deviations for All Six Subscales Among the Three Sales Performance Groups.

Motivators Subscale	Top Quintile Mean / SD	Middle Quintile Mean / SD	Lower Quintile Mean / SD
Utilitarian/economic*	50 / 9.5	48 / 8.7	44 / 8.9
Social/altruistic**	47 / 12.1	50 / 9.1	56 / 8.6
Theoretical***	44 / 7.4	41 / 8.9	35 / 9.4
Aesthetic	31 / 6.3	33 / 9.2	34 / 11
Individualistic	41 / 8.8	41 / 9.2	41 / 9.9
Traditional/regulatory	39 / 8.4	40 / 9.6	42 / 10.7

* $p < 0.1$ / ** $p < 0.05$ / *** $p < 0.001$

Figure 1. Mean Scores On Measures By Performance Group.



*Note: Means are rounded; U/E = Utilitarian/Economic, S/A = Social/Altruistic, T = Theoretical, A = Aesthetic, I = Individualistic, T/R = Traditional/Regulatory

presentation, handling objections, and closing the sale, regardless of individual behavioral styles.

Top Performers Demonstrate a High “Sincerity Factor”

Top performers in the seniors housing sample also indicated a strong social/altruistic drive to help others. (See Table 1, row 2, and Figure 1, column-set 2.) In most sales populations we observed in private, unpublished studies, the economic and altruistic drives are inversely correlated (this is supported in the TTI Technical and Validation Manual as well) such that when scores on one drive increase the other decreases. In our sample of seniors housing professionals, both the drive for money and the drive to help others were evident in top sales performers. Such a finding is important because a seniors housing purchase may be one the largest and most important purchases that one makes in a person's lifetime.

We also found that the lower sales performers reported higher scores on the social/altruistic scale. Specifically, this group's altruistic mean score was 12 points higher than their mean utilitarian/economic score. This difference may indicate that this group's focus was to help others; while this is a noble goal, it diminishes the business aspect of their transactions.

As indicated in Figure 3, a strong linear relationship appeared when assessing the social/altruistic motivator such that lower performers reported a substantially higher altruistic score than did the top performers. Indeed, the lower-performing group scored highest on this subscale, and they reported a high social/altruistic factor, which is necessary but perhaps not sufficient. This may imply that this group highly values helping people, perhaps to the point of giving away their coaching and advice and perhaps not leading toward a signed contract. As such, it may be prudent to train such salespersons with an awareness of this finding; i.e., lead the conversation toward next steps nearer a close and contract.

Top Performers Do Their Homework: They Have an Appetite for Learning

Many top sales performers also have an appetite for knowledge; they are continually learning about important aspects of their professions, including properties, prospects and clients, their competition, the real estate market, and the economy. As such, they also may have good contract knowledge, so whenever they are faced with a difficult question about the fine print or minutia, they may readily know the answer. Additionally, credibility and trust are both built from a foundation of product knowledge, and a high sincerity factor helps to round out the third component of the sales triad; namely: rapport. (See Table 1, row 3, and Figure 1, column-set 3.)

The lower performers also showed a lower theoretical score; i.e., a lower appetite for learning and knowledge. This approach may leave the group vulnerable when a prospect asks a number of basic-level questions to which the lower performer may have no answer or needs to call his/her manager for assistance. Furthermore, such lack of knowledge may erode credibility of the salesperson. Fortunately, ongoing training and development may help to increase these salespersons' knowledge base, especially if management holds the sales personnel accountable and offers appropriate motivation and rewards them.

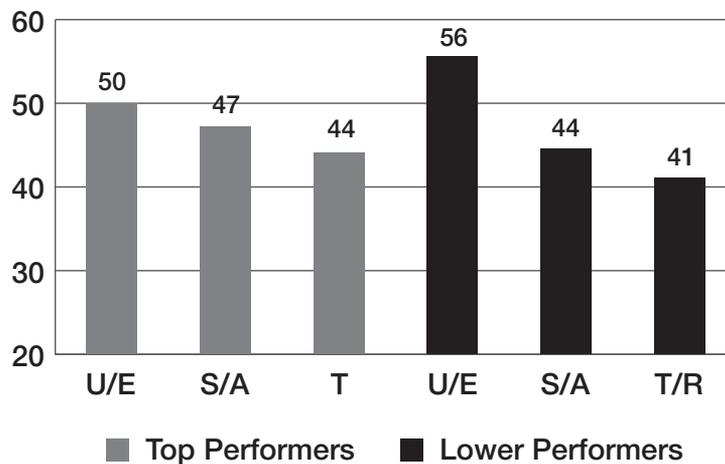
These findings indicate that the top performers may be in perpetual learning mode, including always asking questions and applying their knowledge base to solve unique problems with each new client. For example, they may have better knowledge of their properties, their clients, the industry, and their competition. As a cause, we hypothesize that the top performers may do more job-related homework than their lower-performing counterparts. This approach also may help build trust, credibility, and rapport with clients and prospects.

When we observe the spread of the top three ranked scores for both performance groups, we find a rather narrow spread of six points between the first

Table 2. Comparison of Top and Lower Sales Performers Rank-Order Scores.

Top 3 Motivators for the Top Performers (in rank order)			
Rank	Motivator Theme	Mean	SD
1 st	Utilitarian/Economic	50	9.5
2 nd	Social/Altruistic	47	12.1
3 rd	Theoretical	44	7.4
<i>Note that there is only a 6-point spread between the first and third ranks in the top performers' scores.</i>			
Top 3 Motivators for the Lower Performers (in rank order)			
Rank	Motivator Theme	Mean	SD
1 st	Social/Altruistic	56	8.6
2 nd	Utilitarian/Economic	44	8.9
3 rd	Traditional/Regulatory	41	10.7
<i>Note that there is a large 15-point spread between the first and third ranks in the lower performers' scores.</i>			

Figure 2. Means of the Top Three Subscale Motivators of Top and Lower Performers.



Note: Means are rounded; U/E = Utilitarian/Economic, S/A = Social/Altruistic, T = Theoretical, T/R = Traditional/Regulatory

and third ranked scales in the top performers. (See Figure 2 and Table 2.) It is interesting to observe a 15-point spread between the first and third-ranked scales in the population of lower performers. Also note that the Theoretical scale (drive for knowledge and learning) is absent in the top three rankings of the lower performers.

Figure 3 shows the group (i.e., seniors housing and high-tech) differences across three the motivators compared. Of particular interest is the very high utilitarian/economic score and very low social/altruistic score in the sample of high-tech salespersons. There appears to be similarity of scores in the seniors housing sample, with only a six-point range between the three motivators. High-Tech sales professionals showed a 32-point range across those same three motivators. The primary reason we chose to illuminate these industry differences was to highlight the observation that the theoretical, economic, and altruistic scales in the results of the seniors housing population show a very narrow range of scores compared to other sales populations. Table 3 indicates that each of these observed differences is significant at the $p < .01$ level.

Finding, Keeping, and Motivating the Top Sales Performers

In a follow-up study, we further examined scores of the seniors housing industry's top sales performers, defined as those in the top 20% of their companies for high rates of move-ins, high occupancy census,

and high customer satisfaction while maintaining the highest of ethics. Based on those parameters, we reached 187 respondents. We obtained scores on the TTI/Success Insights Workplace Motivators instrument from these 187 top performers from a pool of more than 1,800 salespeople at companies of varying sizes and operation types. Royal Star Properties and Target Consultants, Inc., jointly sponsored the research, and it represents, to our knowledge, the largest statistical study of exclusively top performers in the seniors housing industry.

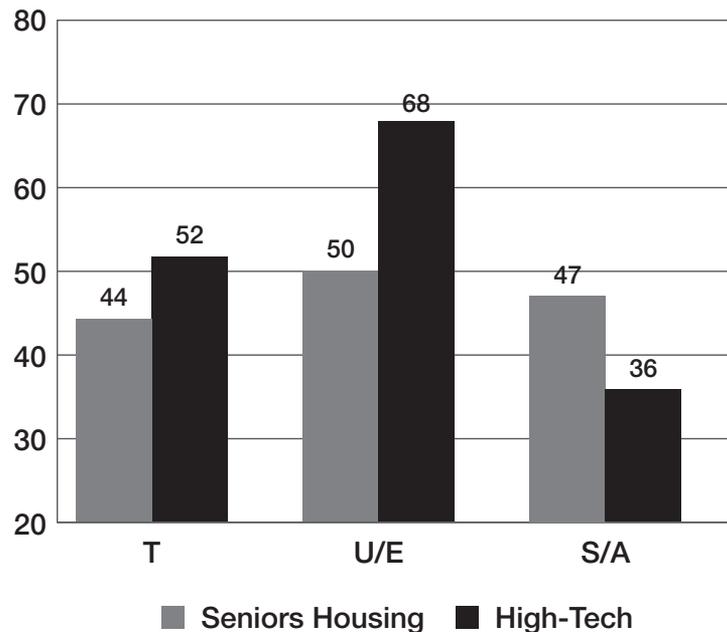
Through the auspices of Royal Star Properties, contacts were established with a variety of companies in the seniors housing industry. Corporate officers and directors were asked to provide a list of their top 20% sales performers, based on identical criteria as presented in the first study. These individuals were given access links to complete the Success Insights Workplace Motivators instrument. The respondents received an immediate report-set, and no others within their organization received copies; this was done to establish trust and guarantee anonymity for each respondent. The managing principals of the host company received a narrated summary of the aggregated results. This summary was produced in an open and anonymous manner, to be shared with other staff as they chose.

Once collected, the scores were aggregated in total and by company, and descriptive statistics were determined. Additionally, tests of reliability were

Table 3. Comparison Between Seniors Housing and High-Tech Top Sales Performers

	Seniors Housing Mean / <i>SD</i>	High Tech Sales Mean / <i>SD</i>
Theoretical ^{***}	44 / 7.4	52 / 9.1
Economic ^{***}	50 / 9.5	68 / 10.2
Altruistic ^{***}	47 / 12.1	36 / 6.1
*** $p < .01$		

Figure 3: Comparison of Seniors Housing and High-Tech Top Sales Performers



Note: Means are rounded; T = Theoretical, U/E = Utilitarian/Economic, S/A – Social/Altruistic

conducted. Of primary importance was the observation that across all participating companies, the top performers reported a very close range of mean scores across all subscales from the instrument. Also, within each range of mean scores, salespersons at some companies appeared to have established their own culture, making it slightly different from other companies. These differences may indicate specific company cultures, which may elicit a feeling of job fit among their employees. This job fit also may in part explain why some sales professionals leave one company within the industry to work with another company that provides for them a better fit.

Others found that compensation plans with higher variable proportions may lead to higher levels of intrinsic motivation, especially in younger salespeople (DeVecchio & Wagner, 2011). This increased intrinsic motivation may account for some early-career employment shifts between organizations within the seniors housing industry. In some of the

comments by top performers, the reader may gain additional insight into the dual importance of compensation and a spirit of helping.

Theoretical, Economic, and Altruistic Motivators

In Study 1, we observed that there were differences between top and lower performers regarding values/motivators scores, especially across three of the six value themes (i.e., theoretical, economic, and altruistic). A brief summary is provided in **Table 4**.

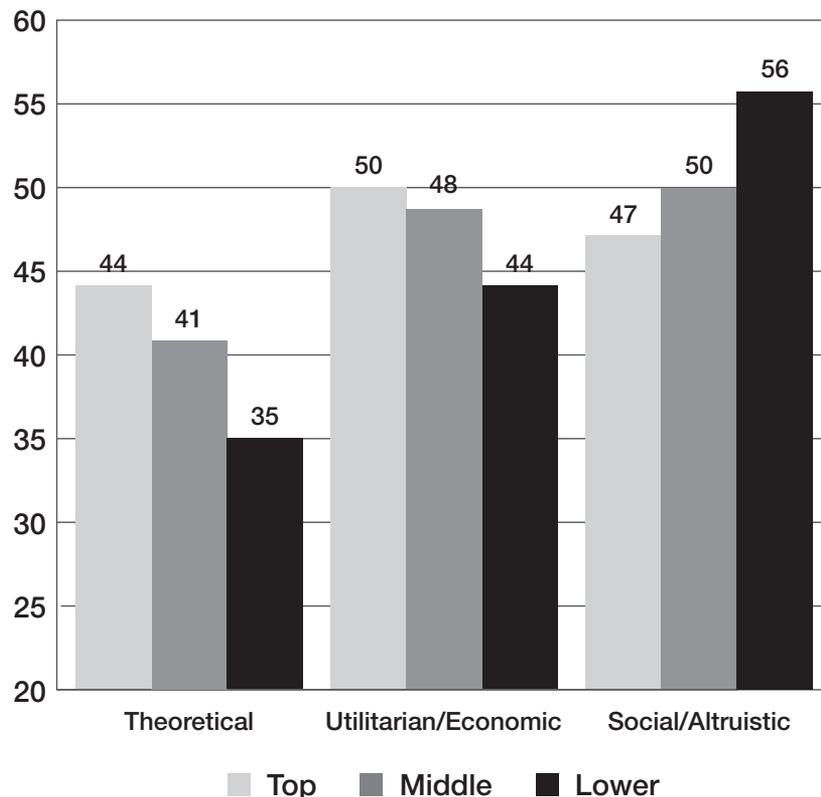
The research concentrated on the unique constellation of values, drives, and motivators of the sample. It is indeed a unique constellation of motivators, especially with the economic and altruistic motivators positioned only a few points apart. This finding is substantially different from other reports in studies involving sales and customer service industries over the past 30 years. We have privately conducted these studies, and they also are supported with the TTI

Table 4. Means and Standard Deviations in Motivator Scores of the Top, Middle, and Lower Sales Performers.

Motivators Subscale	Top Quintile Mean / SD	Middle Quintile Mean / SD	Lower Quintile Mean / SD
Theoretical***	44 / 7.4	41 / 8.9	35 / 9.4
Utilitarian/ Economic*	50 / 9.5	48 / 8.7	44 / 8.9
Social/Altruistic**	47 / 12.1	50 / 9.1	56 / 8.6

p < 0.1 / **p < 0.05 / *p < 0.001 / Means are rounded.*

Figure 4. Means in Motivator Scores of the Top, Middle, and Lower Sales Performers.



Note: Means are rounded.

technical information available from their Website. For example, in a general sales population, the economic score (e.g., financial incentive) is typically negatively correlated with the altruistic score (e.g., drive to help others); e.g., this correlation is about

-.83 across many high-tech (e.g., software, biotech, and pharmaceuticals) sales environments. In the general sales population, this correlation is about -.68; however, within the seniors housing industry, economic and altruistic scores show a .28 correla-

tion. This finding indicates that the top performers in seniors housing are unique among sales professionals.

Three Principal Drivers and Motivators: Head, Hand, and Heart

Theoretical score (i.e., head) may be perceived as the drive for knowledge and an appetite for learning new things. The seniors housing industry's top performers are ones who approach their job with a drive to learn. These salespersons want to learn about the industry, the competition, their prospects, properties that are open, and new processes and procedures. Furthermore, gaining knowledge may be an intrinsic motivator for the top sales performers who have an appetite to learn it on their own.

The economic score (i.e., hand) may be understood as the drive for material rewards; e.g., salespersons with such a predisposition may expect to receive high monetary rewards for doing great work. Such a predisposition is not necessarily a statement of greed but perhaps one of practical work ethic. As such, our industry's top salespeople appear to have an appropriate business sense such that they have an understanding of the monetary reward for themselves and their company.

The altruistic score (i.e., heart) may be perceived as the drive to help others. This score may be what makes the seniors housing salesperson unique, as this score is substantially lower in salespersons in some other high-tech industries, as reported in Figure 2. We interpret this to indicate that the top performers in seniors housing show a genuine sincerity factor in their affect and presentation. These salespersons like to be of service to others, which may be part of their intrinsic motivation and part of their internal paycheck. This altruistic score also indicates the level to which one may engage in increased discretionary effort. This is supported in the research on organizational citizenship behaviors, where the presence of helping behaviors increased commit-

ment to both colleagues and the organization at large (Dagenais-Cooper & Paille, 2012). Comments by top performers provide reinforcement for these findings.

Insight from Top Performers...In Their Own Words

In our study of the motivators of the industry's top performers, we sent a follow-up survey with open-ended questions via an online survey vendor. These were the questions we asked:

1. What do you like best about your career as a seniors housing salesperson?
2. What do you like least?
3. If someone asked you, "What are the two or three primary components of your personal success," what would you tell them?
4. If you go home some days and think, "Yes! This is great!" or have a strong feeling of a big "win," what happens on the job that gives you that upbeat feeling?
5. How do you reconcile or explain the drive for money and also the drive to help others...both as high drivers of top performers in the seniors housing profession?
6. What do you appreciate most and least from your sales manager or supervisor in helping you stay optimally motivated?

Many seniors housing organizations have used a variety of nonmonetary incentives within our industry to boost sales performance. These have been shown to not only lower costs but also to increase proactive engagement toward the job (Morrell, 2011). Following are comments from some of the top performers related to nonmonetary compensation, and because of the close scores of utilitarian/economic and social/altruistic drivers, these nonmonetary incentives may be of special importance to the seniors housing profession.

Verbatim responses from top performers regarding the survey questions are presented. Their answers:

What do you like most about your career as a seniors housing sales professional?

Providing a solution for a family in dire need, and offering them support and knowledge about senior living. Being the educator and making a difference in the resident and families' lives. // Helping families, seniors, and professionals find the right solutions for their situation. Diagnosing dynamics and history to get deeper into the relationship part of the sales process—I really like problem solving. I also enjoy the ability to move about in and out of the office. I could never just sit at a desk all day and churn out work. // Helping others, making a difference, being competitive in the market as one of the best communities in this area. //

What do you like least about your career as a seniors housing sales professional?

That it's never enough. Even when you are at 100% occupied you still have to continue to push and remain consistent because anything can happen to change your occupancy number. // There is room for some great improvements with internal community leadership. I hear from residents about issues that come up, and I feel it would be so easy to fix the issue, but sometimes things just seem to be "swept under the rug," resulting in move-outs. // When families are not understanding the importance of making that change sooner rather than later. Very sad. // The fact that some people can't afford to live here and there aren't very many options in this area. Also, I wish that we were able to get some Medicaid beds so that people didn't have to move out when they ran out of money. // Paperwork, data entry, chasing down dud leads and Internet inquiries, which seem to have a low threshold of callbacks from the consumer. Constant oversight and scrutiny of the sales process. Company seems to be more and more focused on bottom line. Sometimes too many people to answer to. //

If someone asked you, "What are the two or three primary components of your personal success," what would you tell them?

Dedication and determination. // God, hard work, family support. // Increase occupancy, getting more referrals sources, learning how to deal with people. // Quick follow-up to leads, make yourself available when your potential resident is available, and try to identify exactly what is important to the potential resident or family in the community they choose, and show them what you are going to do to address their needs and what is important to them. // Ability to completely understand caregiving struggles; I have personally lived it. Excellent discovery process. It is necessary to completely understand who the customer is, what makes them tick, what they are most concerned about, and what they think will make the situation better. // Stay focused and be consistent with communication and follow-ups. Also feel and really mean what you say when communicating with people. If you don't feel what you are saying, you are not being sincere, and they need to trust what you are telling them. Going through the "motions" will not make you successful. //

If you go home some days and think, "Yes! This is great!" or have a strong feeling of a big "win," what happens on the job that gives you that upbeat feeling?

Definitely getting a move-in creates this feeling, especially when you had to work hard and they were looking at other options. // Knowing that I have helped a family find what they were looking for and getting an "atta boy" once in awhile. I also get that feeling when I see my team pull together and work hard to accomplish a goal! // It is all about helping and working as a team. // I go home every day feeling great just knowing that I put 100% effort forth all day long and that I did the best that I could to make a difference and touch someone's life in that day. It is very rewarding. // Getting to 97% or bet-

ter, helping someone in a crisis, and commission, of course! //

How do you reconcile or explain the drive for money and also the drive to help others...both as high drivers of top performers in the seniors housing profession?

There is no monetary reward for how it feels when you see you've positively impacted someone's life. When you know in your heart that a senior needs our help and will thrive in an environment like ours, and you get through to them or their family making the decision, the gratification knowing you helped is reward enough. The money is like icing on the cake, and you are working diligently to secure a move-in, so that's how it correlates, but I think we all choose social as important because of how good it feels, just like receiving a bonus check, to help others. // My heart is really in what I do. I believe in the product that we have, and it makes a difference in someone else's life, and the money aspect is a contributing factor, because the more I help the more I make. I have to eat and live, so why not earn a good income doing what makes you feel good? And it's honest! // I don't think of myself as a sales person. I am a solutions provider, social worker, negotiator, informationalist, listener, relationship building/mender, and pursuer of the good in every person/family I work with. My successes are due to my honest pursuit of helping others, not the money motivator. // We all need money, and it is a great incentive to push us when we need that extra push for whatever reason. It is just a great feeling to help a senior in need and to make their life more worth living every day. // Vacancies are financial opportunities for me and my company. The more lives I save by moving residents into my community, the more I am financially rewarded, so it is a win for me and my community. This meets my need for social do-gooding and my financial reward. // When I produce, it is a win-win situation. I am able to help save a life along with receiving a bonus. There is no sin in helping others and mak-

ing money at the same time. When I know I am going to commission based on move-ins or high occupancy, it definitely gets my adrenaline pumping. Once you reach that goal, I definitely want to do it again. It makes up for the days when things are slow, and I see a light at the end of the tunnel. // For me, personally, the salary range for salespersons in communities is not what I would consider high pay. Therefore, for me, my drive is the social aspect of the position at a fair rate. If I were going for the high dollar, I would select another industry, unless I chose to be in regional or divisional management. //

What do you appreciate most and least from your sales manager or supervisor in helping you stay optimally motivated?

Most. I appreciate the guidance and support offered the most. // Autonomy. // I appreciate most that I can depend on my sales manager; she is available to help me find resolutions. // I appreciate that I can call my sales manager at any time to bounce ideas around or strategize when stuck in the sales/relationship process. // I appreciate the fact that I can reach out to him and ask for help with an incentive or an idea on how to nudge something along. He has a great balance with the ability to encourage and build up my confidence. He's very effective in the way of motivating me to succeed and not threatening failure. I truly appreciate him. // Trusting me to do my job. //

Least. The least would be the micromanagement and sometimes what seems to be unrealistic goals that create pressure, which creates high stress. // What I don't like is when there is HIGH pressure. I understand this comes with the job; however, I will work just as hard with or without high pressure. When there is high pressure, I just get really irritated. // I don't really feel much motivation from her. // What I like least is the constant micromanaging and pushing for sales. The bottom line now outweighs our company motto, and there is constant pressure to perform. // One thing we do not get credit for

is emailing verses call-outs. Emailing, most often, is our open leads preference of communication. We get credit for calling out but do not get credit for the numerous hours that we spend connecting via email. I also think there is a lot of time wasted on emails sent by every regional and divisional manager. It is nice to recognize everyone's success, but day in and day out emailing what everyone else is doing is so time consuming. Our regional leaders can let us know they are happy with our performance personally. //

DISCUSSION

This investigation was a three-part study. The first was an initial study in 2011 to distinguish between response patterns of top, middle, and lower quintiles of salespeople in seniors housing. This helped to establish that the instrument was sensitive enough to distinguish between the quintile groups. The second study was both a quantitative and qualitative study of the industry's top sales performers. We provide the following suggestions to seniors housing sales managers and salespeople, based on the results of this investigation:

- Suggestion 1 - If you want your sales force to increase sales, find performers who have this "economic drive" with balance and remember that the "revenue clock" is ticking over their shoulders.
- Suggestion 2 - If you want your sales force to increase sales, train them on these behaviors: be sincere, be a good listener and coach, and don't forget that you are a sales professional. Protect your time, talent, and thoughtwork.
- Suggestion 3 - Based on these findings, to increase the performance of a sales team, it may be important to encourage them to do their homework and to increase their personal knowledge base.

Our finding was consistent with other research in moderating the "Type A Behavior Pattern," as

explored in environments that require strong interpersonal skills and relationship building (Bartkus, Howell, & Haws, 2011). Whether the moderating effect, or balancing the drive for money and the need to serve as a coach and counselor, is one of sensitivity, or balance of drive factors, or some other variable, it nevertheless indicates a less extreme position toward money taken by our top sales performers.

In our sample, it appears as though top performers brought a high social/altruistic drive to their professions while maintaining grasp of their assigned role; i.e., being a salesperson. This finding is good news, although it is also a challenge when hiring new salespeople; e.g., many salespeople are driven by financial rewards and may have a substantially lower altruistic score, as indicated in prior private studies for high-tech companies. Because top seniors housing salespeople in our study showed evidence for both of these drives (economic and altruistic) at a higher level, they may be somewhat rare in the general sales population, suggesting that more time and effort may be required of management to find and retain these top performers.

Because of the differences in scores with the lower sales performers, there may be some caution flags to look for. This may translate into any of these job behaviors, including: spending longer amounts of time in a coach/counselor role, lower ability to handle objections with confidence, or lower ability to inject urgency into their sales process, with an outcome of longer sales cycles. Each of these traits may be an opportunity cost for one who remains in coaching/counseling mode too long.

Other studies analyzing a salesperson's customer orientation showed an optimal level with regard to sales performance and customer orientation (Homburg, Muller, & Klarmann, 2011); e.g., customer orientation may be detrimental to sales results if taken to the extreme. Customer orientation is evident in all levels of sales performers in seniors housing, although those who maintained a higher level of customer orientation, in addition to an

appropriate business sense of the economic aspects of the sales equation, as evidenced by their response patterns to the instrument, emerged in the top quintile of sales performers.

Many resources are available to encourage increasing product knowledge. A recent contribution, the Challenger Sales Model (Dixon & Adamson, 2012), encourages sales professionals to influence the sales process in three ways: teaching the customer, modifying their insights in various contexts, and appropriately challenging the existing state of the prospect to aim for a move-in. This includes creating a constructive tension within the prospect and to slightly disrupt their status quo, and a strong knowledge base may assist our top salespeople in each of these areas.

The lower performers showed a remarkably different graphset, and especially in their top three motivators. Social/altruistic (helping) motivator was the highest and 12 points higher (on the scale from 12 to 72) than the economic drive. The lower performers evidenced response patterns showing that they really want to help others (i.e., the high altruistic scores). That is the good news. The other news is that they may give away too much time, talent, thoughtwork, and the company's revenue as they serve the prospect as a housing coach or consultant and forget to attach a sales role to that effort. Can lower performers be coached into a more sales-assertive role? We believe they can. The manager needs to help develop them to continue in their helping role but to also increase their sales agendas for closing more sales.

Other studies explored explanatory style using the Attributional Style Questionnaire among insurance sales agents and provided evidence that lower productivity was associated with a pessimistic explanatory style. In the present study, the top performers in seniors housing sales may confirm both survival and productivity as described by Seligman and Schulman (1986). In a broader series of literature reviews and narrative, Pink (2009) described three critical elements to "drive" personal success: autonomy (e.g.,

the utilitarian/economic drive illuminated in this study), mastery (e.g., with a direction toward the theoretical drive for knowledge, which emerged in the present study as a driver of top performers), and purpose (e.g., a broad sense akin to the social/altruistic drive factors identified in the present study).

CONCLUSION

Keys to Maintaining Optimal Motivation

Based on the findings from Studies 1 and 2, we offer several suggestions for helping sales staff stay optimally motivated. First, a review of Pink's (2009) book provides a holistic chronicling of research relative to the motivation of sales professionals. Specifically, Pink provides evidence that motivation does not require excessive external interference, although it should receive some support.

Regarding salespersons who maintain an increased theoretical drive: offering knowledge-based incentives such as training courses, books, and magazines and journal subscriptions may be successful motivators. Additionally, frequently calling upon this group's knowledge and expertise during staff meetings may provide them with motivation to continue their learning. Other incentives for this group may include asking for their participation during the planning of knowledge-based events, such as community information sessions for prospects, and supplying them with additional information in the form of topical mail, brochures, and information sheets to be used for their own enrichment and to give to their prospects and clients.

For salespersons with a predisposition for economic drives, frequent financial reinforcements (e.g., monetary bonuses) and attention to their economic drive likely serve as successful motivators. Additionally, we suggest offering clearly communicated, high-end returns for those who are willing to work hard to receive them, and to provide these salespeople with individual and companywide recognition because

this action recognizes and reinforces their drives for success.

For salespersons with higher altruistic drives, we suggest utilizing such individuals in training, teaching, mentoring, and coaching roles to the extent that they are comfortable, and that such utilization does not interfere with their primary responsibility of sales. Allowing these individuals flexibility with their work schedules to accommodate service activities and helping others would also likely provide important motivation.

Instead of “If/Then,” Try “Now That” Motivators

Because the seniors housing industry's top performers are probably already motivated to do their best, we must not ignore them but rather understand that the traditional carrot and stick motivation techniques of the industrial age won't necessarily work in the 21st century. From Pink's (2009) research summary, we also learn that attaching a monetary reward to some behaviors that are already intrinsically rewarding may actually have adverse effects. To this end, we offer several suggestions for motivating sales staff.

Rather than presenting an incentive as “If you reach your quota, *then* you will get a given reward,” we suggest an approach such as, “*Now that* you've helped us reach quota, here is a reward that is important to you.” Providing high altruistic salespersons with paid time off to engage in community involvement (e.g., volunteering, service work, etc.) may be an effective reward. Additionally, some organizations like FedEx have found it successful to allow employees to take 10% to 20% of a workday away from their typical duties in order to work on a job-related task of their choosing (Pink, 2009).

Studies of sales forces' productivity also provide various models or rubrics against which seniors housing managers may build strategy and modify current practices (e.g., Ledingham, Kovac, & Simon, 2006), which, when combined with findings from the current study, many have a positive effect on

sales productivity. Many of these strategies explore both the drive factors of the sales people and the existing support systems within the greater organization. Additionally, a careful examination of reward systems that value good performance, a culture of openness, jobs that are meaningful, and management processes that are fair, trustworthy, and transparent may boost performance of individuals and full teams of salespeople (Nohria, Groywberg, & Lee, 2008).

To our knowledge, the current research was the first of its kind, and we hope it will provide new directions in seniors housing research. If replicated, we expect that these assessment instruments and knowledge gained herein will lead to increased awareness of these instruments and increased exploration of creative reward systems among those seeking to use best practices in managing their properties. Other questions will emerge, and we encourage continued exploration by our colleagues.

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What Should We Build When They Are Ready to Come? Developing Evidence-Based Housing for Older Adults

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ABSTRACT

We explored the housing preferences of older adults and the variables that predict housing preferences. A random sample of 1,670 Atlantic Canadian community-dwelling older adults completed a mailed survey. We used hierarchical logistic regression to determine the characteristics of respondents who preferred various types of housing and analyzed data from an open-ended question on ideal living arrangements. While a large proportion of older adults preferred to remain living where they were, the majority wished to have a different housing option. Types of housing that ensured an independent living unit such as an apartment, options geared specifically to older adults, and options that provided access to assistance were most highly preferred. The results are beneficial for informing decisions about housing options to support older adults who prefer to remain living in their homes and communities, and to create types of housing that best meet the needs of Canada's diverse older population.

INTRODUCTION

Housing has been described as the foundation of social care and is of great importance to older adults due to the large amount of time they spend in their dwellings (United Nations, 2000). Retaining independence and autonomy are recognized as being crucial for maintaining quality of life for older adults, and these two principles should underpin policy and practice (Wagnild, 2001).

Researchers consistently report that the majority of older adults prefer to remain in their own homes for as long as possible (Perks & Haan, 2010; Special Senate Committee on Aging, 2009; Wagnild, 2001; Weeks, Bryanton, & Nilsson, 2005), and we believe that they should be supported to do so if that is their preference. Older adults want to make their own decisions with respect to their needs and lifestyle (Robison & Moen, 2000), and they say that the benefits of aging in place include a feeling of independence and control, feelings of safety and security, being near family, and having familiarity with their surroundings (Wister & Gutman, 1997). Major barriers to aging in place include the inability to maintain property followed by inadequate finances, illness, the need for safety and security, and inadequate family support and transport (Clarke Scott, 1999; Canada Mortgage and Housing Corporation, 2008; Statistics Canada, 1999). For some in the oldest age groups, having a large home can be a risk to life satisfaction (Oswald, Jopp, Rott, & Wahl, 2011). While supporting aging in place is imperative, we also believe supporting older adults in whatever living environment they desire is crucial.

It is important to recognize that not everyone prefers to age in place. In a rural sample, Struthers (2005) found that almost 16% of older adults did not wish to remain living in their own home, even with support services provided. While it is recommended that a wide variety of housing options and supports are available in the future to meet the demands of older adults over time (Robison & Moen, 2000; Special Senate Committee on Aging, 2009; Weeks

et al., 2005), this does little to provide guidance for specific types of housing that should be developed. Perks and Haan (2010) provided a compelling analysis of Statistics Canada data but only categorized residential choices into three groups, including living independently in the community, age-restricted housing, and age-restricted housing with nursing care. It is clear that more evidence is needed in developing types of housing for older adults (Schwarz, 2011). Sheltered housing, congregate housing, and retirement housing tend to be the most frequently preferred options by older adults in the few available studies that include multiple specific types of housing in one analysis (Gutman & Hodge, 1990; Struthers, 2005; Weeks et al., 2005). See **Exhibit 1** for definitions of these and additional types of housing.

Housing decisions of older adults are influenced by many sociodemographic factors, but our review of the literature indicates that factors related to health and income status are particularly salient variables. It is clear that the prevalence and severity of disability increases with age (Cossette, 2002). In 2006, about 23% of Canadians ages 65 to 74 had a mobility disability, compared to 45% for those 75 and older (Statistics Canada, 2008). Oswald and colleagues (2007) found that the magnitude of accessibility problems in the home is related to healthy aging. Memory problems are experienced by 28.5% of older adults 65 to 74, 32.3% of those 75 to 84, and 39.2% of those 85 and older (Turcotte & Schellenberg, 2007). Almost 10% of people 65 to 74 and 24.7% of those 75 and older require help with everyday housework (Turcotte & Schellenberg, 2007). With the increasing rates of disability with age come the need to support older adults in their own homes and the necessity for housing alternatives to accommodate their changing requirements and abilities (Canada Mortgage and Housing Corporation, 2008). Essentially, as people age, their available choices for living arrangements may narrow, as many people become less able to cope with the everyday demands of living in their homes.

Exhibit 1. Preferences for Specified Types of Housing.

Type of Housing	Definition	Would consider this type of housing ^a		Would not consider this type of housing		Currently live in this type of housing	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Sheltered housing	Housing that consists of 20 to 50 self-contained units. Each unit is linked to the project manager by an alarm system.	678	42.6	880	55.3	33	2.1
Retirement Housing	A unit in a housing development specifically built for older adults that does not include services or personal care.	606	37.8	942	58.7	56	3.5
Garden suite	Small, self-contained houses that are placed on the same lot as the home of a close family member (e.g., granny flat).	555	34.9	1016	63.9	19	1.2
Congregate housing	Residents have their own private apartments. Main meals are eaten in a communal dining room. Housekeeping and personal care services are usually included.	542	34.2	1031	65.0	14	0.9
Smaller home	Moving to a smaller single-family detached house.	259	16.0	711	44.2	640	39.8
Abbeyfield	Usually 7 to 10 older adults living in a large house, each has a private room, and share one or more meals a day and the services of a housekeeper in a family atmosphere.	237	14.8	1355	84.9	4	0.3
Mobile home	Mobile home or other manufactured housing in a planned retirement community.	217	13.5	1353	84.4	33	2.1
Co-operative housing	Purchase shares and moving into co-operative housing.	191	11.9	1389	86.6	24	1.5

^aIncludes survey participants who answered yes or maybe.

In addition to health status, another major factor related to one's ability to remain in his/her home is income status. The proportion of low-income older Canadians remained relatively high, as 41% of women and 31.7% of men lived below the low-income cut-off levels (Turcotte & Schellenberg, 2007). In addition to income levels, it is also important to recognize that many people have high out-of-pocket expenditures, such as health care costs not covered by Canada's public health care system (Butrica, Murphy, & Zedlewski, 2010), while certain groups of older adults have high levels of poverty, such as older immigrants (Kaida & Boyd, 2011). It is clear that some older Canadians will have sufficient financial security to live where and how they want, but many will not. Thus, enhancements are needed to the affordable housing stock for older adults in Canada (Special Senate Committee on Aging, 2009).

In this study, we specifically examine the housing desires of older adults in the four Atlantic Canadian provinces. The older adult population in Atlantic Canada differs from other regions in Canada in two main aspects: First, there is a higher current and projected proportion of older adults in Atlantic Canada compared to the rest of the country that is primarily due to the outmigration of younger adults and the return of older adults after retirement (Dandy & Bollman, 2008). In 2005, the proportion of older adults in Atlantic Canada was 13.8%, compared to the national average of 13.1% (Turcotte & Schellenberg, 2007). By 2026, the Atlantic Canadian provinces will have the highest percentage of adults over age 65 in the country, at 25% (Turcotte & Schellenberg, 2007). As these trends continue, Atlantic Canada will need to increase its capacity to accommodate this rapidly increasing older adult population. Second, the 2006 Canadian Census shows that the median income of Atlantic Canadian older adults is more than \$2,500 below the national median, and the mean income of Atlantic Canadian older adults is almost \$5,000 below the national mean. Examining housing preferences is especially

salient in this region with an older population and lower income level.

Few researchers have examined expectations older adults have about future housing, or considered housing options in terms of current and future needs (Moen & Erickson, 2001; Robison & Moen, 2000; Sörenson & Pinquart, 2000). There is a need for research evidence to inform housing development to best meet the needs and preferences of older adults now and in the future. The guiding research questions for this study are:

1. What are the housing preferences of older adults?
2. What variables predict housing preferences of older adults?
3. How can these results inform the development of future housing?

METHODOLOGY

Participants and Recruitment

To identify housing needs and preferences of Atlantic Canadians, we conducted a population-based survey. Criteria for participation included being at least age 65 and living independently in the community (i.e., not living in an institutional setting such as a nursing home, prison, or hospital) in one of the four Atlantic Canadian provinces. Random procedures for identifying participants were maintained in each province. In three provinces, the Department of Health randomly selected participants from the provincial Medicare database, which included all persons residing in that province. In one province, Nova Scotia, we could not obtain a random sample from the provincial Medicare database, so random digit dialing was used to obtain a random sample.

We mailed each potential participant an information letter explaining the project and inviting their participation, as well as a reply form with a postage-paid envelope. Several weeks after the initial mailing, a follow-up letter was sent to those individuals on the list who had not returned reply forms. A package that included a survey, a cover letter, and a postage-paid envelope was sent to every individual

who returned a reply form. A total of 8,880 people were invited to participate. Of these, 221 invitations to participate were returned as undeliverable or the person invited to participate was deceased, resulting in a net of 8,659 persons invited to participate. Of these, 6,957 refused to participate or returned an unusable survey, and 1,702 of those invited to participate returned a usable survey, resulting in a response rate of 19.7%.

We determined how representative our survey sample was compared to the population by comparing the characteristics of our sample to Statistics Canada census data. This comparison indicated that in general, the Atlantic Seniors Housing Research Alliance (ASHRA) participants were quite comparable to the population of adults ages 65 and older in Atlantic Canada, especially for the variables sex, age, urban or rural location, health status, and home ownership status. We had a slightly younger survey sample than the population, but only 5.4% fewer participants in the 85 and older category compared to the population. Our sample included 10.3% more older adults who were married or in a common-law relationship than in the population, and we sampled 5.9% fewer widowed persons in the population. The largest difference between the sample and the population occurred for income level, with our sample including 20.6% in the lowest income category of less than \$20,000 in annual income, compared to 58.5% in this income bracket in the population. Consequently, our sample included a higher proportion of participants in the higher income categories in the population, such as 7.9% more participants in our sample than in the population, with an annual income of \$60,000 or more.

In **Exhibit 2**, we included the characteristics of the survey respondents that were included in the hierarchical logistic regression analysis described in the data analysis section. Our sample of 1,670 older adults included 42.1% men. While all participants were at least age 65, almost 20% of participants were 80 or older. A large proportion of the participants (46.8%) lived in rural communities. Our

sample included primarily older adults with a partner (64.9%) or those widowed (25.8%). Our sample reflected income diversity with 20.6% having an annual income of less than \$20,000 and 12.5% having an annual income of \$60,000 or more. The vast majority of the survey participants did not work for pay (92.7%). Most of the participants reported being in at least good health (68.0%). A total of 5.9% had a fairly serious problem, and 12.8% had a fairly serious problem with at least one personal care and/or daily living activity, while just over half (54.0%) received support services for at least one activity.

Survey

The ASHRA received permission from the Canada Mortgage and Housing Corporation to use and adapt the 1998 Seniors Housing and Support Services Survey. With the assistance of stakeholders in each of the four Atlantic Canadian provinces, we made the following modifications to the survey: used a determinants-of-health approach, addressed the unique issues, languages, and cultures in Atlantic Canada, and made the survey conducive to being mailed to older adults to complete on their own instead of a face-to-face interview format.

We made revisions following piloting the survey with 42 older adults. The final 70-page survey contained sections concerning current housing and living arrangements, feelings about various housing options, transportation needs, difficulties with personal care and daily living activities, support services, future housing plans and needs, and demographic information, including detailed financial questions. The pilot results indicated that respondents required a mean of one hour to complete the survey. A copy of the survey can be obtained by contacting author Lori E. Weeks.

Data Analysis

The dichotomous-dependent variables consisted of eight dwelling types that are presented as alternatives to staying in one's present dwelling. The survey included a brief description of each dwelling type and

Exhibit 2. Characteristics of the Survey Sample by Variables Included in the Hierarchical Logistic Regression.		
Characteristic	Survey Sample	
	<i>n</i>	%
Sex		
Women	953	57.9
Men	694	42.1
Marital Status		
Married/common-law	1071	64.9
Widowed	425	25.8
Divorced/separated	104	6.3
Never married	50	3.0
Education		
Less than high school	320	19.7
Some high school	281	17.3
High school grad	271	16.7
Technical or trade school diploma	246	15.2
Some post secondary education	218	13.4
College/university degree	287	17.7
Income		
Less than \$20,000	306	20.6
\$20,000-\$39,999	706	47.4
\$40,000-\$59,999	294	19.8
\$60,000 or more	182	12.2
Employment		
No paid work	1507	92.7
Part-time work	102	6.3
Full-time work	16	1.0
Personal care and/or daily living activity		
Very serious problem with at least 1	98	5.9
Fairly serious problem with at least 1	211	12.8
No problem or minor problem with at least 1	1344	81.3
Receipt of support services for activities		
0 activities	768	46.0
1 activity	288	17.2
2 activities	215	12.9
3 activities	156	9.3
4 activities	93	5.6
5 activities	62	3.7
6 activities	46	2.8
7 activities	24	1.4
8 activities	18	1.1

asked participants to indicate if they lived in this type of dwelling. If they did not, they were then asked if they would seriously consider that type of housing. The possible responses were no, yes, and maybe. Whether the participants would seriously consider each housing type was measured by combining the yes and maybe responses (see Exhibit 1). Combining yes and maybe is consistent with others who analyzed data resulting from the original survey (Weeks et al., 2005; Wister & Gutman, 1997). We also examined whether current home ownership status influenced the type of housing options selected. The participants were divided into the categories of own their home, rent their home, or other. The other category of home ownership primarily included those who lived with family members such as an adult child.

Using SPSS 18, random effects hierarchical logistic regression analyses were conducted with the eight housing types as the dependent variable. The goal of the logistic regressions was to predict which variables are most important for older adults when deciding their future housing preferences. Across the eight analyses, the sample size ranged between 813 and 1,365 participants. In the first step in the hierarchical regression model, we entered the following health and wealth variables as predictors of housing preferences:

1. a dichotomous variable of support for personal care and/or daily living activities indicating that the person did or did not have a fairly or very serious problem with at least one of the nine personal care or daily living activities (vision, hearing, going up or down stairs, getting in or out of a bed or chair, getting on and off the toilet, taking a bath or shower, doing chores around your dwelling, moving about your dwelling, and getting around outside your dwelling);
2. a continuous variable, which was named "total support," indicating that the participants received assistance with certain activities (e.g., groceries, cooking, cleaning, heavy cleaning, bathing/showering, driving); and
3. a categorical variable of total household income

divided into four categories.

These variables were entered first into the model to understand the role of health and wealth in future housing selection. In addition, this allowed us to control for the variables prior to investigating individual characteristics entered in the second step of the model. In the second step of the model, four additional categorical predictor variables on housing preferences were used, including sex, relationship status, employment status, and educational level. A stepwise method was used for the second step of the regression to allow for identification of the strongest individual predictors to emerge. Given the relatively exploratory nature of these individual characteristics as predictors, a stepwise approach was preferred since it favors a model building approach rather than a model testing approach (Tabachnick & Fidell, 2007). Odds ratios were calculated to identify the characteristics of participants who were more likely to seriously consider certain type of housing. An odds ratio of greater than one indicates that those with certain characteristics are more likely to seriously consider certain types of housing, while an odds ratio of less than one indicates that those with certain characteristics are less likely to seriously consider a certain type of housing.

In addition to the quantitative data collected, we asked survey participants to respond to the following open-ended question: "What would be your ideal living arrangements?" Almost 60% ($n = 1,000$) of the participants responded to this open-ended question in the survey. Of these, 738 survey recipients referred to a specific type of housing in their response. We used thematic analysis to guide the categorization of these qualitative data to identify specific types of housing identified as ideal. Thematic analysis is a form of pattern recognition within data, allowing for themes to emerge directly from the data using inductive coding (Fereday & Muir-Cochrane, 2006). This process involved generating initial codes, searching for themes, reviewing themes, and defining and naming themes that resulted in thematic codes that represented patterned responses within

Exhibit 3. Themes Identified through Qualitative Analysis of Participant Ideal Types of Housing.

Theme	Description	<i>n</i> = 738 ^a	%
Current living arrangement	I want to stay where I am living now	252	34.1
Apartment	Self-contained unit in an apartment building, condo, villa	140	19.0
Congregate housing	Housing specifically designed and designated for older adults, often with some services provided	111	15.0
Current living arrangement with help	I want to stay living where I am now with assistance	93	12.6
Single-family dwelling	Detached house, duplex, townhome	67	9.1
Assisted living	Independent living unit with services and some personal care provided	46	6.2
Garden home/granny flat	Small self-contained home in or on the property of a family member	17	2.3
Nursing Home	Skilled nursing facility	12	1.6

^a*Includes only those participants who wrote about a specific type of ideal housing.*

the data (Braun & Clarke, 2006). Thematic analysis is particularly useful in understanding influences and motivations related to how people respond to events (Luborsky, 1994) and thus lent itself well to developing a greater understanding of the ideal types of housing of older adults. The qualitative data analysis software NVivo 9 aided in coding and organizing the data.

RESULTS

Types of Housing

The participants' indication of whether they would seriously consider housing types from a specified list, and whether they currently live in that particular

type of housing, is located in Exhibit 1. The results show that several of the options were rated as quite popular. Almost 40% of participants already moved to a smaller home, so relatively few (16%) indicated they would seriously consider this type of housing. All types of housing characterized by renting an independent living unit in a building designed for older adults, or a garden suite, were relatively highly rated by at least one-third of the participants. Less popular options were mobile homes, Abbeyfield (a national charity that provides sheltered housing and care homes for elderly), and co-operative housing.

We also identified eight different types of housing in the analysis of open-ended responses from 738 participants who wrote about a specific ideal type

Exhibit 4. Preferences for Specified Types of Housing by Current Homeownership Status.^a

Type of Housing	Own <i>n</i> = 1259 %	Rent <i>n</i> = 279 %	Other <i>n</i> = 122 %
Sheltered housing	526 41.8	109 39.1	42 34.4
Retirement Housing	504 40.0	70 25.1	29 23.8
Garden suite	444 35.3	84 30.1	26 21.3
Congregate housing	425 33.8	75 26.9	41 33.6
Smaller home	218 17.3	33 11.8	8 6.6
Abbeyfield	180 14.3	39 14.0	18 14.8
Mobile home	181 14.4	25 9.0	11 9.0
Co-operative housing	147 11.7	36 12.9	8 6.6

^aIncludes survey participants who answered yes or maybe.

of housing (see **Exhibit 3**). The most popular ideal type of housing we identified in the responses was “current living arrangements.” This was indicated by more than one-third of the respondents who indicated a specific type of housing (*n* = 252); however, an additional group identified that they wanted to remain living where they were now, with assistance (*n* = 93, 12.6%), while some (*n* = 140, 19.0%) participants identified an apartment as their ideal type of housing. An additional 15% of participants (*n* = 111) identified that their ideal type of housing would be designed and designated for independent older adults and often with some services available. “Easy accessible apartments or cottages in a complex for seniors only with basic services (e.g., maintenance, transportation, entertainment, etc.) on site or nearby.” More than 6% of participants (*n* = 46) indicated that their ideal type of housing was moving to an assisted living facility that included an independent living unit with services and some personal care provided. Many of these participants indicated the desire to retain as much independence as pos-

sible within an assisted living facility. “If necessary, assisted care home, my own kitchen, and an option to eat with the other residents.”

Predictors of Housing Preferences

In **Exhibit 4**, we explored the impact of current home ownership status on the type of housing options selected. For many of the types of housing options, home ownership status did not have a large impact with those who owned or rented their homes, indicating similar trends. In general, a slightly higher percentage of those who owned their home selected each option, with the exception of retirement housing, with almost 15% more of the participants who owned their home, indicating that option. Those in the other category, many of whom lived with family members, indicated similar trends to those who rented their homes.

Exhibit 5 contains the results of the hierarchical logistic regression analyses, indicating which variables significantly predict seriously considering living in the eight specific type of housing listed in Exhibit 1. Only significant findings are reported in Exhibit

Exhibit 5. Significant Predictors for Preferences for Housing Types.					
Participant Characteristics	<i>B</i>	Wald	<i>p</i> ^a	<i>OR</i>	<i>CI</i>
Move to a smaller home (n = 970)					
Income					
\$60,000 and over ^b		16.882	.001		
\$20,000 - \$39,999	-.800	11.437	.001	.449	.283-.714
\$20,000 and under	-1.01	9.765	.002	.366	.195-.678
Relationship Status					
Married/common-law ^b		21.897	.000		
Never married	-1.766	5.574	.018	.171	.039-.741
Widowed	-1.001	15.807	.000	.368	.224-.602
Sheltered Housing (n = 1558)					
Difficulty with more than 1 personal care and daily living activity	.404	6.398	.011	1.498	1.095-2.048
Income					
\$60,000 and over ^b		8.679	.034		
\$20,000 and under	-.537	4.797	.029	.585	.362-.945
Female	-.435	12.823	.000	.647	.510-.821
Relationship Status					
Married/common-law ^b		8.712	.033		
Widowed	-.342	4.577	.032	.711	.520-.972
Highest level of formal education					
Degree ^b		19.182	.002		
Less than high school	-.482	5.533	.019	.618	.413-923
Retirement Housing (n = 1548)					
Difficulty with more than 1 personal care and daily living activity	.326	3.956	.047	1.385	1.005-.1.910
Relationship Status					
Married/common-law ^b		13.216	.004		
Widowed	-.577	12.445	.000	.562	.408-.774
Highest level of formal education					
Degree ^b		21.229	.001		
Less than high school	-.715	11.505	.001	.489	.323-.739
Garden Suite (n = 1571)					
Female	-.503	16.259	.000	.605	.473-.772
Relationship Status					
Married/common-law ^b		17.710	.001		
Widowed	-1.230	8.244	.004	.292	.126-.677

Exhibit 5. Significant Predictors for Preferences for Housing Types.

Participant Characteristics	<i>B</i>	Wald	<i>p</i> ^a	<i>OR</i>	<i>CI</i>
Garden Suite (n = 1571)					
Highest level of formal education					
Degree ^b		11.344	.045		
Some high school	-.449	4.566	.033	.638	.423-.963
Less than high school	-.470	5.007	.025	.625	.414-.943
Congregate Housing (n = 1573)					
Income					
\$60,000 and over ^b		20.411	.000		
\$20,000 - \$39,999	-.414	4.963	.026	.611	.460-.951
\$20,000 and under	-1.001	19.310	.000	.368	.235-.574
Highest level of formal education					
Degree ^b		26.579	.000		
Less than high school	-.731	11.775	.001	.482	.317-.731
Mobile Home (n = 1570)					
Total Support	-.176	11.514	.001	.839	.758-.928
Abbeyfield (n = 1592)					
Difficulty with more than 1 personal care and daily living activity	.407	3.841	.050	1.503	1.000-2.259
Highest level of formal education					
Degree ^b		21.882	.001		
Some high school	-.795	8.265	.004	.451	.262-.776
Less than high school	-1.126	14.806	.000	.324	.183-.576
Cooperative housing (n = 1580)					
Income					
\$60,000 and over ^b		14.073	.003		
\$20,000 - \$39,999	-.607	6.594	.010	.545	.343-.866
\$20,000 and under	-.953	8.175	.004	.385	.201-.741
Relationship Status					
Married/common-law ^b		8.033	.045		
Employment Status					
Employed full time ^b		6.758	.034		
^a Only the results of significant predictors are included.					
^b Referent group					
* <i>p</i> < .05					

5. Total income was significantly related to selecting the option moving to a smaller home; however, those in the lowest (odds ratio [OR] = .366) and second lowest (OR = .449) income categories were less likely to seriously consider a smaller home than those in the highest income category. Marital status also was a significant predictor of seriously considering moving to a smaller home; however, never married (OR = .171) or widowed (OR = .368) individuals were less likely to seriously consider moving to a smaller home than respondents who were married or living in a common-law relationship.

Those who indicated that they would seriously consider moving to sheltered housing were more likely to have difficulty with one or more activity of daily living (OR = 1.498). Individuals in the highest and lowest income categories who are female (OR = .647), married or widowed (OR = .711), and with at least a high school education (OR = .618) were less likely to indicate that they would seriously consider sheltered housing.

Those who indicated seriously considering moving to retirement housing were more likely to have difficulty with daily living activities (OR = 1.385). In addition, being widowed (OR = .562) decreased the probability of seriously considering moving to retirement housing, while having completed less than high school was significantly less predictive of seriously considering this type of housing (OR = .489). Although income also was a significant predictor, all income categories were equally likely to identify seriously considering moving to retirement housing as an option.

Those who indicated that they would seriously consider moving to a garden suite were less likely to be female (OR = .605) and less likely to be never married (OR = .292), compared to those married or living in a common-law relationship. They also were less likely to have an educational level of less than high school (OR = .625) or completed some high school (OR = .638), compared to having completed a degree.

Income and education levels were both related to seriously considering congregate housing as a living option. Within these categories, individuals in the two lowest income categories were less likely to seriously consider this option compared to individuals in the highest income category. In addition, individuals with an educational level of less than high school (OR = .482) were less likely to seriously consider this housing option compared to individuals who completed a degree.

The only significant predictor of seriously considering moving to a mobile home was total support (i.e., the number of activities with which a person required help). Results indicate that increased support was negatively related to seriously considering relocation to a mobile home.

Those who seriously considered moving to an Abbeyfield house were more likely to have difficulty with daily living activities (OR = 1.503). Education also was significantly related to seriously considering an Abbeyfield housing option; however, individuals with less than high school (OR = .324) or some high school education (OR = .451) were less likely to seriously consider this housing type compared to individuals who completed a degree.

Income, marital status, and employment status were significantly related to seriously considering co-operative housing as an option. Individuals in the two lowest income categories were less likely than the referent group to seriously consider co-operative housing. No significant differences were obtained across the categories of marital status and employment, suggesting that all individuals were equally likely to seriously consider co-operative housing as an option.

DISCUSSION

The open-ended question of "What is your ideal type of housing?" yielded some compelling results. Almost half of the participants indicated that, ideally, they wanted to remain living in their current home or remain living in their current home with

help. While it is important to recognize that a large number of older adults prefer to remain living where they are now, our results indicate that about half of participants indicated ideally wanting a different housing option than their current home. This lends support to the scant evidence that not all older adults wish to age in place in their own homes (Struthers, 2005).

When the participants were asked to indicate which housing options they would seriously consider from a list, they tended to select options that allowed for an independent living unit (i.e., house or apartment). In addition, they often selected options that provided some measure of assistance from family, services provided in the building, or potential support from others living in the building. Ideally, many preferred to move into a different type of housing where they could have a self-contained living unit but receive supports in or near their home. These results provide valuable information in planning housing and services for older adults. It is clear that more services that blend the provision of shelter and services, often termed supportive housing or assisted living, are needed (National Advisory Council on Aging, 2002; Perks & Haan, 2010; Pynoos, Liebig, Alley, & Nishita, 2004; Wister & Gutman, 1997). The Palisades, a retirement community located in Colorado Springs, is a good example of this, with a wealth of resources available that are designed to meet the individual development needs to improve the wellness of older adults (Silva-Smith et al., 2011).

Interestingly, the proportion of participants who identified their ideal living arrangements as an assisted living facility approximates the proportion of Canadians who live in a residential long-term care facility at 7% (Turcotte & Schellenberg, 2007). While we are not suggesting that everyone living in assisted living is living in their ideal type of housing, it is important to note that some participants in our study identified this as their ideal type of housing. Some form of residential long-term care may be

particularly advantageous for those with high care needs. As assisted living facilities often operate at very high occupancy rates (Statistics Canada, 2011), many people may be placed on long waiting lists, limiting access even if this type of housing is preferred.

A total of 30% of the sample did not indicate that they would seriously consider any of the eight housing options presented in the survey. As all of the options presented involved moving, this does provide evidence that many of the older adults in our sample either prefer to age in place in their current home, or that none of the housing options presented are of interest to them. The possibility that there are not desirable housing options available deserves more research attention. Also, there may be linkages between the availability of certain types of housing and the choices of specific type of housing; e.g., few of the participants selected Abbeyfield housing or co-op housing, and these types of housing may have limited availability in certain locations and especially in smaller towns and rural places (Struthers, 2005). In addition, some relatively uncommon types of housing, such as Abbeyfield, may not be familiar to some certain adults. Educational efforts are needed to ensure that older adults are aware of options that can support them to continue living in their own homes, or move to housing that better meets their needs.

The health and wealth variables included in the hierarchical logistic regression analyses yielded some interesting predictors of seriously considering housing preferences. Fewer financial resources did not predict seriously considering moving to a smaller home, congregate housing, or co-operative housing. Seriously considering moving to a smaller home and co-operative housing are relatively affordable housing options, and it is surprising that those with fewer financial resources would not prefer them. It could be that those with fewer financial resources are less open to considering moving to a new home, as even though the new home may be affordable,

the financial costs incurred in the process of moving could present a barrier to relocation. Our analysis of housing preferences by home ownership status revealed a general trend that fewer participants who rented their home or lived with family members preferred the specified housing options, indicating that those who owned their home may feel that they have more housing options. Financial assistance to help defray relocation costs appears warranted for low-income older adults who wish to move. In addition, even though the home ownership rate was very high among the respondents in our study, at almost three-quarters, the value of a person's home may be relatively low, especially in some rural parts of Atlantic Canada, and this may present a barrier to moving.

While Perks and Haan (2010) found that health and economic characteristics influenced choices for three broad categories of housing, social support characteristics were the most important predictors. In our study, having difficulty with one or more personal care and daily living activities predicted preferences to seriously consider moving to sheltered housing, retirement housing, and Abbeyfield. The results indicate that those with some health challenges seriously considered living where they have greater potential for support, but some types of housing may not provide the personal care services desired. In some cases, older adults may receive assistance from others living or working in the housing complex (e.g., neighbors, housekeeper, manager). It is possible to move beyond providing hospitality services (e.g., meals, housekeeping) in various types of housing and toward providing personal care services (e.g., assistance with activities of daily living) (Sheehan & Oakes, 2003).

Other demographic variables provide insight into housing preferences for older adults. Having a current partner predicted seriously considering moving to a smaller home, an option not as favorable to those without a partner to help maintain a home. Additional types of assistance with maintaining a home are warranted for those who prefer to live in a

single-family dwelling and do not have a partner for support (Struthers, 2005). Education level emerged as an important variable in predicting seriously considering types of housing. Having lower levels of education predicted being less likely to seriously consider four specific types of housing: retirement housing, garden suite, congregate housing, and Abbeyfield. It appears that special efforts should be targeted to older adults with lower levels of education to ensure that they have information about housing that combines housing and some level of social and/or instrumental support.

Limitations

We recognize several limitations in this study. The list of eight types of housing presented in our survey did not encompass all of the potential options of housing for older adults; e.g., no options combined allowing older adults to live in their own home and receive care and support services in the home (i.e., home care); however, in our data resulting from the open-ended question on ideal types of housing, 12.6% of the sample indicated that they preferred their current living arrangement if they had access to help, in addition to the 34.1% of respondents who ideally wanted to stay in their current living arrangement. In a rural sample, Struthers (2005) found that 84.3% preferred to remain living at home with in-home support services. It is imperative to have a clearer understanding of whether older adults prefer to remain where they are with help or move to a different home. Many may be forced to move if adequate supports are not available in their current home.

CONCLUSION

In this study, adults ages 65 and older indicated whether they would seriously consider specific living arrangements in the future. As those under 75 made up two-thirds of the respondents in this study, our results provide important insights into the types of housing and support services that should be developed to meet their needs; however, additional

information on the housing preferences of those over 75 would be beneficial. It also would be very useful to have similar data from those who are younger (i.e., 50s, early 60s) in order to adequately plan appropriate housing for the future; e.g., Perks and Haan (2010) included adults 55 to 75 in projecting future housing demand. Our cross-sectional data do not account for how the needs and preferences of this population may change in the future. As the baby boomer generation moves into older age and the proportion of older adults increases, it is clear that we need to address the housing needs of different age cohorts (Tinker, 1997; Turcotte & Schellenberg, 2007; Wister & Gutman, 1997). Ideally, the housing needs and preferences of middle-aged and older adults will continue to be monitored closely in the future. It would be interesting to examine the influence the current and past type of housing has on future housing preferences. Creating more complex statistical models based on our findings, and the findings of others, would be beneficial in the future.

The extent to which housing developers in the public, private and nonprofit sectors will be responsive to the changing needs and preferences of older adults in the future is not clear. As our results do not clearly identify one specific housing option that meets the needs of all or even most older adults, it is imperative that a range of affordable housing options are available, which is a particular challenge for older adults living in rural places. A practical solution would be for developers to embrace a one-size-does-not-fit-all philosophy so that a creative range of types and levels of affordability could be included in housing designed specifically for older adults.

In general, our quantitative and qualitative results indicate that participants most seriously considered types of housing that ensured an independent living unit, options that were geared specifically to older adults, and options that provided access to assistance. Our results indicate that types of housing that include one or more of these characteristics will be favorable to many older adults.

The generalizability of our results on the sociode-

mographic predictors for types of housing may be limited to other geographic areas and especially large urban centers. Our results indicate that sociodemographic characteristics can be predictive of living in certain types of housing and seriously considering certain types of housing. This knowledge could be utilized by housing developers to better equip them to identify the type and amount of housing desired by the older adult population.

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The Social Construction of the Nursing Home: How Customers Interpret Nursing Home Life

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ABSTRACT

This study explores the satisfaction of three groups of nursing home customers, the family, and long-stay resident and short-stay residents, covering 14 aspects of nursing home life. We examine what makes customers feel positively about their nursing home, what prompts them to advocate for it, where their viewpoints converge, and why they may perceive common experiences differently. We draw on customer satisfaction data collected in 2010 and 2011, from 2,104 nursing homes around the nation. With qualitative data as a guide, we quantitatively analyze 191,452 responses. The three groups express high satisfaction with their nursing homes, especially satisfied with the staff with respect to their competence, their care and concern, and their respectful ways. They are dissatisfied with managers for being unresponsive to their concerns. We interpret the findings within the humanistic paradigm that views human behavior as the interplay between mind, self, and society that is spurred by a search for meaning.

INTRODUCTION

This study examines how three groups of nursing home customers assess their nursing home life. The first group is made up of residents generally admitted to the nursing home after a hospital stay and discharged in less than 90 days, before the quarterly assessment required by the Centers for Medicare and Medicaid Services. These short-stay (SS) customers are commonly known as post-acute or sub-acute care residents. The second group is made up of long-stay (LS) residents, here defined as residents staying 90 days or longer. We refer to SS residents and LS residents together simply as “residents.” We examine how satisfied SS residents are with varied aspects of nursing home living and how they differ in this regard from LS residents and from a third type of customer: the families of residents (spouses, children, siblings, and grandchildren). We ask what significance each group attaches to the experiences that all three share.

Theoretical Framework

A variety of studies have addressed the issues covered in this study, some directly and many tangentially. Some point out how customer preferences change over time (Wolff, Kasper, & Shore, 2008), how organizational factors impinge on customer satisfaction (Lucas et al., 2007), and how differently customers view aspects of quality (Duffy, Duffy, & Kilbourne, 2001) or services (Curry & Stark, 2000).

This study does not seek to test or challenge a hypothesis derived from previous research; our primary aim is to interpret and understand the nuanced messages that families and residents convey in their satisfaction survey responses. We interpret our findings in the humanist theoretical tradition, as opposed to the tradition of the behaviorists (in social science) or the biomedical approach (in health care). The behaviorist tradition explains human action as an observable response to a stimulus (Pavlov, 1927, 1960; Skinner, 1974); the biomedical approach focuses on the role of biophysical factors in health

care outcomes or experience (National Research Council, 1985). In contrast, the humanist tradition explains human behavior as an interplay of the mind, self, and society (Mead, 1934; Blumer, 1969; Griffin, 1997) and a continued search for meaning—a defining trait of the human condition (Frankl, 2006).

A central axiom in the sociology of knowledge holds that humans do not see the world in its objective, naked state. At birth each of us becomes a partner with society, and as partners through life, together we overlay reality with tiers of meaning, cues, and codes. Unaware that we have done so, we accept our collective social creation as the real, unvarnished, objective truth (Berger & Luckmann, 1966). The task for the researcher, as in this study, is to understand how the three groups, each in its unique way, interpret and respond to their common experience, and to explain the interplay of preconception, role prescription, and situational demand—the drama that unfolds in major acts and minor scenes in the daily life of the nursing home.

METHODOLOGY

Responses to three satisfaction survey instruments provided the primary data for this study. All surveys were conducted from August 2010 through July 2011, in 2,504 nursing homes in 49 states. The surveys targeted families of nursing home residents, LS residents, and SS residents.

The surveys were developed and tested by researchers at My InnerView (MIV), now a part of National Research Corporation (since 2010), following a rigorous development protocol and as part of a larger continuing quality initiative. These and other cognate proprietary surveys are now widely used in long-term care, including more than 4,000 nursing homes. These nursing homes provide MIV the addresses of the families of each resident, to whom MIV mails the survey along with a self-addressed, postage pre-paid return envelope. The families are asked to mail the completed survey within two weeks. MIV also mails the questionnaire for the LS

Table 1. Profile of Nursing Homes in the U.S. and in the Study Sample.

		USA	Sample
Number	Nursing Homes States, Territories	15,299 54	2,104 49
Certified Beds	≤50	14.5%	3.0%
	51 - 100	37.4%	27.2%
	101 - 150	31.9%	46.5%
	150 - 200	10.7%	17.7%
	≥201	5.5%	7.4%
Certified For:	Medicaid Only	1.2%	0.0%
	Medicare Only	5.0%	0.9%
	Both	93.9%	99.1%
Ownership	For-Profit	70.0%	80.4%
	Government	5.0%	1.5%
	Nonprofits	25.0%	18.0%
Onsite Council	Resident	66.3%	63.0%
	Family	0.3%	0.0%
	Both	29.9%	36.3%
	None	3.6%	0.7%
Other	Occupancy	82.7%	84.1%
	Hospital-based	5.7%	1.8%
	Part of Chain	56.2%	83.0%

residents directly to each resident with a prepaid return envelope and the same request. The nursing home mails the questionnaires to the SS residents within a week after each one's discharge or gives it to them at the time of discharge. These respondents return the completed questionnaire directly to MIV in the prepaid envelope.

These data were collected for purposes of quality improvement and not specifically to serve the needs of this research. As such, it imposes certain limitations on this study. The first two surveys contained identical content, and LS residents and their families answered them; the third, with content overlapping the first two, was answered by SS residents. The three surveys asked questions about aspects of nursing home living. For this study, we focus only on 14 questions that were common to all three customer

groups. They are listed in **Table 2**.

Another limitation pertained to the SS resident survey. While the data collection protocol ensured data integrity, it also made it impossible to compute the exact response rate for SS residents. Family surveys yielded a rate of 43.2%, and for the LS resident survey, the rate was 75.2%. From the pool of all pertinent nursing homes, we selected those that had at least 25 responses from families, LS residents, and SS residents. The resulting sample was assumed to be adequately representative of the 15,299 nursing homes in the nation.

The survey asked families, LS residents, and SS residents to rate their satisfaction on 14 aspects of nursing home life, using a four-point scale (1 = *Poor*, 2 = *Fair*, 3 = *Good*, 4 = *Excellent*). (The surveys are proprietary; a copy may be requested.) Each survey

1	Clean premises
2	CNA caregiving
3	Family kept informed
4	Managers responsive
5	Meals
6	Personal belongings secure
7	Rehab
8	Religious-spiritual activity
9	Resident choice-preference
10	Resident privacy
11	RN-LPN caregiving
12	Staff care-concern
13	Staff competent
14	Staff respectful

**These labels correspond to the respective questions in the surveys.*

included demographic, two overall, and three open-ended questions. The first overall question, “overall satisfaction,” sought respondents’ summary opinions about their nursing home’s performance. The second overall question, “recommendation,” asked how strongly a respondent would recommend the nursing home to others as a place to receive care.

In addition to the items that generated structured responses, the survey encouraged respondents to answer three open-ended questions: what two things their nursing home did best, what two things their nursing home should improve, and any other comment or suggestion the respondents had to offer.

Over the years, these written comments have grown into a repository of rich qualitative data.

Most nursing homes actively monitor their survey results and consult with specialists at NRC, wanting to explore their implications. They conduct focused mini surveys, focus groups, phone interviews, and email correspondence. These customer encounters have contributed more qualitative information to the data archives. Though this varied information is not always compiled within a rigorous protocol or for a scientific purpose, it constitutes as a repository of virtual ethnographic data.

This study presents evidence derived from quantitative data. We did not subject the qualitative data to a rigorous test or analysis. But the qualitative data has served as a backdrop and context to the quantitative data, as a guide for the statistical analysis and a framework to generate hypotheses and to interpret the findings. Researchers who seek to validate the findings presented in this article will be able to draw on this abundant source material. In order to suggest some directions in which such an ethnographic investigation may take, we offer a selection of observations the three groups of respondents offered on their written comments. For the purpose at hand, we can note that our cursory look at these data revealed that the tenor, tone, and direction of its qualitative content corroborates the quantitative findings.

We analyzed the numerical data at two levels: the individual respondent and the nursing home. We used descriptive, correlational, and regression techniques to explore and interpret the survey data. Regression analysis was conducted using the 14 survey questions as predictors of “recommendation” separately, based on the three sets of data.

RESULTS

To begin with, as **Table 3** shows, a remarkably high number in each group (40.0% to 50.5%) rate their overall satisfaction with nursing home life as *Excellent*, and even a larger number (43% to 52.6%) would recommend their nursing home as an *Excellent* place to receive care. Such high satisfaction also has been documented in prior years and is con-

Table 3. Percent “Excellent” and “Poor” Score on Two Overall Questions: Mean at Nursing Home Level.

Overall Satisfaction		
	Excellent	Poor
Family	40.0%	1.9%
LS Resident	41.5%	1.6%
SS Resident	50.5%	4.1%
Recommendation of Nursing Home		
	Excellent	Poor
Family	43.0%	2.7%
LS Resident	44.1%	2.8%
SS Resident	52.6%	5.6%

Nursing Homes *n* = 2,104 / Families *n* = 77,270 / LS Residents *n* = 53,244 / SS Residents *n* = 60,938

sistent with the findings of similar surveys (Quality Management, 1999).

A representative written comment from a family to the “What do we do best?” query: “Everything! Over the years, I have had a grandmother, uncles, aunts, my mother’s uncle, and now my mother in this place. The quality has been excellent.” An SS resident’s comment: “I have been in several hospitals. None of them compare with this home. I am happy I get good care.”

Three metrics show what satisfies respondents the most: higher mean score, higher percent of respondents scoring an aspect as *Excellent*, and the lower percent of respondents scoring an aspect as *Poor*. By these criteria, **Tables 4** and **5** suggest that all three groups are highly satisfied with the staff, both in their caregiving role as well as in every day social exchanges. They are very satisfied with the caregiving by nurses, as they also are with the respect with which the staff relates to them. Other aspects, such as those pertaining to staff competence, their care and concern for residents, and the quality of CNA

care and rehab therapy, all fall in the top half of the rank-ordered list shown in Table 4.

An SS resident comment: “Your medical/rehab care has exceeded my expectations. Very considerate and concerned care by nurses and attendants with cheerful conversations with patients.”

A different pattern emerges in the bottom half of the rank-ordered list in Table 4. In a telling contrast to the satisfaction the respondents derive from their relationships with the staff, respondents in all groups register their displeasure with the way managers respond to their concerns. The responsiveness of managers received a low satisfaction score, a rank toward the bottom, and more than 4.5% of respondents in all three groups assigned it a *Poor* grade. Respondents are disappointed with managers’ practices that show insensitivity. A family comment: “My parents pay their bill fully every month. I went to the finance office to try and figure out our bills. There, I find out they have owed us \$1,900 for some time. I showed it to my daughter, who is an accountant, and she can’t understand it either.” An SS resident

Table 4. Aspects of Nursing Home Life with Highest and Lowest Mean Satisfaction Score.

*(Scale 0 lowest to 100 highest)**

	Satisfaction	Aspects of NH Life	Mean	SD
Family	3 Highest Means	Staff respectful	85.5	4.9
		RN-LPN caregiving	84.9	5.1
		Family kept informed	84.0	5.8
	3 Lowest Means	Managers responsive	78.6	6.2
		Meals	74.2	6.5
		Personal belongings secure	72.4	7
LS Resident	3 Highest Means	RN-LPN caregiving	83.8	6.2
		Clean premises	83.3	6.7
		Staff respectful	83.2	6.2
	3 Lowest Means	Managers responsive	78.6	8
		Personal belongings secure	78.2	7.8
		Meals	72.8	8.7
SS Resident	3 Highest Means	Rehab	90.2	4.8
		Staff respectful	88.3	4.9
		RN-LPN caregiving	87.6	5.5
	3 Lowest Means	Religious-spiritual activity	81.6	6
		Managers responsive	80.9	6.7
		Meals	72.5	7.9

Nursing Homes $n = 2,104$, Families $n = 77,270$, LS Residents $n = 53,244$, SS Residents $n = 60,918$

comment: "Gouging us 'full-pay' residents to subsidize the Medicaid residents is pure SOCIALISM." An LS resident comment: "Many elderly people visit their relatives daily. I have watched them struggling up the driveway or tottering across the street because

they had to park elsewhere as there are no spaces in your lot."

A common theme runs through the low-scoring items in the lower half of Table 4 for all three groups. Aspects referring to cleanliness, religious-

spiritual activity, resident choice-preference, meals, and security of personal belongings do not involve the staff, their skills, attitude, or conduct; they refer to institutional aspects of nursing-home life that are more reflective of policy and managerial priorities than staff behavior and control. LS residents' comments: "I give you a poor grade on security of our belongings, but I am not sure anything can be done. Confused residents walk in and out of the room and take what they want and rest on any one's bed." "Send the cook to cook school. You don't fill elderly people with cabbage before going to bed. Need a chef that knows how to cook! Dietitian that knows how to plan menus." "Providing religious service or spiritual help is not the business of this nursing home." "It took five months to get my mother a private room. All the patients should have a private room. Sharing a room with a disruptive roommate was very hard on her. At 90, if you have a sound mind you should have a private room."

The three groups agree also on what dissatisfies them. Among the top three dissatisfiers, meals are rated *Poor* by up to 6%, unresponsive managers by up to 5%, and lost personal items by upwards of 8%. The similarity in their ratings notwithstanding, the three groups differ in several ways. First, across the 14 questions, SS residents are the most satisfied of the three groups, and the LS residents are the least satisfied, with families holding the middle ground. The respect staff show the residents highly satisfies all groups, but between the groups, its score differs by 6.0 percentage points, satisfaction with RN-LPN caregiving differs by 4.5 points, and rehab therapy by 12.7 points. At the same time, the LS residents agree within their own group about their satisfaction more than the other two groups agree about their groups' satisfaction. The standard deviation of the LS resident scores on the 14 questions varies within a narrower band. In contrast, the SS residents show the least cohesion.

An SS resident comment: "I feel this is a wonderful place, even if some are not happy with some things. I feel they were born complainers. You all work very

hard. That should be appreciated. Your nursing staff and nurse aids are exceptional. If I owned this nursing home, I would not have had any better care than what I receive. You provide great care to many in a critical time in their lives. Your staff make the residents feel special."

A satisfaction score in a particular area of nursing home life reflects only the nursing home's performance in that area; it does not reveal the significance that area carries for the respondent, or how much it will help turn customer into an ally and advocate. To measure that influence, we regressed "recommendation" as the dependent variable on the 14 aspects of the nursing home life.

Table 6 and following present the beta weights for the 14 areas of nursing home life. Beta, the standardized regression coefficient, is a measure of how strongly each of the 14 aspects of nursing home life influences the respondents' recommendation of the nursing home to others. Families consider cleanliness so essential that its influence on family recommendation exceeds by almost 50% the influence it exerts on LS residents. Staff competence, an aspect with strong influence on SS residents and families, exceeds LS residents by 50 percent. While meeting residents' choices and preferences are important for all three groups, it is nearly twice as important for SS residents as LS residents and families. "Rehabilitation therapy" exerts hardly any influence on families but moderately high on SS residents. Such disparity is evident among other aspects as well.

Although the three nursing home customers speak in one voice about their satisfaction in many areas of nursing home life, especially in their interpersonal exchange with staff, they do not experience or appreciate the various facets of their nursing home experiences in the same way. This divergence is echoed in their written comments. One LS resident sums up the overriding message respondents convey: "I have attempted to be fair with my answers to your questions and given you an accurate account of my feelings. I've had training for observation, and I

observe what is going on around me. I enjoy my life here. It isn't perfection, but we are all striving for a better day. I thank you. Some day we hope to be with our Lord. There we will find PERFECTION!"

DISCUSSION

The axiom that reality is a social creation postulates that human action is an interplay between three elements: our mind's paradigm, what our social roles prescribe, and the demands of the situation. With our cooperation, society has implanted in our mind a monitor that edits the world around us, slants our outlook and interprets our experiences to fit in with our mental template; however, unaware of our built-in bias, we are genuinely convinced that we view the world objectively and with an open mind. Members of a group often share a slanted view of life that leads them to conclusions compatible with the values and interests of the group (Berger & Luckmann, 1966). We examine our findings in the light of these premises.

A common theme represented in our findings is the highly positive assessment families, LS residents, and SS residents each made of their nursing homes. Their high satisfaction ratings flow from the warm association between residents and staff, from the competence the staff bring to the job, and from the respect they show in dealing with the residents. This approbation is an important tribute to nursing homes, since it comes from the closest and most frequent observers of nursing home life. The SS residents in this study all received care at their nursing home for up to three months. One in four LS residents received care for four to 12 months, 39% received care for one to three years, and 35% received care for more than three years. Families are no less acquainted with their nursing home. Thirty percent of the nursing homes in this study have family councils; 82.9% of families visit the resident at least once a week. Thus, the high level of nursing home satisfaction on the part of these frontline witnesses and their willingness to recommend their nursing homes

to others as an excellent place to receive care are tantamount to a high honor. The high regard with which their prime customers express for their nursing homes, however, contrasts starkly with the negative view of nursing homes that prevails in the public mind and media (Peterson, Hamblin, & Rose, 2009; Brody, 2009). A common criticism depicts nursing homes as places where abuse is common and staff members are poorly trained and uncaring. The three customer groups flatly contradict this view. The care and concern of the staff, their competence, and their respectful ways are prized by the customers as both their top box ratings and impacts on likelihood to recommend show. These findings run contrary to the public image of a nursing home as a place where elders are routinely abused.

Nursing Homes as Symbols

The sharp contrast between how a nursing home appears to those within its walls and those outside is not a mere function of asymmetric information. Old age in general, and nursing homes in particular, illustrate how the human mind interprets different meanings in objective reality and assigns different values to two equal settings; e.g., most people would respond differently if the situation required that they either care for a stroke-stricken, 90-plus-year-old elder or take care of a one-year-old healthy infant. The time, vigilance, and care needed to feed, groom, teach how to walk and how to talk may essentially be equal in the two settings; however, we do not assess the two settings by the burden they pose. Unconsciously, we first tune in to the social cues and tailor our response appropriately—with anticipation and joy in regard to caring for a baby and with resignation and reluctance when requested to care for a bedridden elder stroke victim. We interpret infant care as nurturing new life; we see in it the promise of youth, beauty, and achievement. In contrast, we translate eldercare as a harbinger of an unwelcome future with increasing loss, decline, and dependency.

The heaviest hardship that old age brings is not physical decline but what that decline implies.

Table 5. Aspects of Nursing Home Life with Highest and Lowest Percent “Excellent” Score.

		Aspects	Percent “Excellent”
Family	3 Highest “Excellent”	Family kept informed	52.2%
		Staff respectful	51.2%
		RN-LPN caregiving	50.0%
	3 Lowest “Excellent”	Resident choice-preference	35.3%
		Meals	27.9%
		Personal belongings secure	26.8%
LS Resident	3 Highest “Excellent”	RN-LPN caregiving	45.3%
		Staff respectful	45.0%
		Clean premises	44.7%
	3 Lowest “Excellent”	Meals	27.7%
		Managers responsive	35.6%
		Resident choice-preference	34.3%
SS Resident	3 Highest “Excellent”	Rehab	69.0%
		Staff respectful	62.0%
		RN-LPN caregiving	61.0%
	3 Lowest “Excellent”	Resident choice-preference	44.1%
		Religious-spiritual activity	43.8%
		Meals	31.0%

Nursing Homes $n = 2,104$, Families $n = 77,270$, LS Residents $n = 53,244$, SS Residents $n = 60,938$

Decline means a loss of function and social roles (Prince, Harwood, Blizzard, Thomas, & Mann, 1997). It means that one has become a burden to his/her own family and that soon a move to the nursing home will occur. That move will uproot one from familiar surroundings, from the laughter of kids, the camaraderie of old friends, from caring neighbors,

and from a congenial network built over the years. Entry into the nursing home brings the prospect of spending one’s last days in the company of strangers.

The nursing home is a public symbol of human frailty and dependency. It is a daily reminder of how and where we are likely to spend our last days—in a way and at a place opposite to what we wish: 21.7%

of all Americans, 27.9% of elderly and 29.9% of white elderly, will die in a nursing home (Center for Disease Control, 2011). Placement in a nursing home precipitates a crisis of meaning. Suicide is often the outcome of a failed quest for a satisfying meaning in life. Many attempt suicide in anticipation of placement in a nursing home (Loebel, Loebel, Dager, Centerwall, & Ready, 1991). As residents, 19.2 per 100,000 commit suicide and three times as many engage in behaviors akin to passive suicide. Almost half of all nursing home suicides and suicide attempts occur in the first six months after admission (Menghini & Evans, 2000; Mezuk, Prescott, Tarduff, Vlahov, & Galea, 2008).

In this light, the praise the three customer groups give to their caregivers takes on special importance and significance. Suicides in nursing homes are lower by 18%, compared to the elderly living in the community who kill themselves. Of those residents with the longest length of nursing home stay, 42% rate their satisfaction as *Excellent*, especially in regard to the respect, care, and concern the staff show them. These findings highlight the potential of staff-resident bonds adding joy, meaning, and purpose to nursing home life, and reducing self-destructive behaviors.

Human Connections

Social relationships have latent, far-reaching effects on physical and mental health. Social bonds in marriage and friendship are causally related to good health and longevity (Giles, Glonek, Luszcz, & Andrews, 2004). After factoring in quality and duration, interpersonal relationships emerge as potent predictors of physical health, “brain power,” satisfaction with life, and quality of life. The role of human relationships in the well-being of nursing home residents has been understudied, and further study is all the more pressing, given current demographic trends.

Notably, the appreciation and gratitude that customers express for the staff do not extend toward the managers. Responsiveness on the part of managers

carries one of the highest standardized beta weights for LS residents; however, it ranks third highest with a rating of *Poor* from families and LS residents and second highest with a *Poor* rating from SS residents. In other words, attentive managers elicit customer loyalty, yet customers are frequently displeased that managers do not listen and respond to their concerns about laundry, meals, security of personal belongings, and inadequate staff—matters that generally lie beyond the control of the staff.

Triumph of the Aging Spirit

We noted previously that LS residents as a group are less satisfied with all aspects of nursing home life than are families and SS residents, and they are in more agreement within their group than the other two groups. Their relatively lower impact coefficients (Table 6) indicate a sober and measured evaluation of their nursing home experiences. This finding becomes meaningful in the light of another human strategy that is critical for survival and happiness but not studied in its many manifestations in nursing homes. Advocates who promote culture change in nursing homes contend that institutional life preys on the individuality of residents. It is argued that nursing home culture often too quickly and too greatly socializes residents into conformity (Donnenwerth & Petersen, 2007).

If true, however, does the fact that residents quickly fall in line and comply necessarily imply that the new resident has succumbed to institutional demands and surrendered? Or, by accommodating to nursing home routine, is he/she making a positive, healthy adjustment to the new environment? One theory, “satisficing,” suggests that survival is an elemental human need and that psychological adaptation is primary survival tool (Byron, 2004). Few are able to live in a personally idyllic world; e.g., have the perfect family or work in a fully supportive setting. We therefore modify our expectations, we adapt, and we continue to live reasonably happily. Those unwilling or unable to adapt may pay a price in illness, depression, alcoholism, and suicide. When

**Table 6. Standardized Coefficients for Three Linear Models:
Family, Long-Stay, and Short-Stay Residents***

Aspect	Family		LS Residents		SS Residents	
	β^{**}	t	β^{**}	t	β^{**}	t
(Constant)		-15.50		6.06		-39.20
Resident choices/preferences met	0.133	34.85	0.133	26.56	0.213	51.27
Quality of meals	0.078	26.23	0.127	29.01	0.110	36.84
Managers' responsiveness	0.130	35.76	0.119	22.63	0.112	26.17
Staff care and concern	0.118	25.92	0.112	18.91	0.121	22.43
Staff competence	0.122	27.48	0.082	13.93	0.121	22.87
Cleanliness of premises	0.113	35.60	0.081	17.66	0.073	21.45
Staff respectful	0.071	18.31	0.074	14.17	0.059	13.99
Personal belongings secure	0.058	18.42	0.067	14.27	-0.003	-0.81
Family kept informed	0.047	14.12	0.053	10.63	0.077	18.64
RN-LPN caregiving	0.073	17.56	0.050	9.02	0.080	17.65
CNA caregiving	0.072	17.90	0.044	7.95	0.045	10.57
Rehabilitation therapy	0.015	5.00	0.036	7.91	0.063	20.33
Religious-spiritual needs met	0.025	8.40	0.027	6.18	-0.021	-6.44
Resident privacy	0.015	4.51	0.017	3.58	0.016	4.53
R^2 for model	0.71		0.56		0.74	
*Dependent variable: "Recommendation"						
** $p < .0001$ for all parameters except "Personal belongings secure" for SS Residents						

we interpret conformance as surrender, we also may fail to applaud a silent victory of an invincible spirit within an aging body.

LS residents, by definition, have lived for a long time in the nursing home. Many LS residents have faced many challenges. They have experienced a range of caregiver attitudes, from token gestures, plastic smiles, and fake concern to true devotion,

exemplary care, and heroic sacrifice. They have wisely learned that a good life comes to one who negotiates, accommodates, and compromises. They have perhaps lowered their sight but not their perspective. Their satisfaction scores therefore may seem lower, but the rank pattern of their scores continues to be in step with those of families and SS residents.

Unanticipated Surprises and High Satisfaction

Why are satisfaction scores higher for SS residents than for families and LS residents? We interpret the SS residents' perspective as born of a particular mix of social settings filtered through preconceptions and anticipations. The two resident groups are similar in age, but they differ profoundly in their acquaintance with nursing home life. Of the LS residents, 73% have lived there for more than a year, with half of those living there for more than three years. In contrast, the SS residents have usually come to the nursing home directly after a stay in the hospital. They came for vastly different reasons, expecting a short transitory stay; after discharge they went back to their familiar surroundings. During their brief stay, they notice that the caring touch of the long-term caregiver is qualitatively different from what they felt in the hospital, where physicians and nurses tended to them with efficiency and skill but not always with a smile and a concern for their anxiety (Schumann, 2006). They express their unanticipated pleasure with ratings of *Excellent* in relatively greater frequency.

Second, the lower intra-group consensus among families results from using "family" to cover spouses, children, siblings, and grandchildren. Their varied ties to the residents and their varied circumstances contribute to the wider range (standard deviation) in their satisfaction scores and in the beta scores; however, their kinship bond attunes them to the needs, wants, desires, and preferences of the resident, and contributes to a similar rank order in their scores.

Implications

A shifting long-term care landscape increases the importance of listening to the voice of the customer. Satisfaction surveys are one among many tools and devices that facilitate the provider-customer conversation. Our findings show that an analysis of customer perspective may add new insight, detail, and depth to our knowledge of nursing home quality and service.

As professionalization gains in status and momentum in modern life, it increases the social distance between the professional and layperson. Professionalization, in the classical view, encourages specialization in knowledge, expertise, and training that increasingly falls beyond the reach of the layperson. Professionalization in practice is associated with impartiality and neutrality; it prizes a detached objectivity over personal involvement.

In step with this trend, the professional discourse on long-term care policy, including congressional testimony and discussion by panels of experts, should not include the participation of nursing home residents—the beneficiaries of initiatives. Despite token gestures, the making of regulatory policy has not been shaped by the real-life experiences of residents, the experience of direct-care givers, and the testimony of families, the firsthand and most frequent witnesses to nursing home quality. Within the nursing home, many practices and programs are initiated relying more on expert counsel than on the desires and expectations of residents, families, and caregivers.

This social separation between professionals and laypersons may be reflected in a finding in our study. Professional logic suggests that SS residents who come to the nursing home specifically focused on rehabilitation therapy would look favorably on the nursing home that meets their needs and would readily recommend it to others. In fact, SS residents are highly satisfied with the rehabilitation therapy they receive; however, satisfaction in this regard hardly bears any influence on how they recommend their nursing homes to others. This dissonance between expert thinking and resident behavior likely indicates how expert thinking can get out touch with true-to-life experience and needs of residents. Our findings suggest that SS residents do differ from LS residents in many ways. Still, both groups are alike in that in advanced age, the factors that motivate them are primarily those that meet their need to relate and belong.

The paramount need to stay tuned in to the voice

of residents and families also is reflected in the finding that both LS residents and SS residents take satisfaction in and highly value warm resident-staff bonds. Friendly caregivers cushion the shock of the newly admitted resident, ease their transition into the nursing home community, forestall depression, and prevent overt or passive suicidal behavior. Satisfaction surveys have revealed these and other latent contributions by staff to the psychological and spiritual wellbeing of residents.

Policymakers in high places have, in the last decade, recognized satisfaction surveys as an important channel to the concerns of residents. The question under consideration is not whether such surveys should be mandatory but how to effectively conduct them. This study not only reinforces the value of tapping into the evolving needs of nursing home customers, but it also raises issues that bear heavily on the residents' quality of life: how much and in what ways does resident-caregiver interaction alleviate depression and suicidal leanings among those recently admitted, and what type of relations facilitates their socialization into the rhythm of nursing home life.

CONCLUSION

As the long-term care landscape continues to shift, one clear guide to quality improvement is the customer's voice. That voice comes from different perspectives, it reflects different experiences, and it conveys messages within layers of meaning and intersecting purposes. This study interprets the customers' messages in the social symbolic context of the nursing home world. That collective message, with its variations and contradictions, reiterates some notable themes. Customers appreciate very much the professional and personal ways in which their caregivers relate to them. Those interpersonal bonds are the source of their greatest satisfaction. Their dissatisfaction comes from managers who they perceive as inattentive to their concerns. Throughout this article, we have pointed to the implications of

these findings for the health, satisfaction, and quality of life of nursing home residents.

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Technology-Enhanced Nurse Monitoring in Assisted Living: Results from Focus Groups with Housing Managers

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ABSTRACT

This article describes technology-enhanced nurse monitoring services (using sensor technologies). Qualitative data were collected during three focus groups with 12 housing managers from 12 assisted living facilities deploying these systems. The findings are based on a content analysis of transcriptions of audio recordings from focus groups. Qualitative findings support the value and limitations of using these services in assisted living facilities. Technology-enhanced nurse monitoring services offer an innovative strategy to support clinical care coordination. These services help manage risks associated with adverse health events by supporting timely interventions that may help reduce subsequent health care expenditures. The cost-effectiveness of these services will be evaluated in the future as part of a larger study.

INTRODUCTION

The role of the assisted living facilities within the long-term care continuum continues to evolve. Assisted living facilities are likely to see continued growth in response to demographic changes, consumer demand, interest groups, and public policy (U.S. General Accounting Office, 1999; Hawes & Phillips, 2007). Policymakers and payers in federal and state agencies often see assisted living as a more economical and less institutional alternative to nursing homes (Chapin & Dobbs-Kepper, 2001). State policies and regulations increasingly support aging in place by allowing residents with greater levels of impairment to remain in assisted living facilities and thereby avoid relocation to nursing homes (Hawes & Phillips, 2007). On the other hand, there is growing recognition among providers, regulators, consumers, policymakers, and other stakeholder groups that assisted living facilities where nursing care is not available will likely play a limited role in the future provision of health care services to an increasingly at-risk aging population served by these facilities (Hawes & Phillips, 2007). Two studies estimate the mean number of hours of licensed nurse care per resident per day at 0.28 hours and direct care aide per resident per day at 1.8 hours (Kane, Chan, & Kane, 2007).

There is growing consensus about the scope of services that should be offered by assisted living facilities. Services commonly found in assisted living include assistance with activities of daily living, meal service, housekeeping, preventive health or wellness programs, assistance with medications, emergency call systems, transportation, incontinence care, social services, 24-hour security, and rehabilitation (Kane et al., 2007). A fundamental disagreement remains about *whether* and *how* assisted living providers should address the health care needs of their residents. Some states prohibit the provision of nursing care within assisted living facilities, while others allow providers to offer daily nursing care. Major differences exist among assisted living providers related

to whether or not they offer nursing care. Some providers choose not to offer nursing care and instead encourage residents to contract for these services with outside nursing or home health care agencies. State regulations differ in terms of requirements for licensed nurses, nursing assistants, and other support staff (Hawes & Phillips, 2007).

Over the past few years, technological innovations such as technology-enhanced nurse monitoring services (using sensor technologies) have been introduced to help licensed nurses and other staff members coordinate health care services within assisted living facilities. Remote monitoring systems using a variety of sensors are now being deployed and tested. Although these systems have not been deployed on a widespread basis within assisted living facilities, licensed nurses, unlicensed staff, and/or family members can monitor residents from geographically remote locations. Early pilot studies of sensor technologies in assisted living facilities suggest that these systems can have a positive impact on residents' quality of life and help support care coordination for primary care providers (Alwan et al., 2006).

Related technologies have been tested on a limited basis within home health care agencies; e.g., technology-enhanced nursing practices have been tested using Web-based self-management information, self-monitoring tools, and messaging services for patients with chronic cardiac disease. Patients exposed to technology-enhanced nursing practices achieved better quality of life and self-management of chronic heart disease over the short term (four weeks post-discharge); however, long-term gains were not seen in symptom management or health status achievements (Brennan et al., 2010).

Telemonitoring systems also have been deployed within intensive care units (ICUs) in hospitals via eICUs. In this model, intensivist physicians and nurses working at a remote central monitoring station track care of patients across multiple ICUs located in different hospitals (Berenson, Grossman, & November, 2009). Staff working in eICUs monitor the patients' vital signs fed from bedside monitors,

laboratory results, and other data in the hospital's health information technology systems. Clinical leaders in hospitals hold strong views about the value of these innovations, but there is little objective information that can be used to validate the efficacy of these telemonitoring systems. Common reasons why hospital systems adopt eICUs include supporting clinical process improvements and patient safety.

Remote patient management (RPM) technologies have been used by the Veterans Health Administration to implement physiologic monitoring, protocol-driven decision support, newly defined roles for clinical and non-clinical providers, and telecommunications (Coye, Haselkorn, & DeMello, 2009). A review of the research literature (Parè, Jaana, & Sicotte, 2007) shows that telemonitoring of patients with chronic diseases produces accurate and reliable data. Patients also accept these technologies. Telemonitoring positively affects patient attitudes, behavior, and satisfaction. Reductions in emergency room visits and hospital admissions were achieved for patients with pulmonary and cardiac disease, but the results are inconsistent for diabetes.

Background

The LivingWell@Home (LW@H) program is sponsored by the Evangelical Lutheran Good Samaritan Society (GSS), the largest nonprofit provider of long-term care services in the U.S. This article describes technology-enhanced nurse monitoring services offered to assisted living facility residents through the LW@H program. Findings from qualitative research conducted to evaluate the LW@H program are presented. Perceptions and experiences of housing managers working in assisted living facilities utilizing technology-enhanced nurse monitoring services are described.

As part of a larger study, a research team from the University of Minnesota is evaluating technology-enhanced nurse monitoring services through a randomized trial. Randomization was achieved at the facility level through a draw of cards. A total of 32 assisted living facilities located in four states

(Minnesota, Nebraska, North Dakota, and South Dakota) were randomly assigned to an experimental or control group. Residents living at experimental sites received technology-enhanced nurse monitoring services using sensor technology, while residents at control sites did not get monitoring services. Randomization at the facility level reduces the probability of selection bias because each facility has an equal chance of being assigned to the experimental or control group. Research subjects were recruited from 32 assisted living facilities until sample size requirements were met; i.e., approximately 200 experimental research subjects and 200 control subjects. Research subjects could not be blinded to the intervention because the sensors are clearly visible and residents were informed if monitoring services were provided at each facility. All research participants gave informed consent as required by the recruitment protocols approved by the Institutional Review Board at the University of Minnesota. Participation in the research study and the LW@H program was voluntary.

All assisted living facilities participating in this research utilize some type of emergency call system. Emergency call systems are commonplace in assisted living facilities and are offered by an estimated 93% of facilities (Kane et al., 2007). In most assisted living facilities, emergency call systems are hard-wired into resident units using pull-cords or wall switches. Fewer facilities use a wireless emergency call system using wristwatches and/or pendants worn by the resident. Onsite staff usually locally monitor these hardwired and wireless emergency call systems. Relatively few assisted living facilities use personal emergency response systems that are monitored remotely (e.g., at a centralized call center); however, individual residents within assisted living facilities may choose to purchase these services.

In the LW@H program, emergency call systems are augmented with a suite of sensors that provide information to licensed nurses to help them monitor resident health status from a geographically remote location. Sensors send wireless signals that monitor

sleep patterns, motion, falls, bathing, toileting, and other activities of daily living. A suite of sensors has been deployed in experimental assisted living units, including motion sensors, humidity sensors, vibration sensors, and bed sensors. These sensors are linked to a data management system that monitors the resident's activities occurring 24 hours a day. These remote monitoring systems augment onsite monitoring by linking the telemetry generated by sensors to a computerized data management system. Algorithms are used to identify deviations from "normal" or "baseline" behavioral patterns using statistical analyses of key activities (e.g., toileting, movement, or sleep). These data are transmitted via landline (or cellular) communication systems to a team of registered nurses (called clinical nurse specialists) and trained staff members who monitor daily activities related to toileting, bathing, sleep, and other activities. The LW@H team working at GSS's corporate headquarters in Sioux Falls, South Dakota (aka National Campus), review the telemetry generated by these systems daily. The data management system creates online reports to alert clinical nurse specialists to emergent health problems among seniors living in assisted living facilities. These reports show trends over time in sleep patterns, bathroom use, showering, movement, and impacts due to falls. They also show deviations from what would be considered within a "normal" range for each resident.

When potential problems are identified, clinical nurse specialists contact GSS staff at the assisted living facility for follow-up action using "trigger forms." These are two-page forms that are sent via fax or as email attachments to the housing manager (or a nurse from a GSS home health care agency serving the assisted living facility). These forms identify the nature of the triggering event such as irregularities in sleep, movement, impacts due to falls, frequent bathroom use, and other potential adverse events.

When notified by a clinical nurse specialist, staff at the assisted living facility contact family caregivers, home care agency nurses, and/or primary care physicians to follow up as warranted. Trigger forms are used to document each triggering event, record staff interventions or actions taken in response to the triggering event, and describe how the triggering event was resolved. Technology-enhanced nurse monitoring may help clinical teams (e.g., nurses, physicians, and primary care providers) and provider organizations (e.g., assisted living facilities or home health care agencies) identify and respond to sentinel health events proactively (e.g., irregular or disturbed sleep patterns identified by sleep sensors have warranted adjustments to prescription medications). Increases in the frequency of bathroom visits identified by motion sensors in bathrooms have warranted a urinalysis that identified a urinary tract infection early on, with subsequent treatment that most likely prevented a hospitalization.

METHODOLOGY

Twelve housing managers from 12 different GSS assisted living facilities using technology-enhanced nurse monitoring services participated in three focus groups. All focus group participants signed informed consent forms assuring confidentiality.¹ The first focus group was completed in June 2011 in Sioux Falls about six months after deployment. Eight housing managers from eight different experimental assisted living sites participated in the first focus group. Two more focus groups were completed in January 2012, approximately 12 months after deployment. A second focus group with six housing managers from six different experimental assisted living sites was held in Osceola, Nebraska. A third focus group was scheduled for Waconia, Minnesota,² with five housing managers from five different experimental assisted living facilities. Eight housing managers (two-thirds) participated in both

¹The Institutional Review Board at the University of Minnesota approved these protocols.

²The third focus group session was completed via teleconference call due to poor driving conditions related to inclement weather.

the six-month and 12-month focus groups.

The purpose of these three focus groups with housing managers was to capture qualitative information about how the sensor technologies are being used at GSS assisted living facilities. Separate focus groups have been conducted with other stakeholder groups, including clinical nurse specialists, home health agency nurses, residents, family members, and senior managers at GSS. Author Leslie A. Grant facilitated the group discussion during all three focus groups. Each focus group lasted between 75 and 90 minutes. Audio recordings were made of each focus group and then transcribed. Grant used NVivo10 software to conduct the content analysis of the transcriptions. Content analysis is a method that is used to identify themes that emerge based on an analysis of thematic content to answers to open-ended questions. Each focus group was semi-structured; i.e., the discussion was very fluid and conversational, as opposed to following a fixed or predetermined set of questions. A series of questions and follow-up probes were posed to housing managers, including the following:

- Is there a learning curve when it comes to using the LW@H technologies? If so, what is it? Is there a learning curve around how to use the technologies? What are some of the key things that you've learned so far?
- How have the LW@H technologies affected clinical and/or organizational processes?
- What are some challenges, barriers, or suggestions that you may have to improve how the technologies are being used at the Good Samaritan Society? Are there things that make it hard for you to use it? Do you know of any barriers? What ways can you think of to make this system work better?
- What is the value, from your perspective as a housing manager, of these technologies? What does it do for you that makes your life easier, or makes you sleep better at night, or keeps you awake, or whatever? Is there a value that you see? What's the value of the technology in terms of the different sensors?
- Have you had any challenges related to the LW@H research and/or technologies? Can you describe any challenges that you've had, either in terms of the research for the LW@H project or any challenges related to the technologies that are being used in the LW@H project? Are there any other technology issues that you are encountering at this point in time?
- If you were talking to residents or family members about the LW@H program, what would you tell the residents and their families about this program? What would be your message to this stakeholder group?
- What would you like to tell the folks at National Campus about the LW@H project?
- If you were telling other housing managers about the LW@H program, what would you want to tell them about its benefits, advantages, or disadvantages? What would be your message to other assisted living housing managers? What would you tell your colleagues about this program?
- Does the research create barriers for you in terms of how you market this program to family members and/or residents?
- So, looking back, are things getting better? And if so, what has gotten better? How can this program be improved? Do you have any suggestions or recommendations? How have things changed over time? What's gotten better? What hasn't changed? What is your general sense of where this program is going?
- Have any of you had what I call "success stories" or "catches" of things that have gone awry where the technologies have made a difference?
- When someone refuses to use this technology, or declines, or chooses not to want to have it, why do you think that is?
- If you had to do this over again, what would you do differently? What could be done from your vantage point to make LW@H more successful? Do you have any other ideas around that question?
- Is there anything else that you want to tell me

about LW@H that we haven't talked about?

- If you were putting together a manual or training guide for housing managers or for other users about this suite of technologies, what would be some of the chapters? What are some of the key points you would want to put in the user's guide?
- So, looking forward to the next year, are there any issues that you anticipate with this program that might affect its sustainability? Are there other things that you anticipate in terms of challenges in the next year or next six months?

RESULTS

NVivo 10 software allows for systematic analysis of qualitative data using the focus group transcriptions. The software provides an easy way of quantifying the number of times each theme occurs in the transcription (described as the number of coding references). A total of 795 coding references across 66 themes were coded using transcriptions from three focus groups. The 10 most frequent themes are shown in rank order in **Table 1**. Themes are rank-ordered by the frequency that each theme occurred. All top 10 themes were "recurring" in the sense that they emerged during all three focus groups. A description of each theme is provided in the second column. The valence (i.e., positive, neutral, or negative directionality) of coding references is shown in the last column for four themes with directional content: a) positive versus negative benefits/value propositions; b) positive versus negative value propositions of sleep sensors; c) false positives and false negatives; and d) positive versus negative value propositions of technology-enhanced nurse monitoring services for family members. Ambivalent coding references with both positive and negative valence were assigned to a "neutral" category. Coding references lacking a clear positive or negative valence also were coded as "neutral." Discussion about non-directional system errors related to sensor technology was categorized as "errors" because they could not be classified as either false positives or false negatives.

Theme One: Benefits

The most common theme had to do with perceived value propositions. This theme was mentioned 116 times during the three focus groups. This theme included both positive value propositions (69% advantages) and negative value propositions (21% limitations and/or disadvantages) related to using technology-enhanced nurse monitoring services. One positive value proposition had to do with competitive advantages in the marketplace. One manager described these innovations as a "great marketing tool. The technology can be a bridge from those in the community that have the technology at home. They could have that same technology as they come into assisted living. But I think it's a great marketing tool. It could be a great bridge. This is something unique that nobody else has."

Another benefit is what was called "validation," which refers to the availability of objective data and information that can be used to inform decision making related to the delivery of care and/or services. Housing managers and family members often see value in having "valid" objective information (i.e., as opposed to relying on resident self-reports). Validation helps formal and informal caregivers assure resident safety, provide additional services as needed, manage risks to the resident, and justify transitions to higher levels of care as warranted. The availability of valid information about the resident is critical to assuring resident safety and supporting independence. These systems provide "valid" data and information that may not be available from resident self-reports or other sources. One manager noted: "Validation is what the technology does. It validates. That's what it primarily, in my opinion, does." Another noted: "It also backs [you] up when you have to talk to a family member. Frequently, you'll end up having a form of a care conference... Before, it was just our feelings and the few things that we can sense. Well, right now, it's accurate data. And we can print out some of those things [in reports] and show them...Unfortunately, this doesn't lie."

Other benefits were related to the early identification of sentinel health events such as urinary tract infections, early memory loss, sleep disturbances, elopement risks, falls, adverse reactions to medications, and other health-related issues. One manager stated: “I have a lady who had horrible sleep patterns. They started her on a sleep medicine, and all of a sudden she was up in the middle of the night cutting her sheets apart and talking to the mirror. I mean, huge, huge issues. So, I said we can not have this sleep medicine on board.” Another housing manager remarked: “A gal in our facility usually goes to the bathroom 22 times a day. Well, she started going 34 times a day. So, she had some increased creatinine levels going high, and she had some kidney function issues. Anyway, [we] sent her to the emergency room, and the emergency doctor calls me and says, ‘There’s nothing wrong with this patient. Why are you sending her to me?’ I says, ‘Well, if you’ve read the technology, on an average she was going to the bathroom 22 times, and now she’s going to the bathroom 34 times.’ He says, ‘Oh, oh, I didn’t know that.’...So, she ended up having a kidney infection, and he admitted her to the hospital. But without that technology, he would have sent her right back and told me that there was nothing wrong with her.”

Although most housing managers saw benefits in technology-enhanced nurse monitoring services, not all housing managers viewed it positively. Negative value propositions were mostly related to the limitations in the sensor technologies and especially the timeliness of the online reporting systems that caused delays in getting “triggers” from clinical nurse specialists. One manager noted: “We had one little lady that the trigger form came in three days later. Out of the last 24 hours—three days ago—she was in bed 20 of those hours. Well, by that time she’d already been sent to the hospital and had a stroke and was put in skilled [nursing]...But in that case, the trigger form [was] really a bit useless...because it was a done deal.” Another stated: “I told you about...two or three UTIs [urinary tract infections] that we captured on people that are living here indepen-

dently. If somehow there were not the time lag...I would say in the last year we’ve probably had at least 15 or 20 UTIs...but most of those...were captured by the staff just bein’ in there doing other services, and they could capture more foul odor. Or maybe so and so needed to use Depends [commercial brand of diapers], and they needed to order them more often...We actually captured a whole lot more ourselves from being in there...But by the time we got the sensors [trigger form], we had already had a UA [urine analysis] run and had them on medication.”

Theme Two: Triggers

Issues related to communication and coordination of care using trigger forms were a theme that was referenced 37 times. Several examples of delayed triggers were described previously. One manager summarized this challenge as follows: “We know the persons that live here so well that a lot of times we’ll catch it [problems] before the triggers will show up.” Improvements in communications with clinical nurse specialists also were noted: “I would say that National Campus has made huge strides in the last year at honing the nurse clinical specialist for that—whatever those gals are called that monitor it up at National Campus—in terms of when to trigger, what to trigger, how often to trigger...separating the technology triggers [false positives] from the regular triggers [true positives]. To me, right now the system is way better than it was a year ago.”

Theme Three: Costs

Concerns about the high cost of technology-enhanced nurse monitoring services were raised 34 times. One manager raised this issue from the resident’s perspective: “Why should I pay for another monitoring program when I thought the staff was going to be here 24 hours a day?” Costs for these technologies and monitoring services are estimated to be about \$90 a month.

Theme Four: Invasion of Privacy

Issues related to invasion of resident privacy came up 29 times. Whether or not it is warranted, resi-

Table 1. 10 Most Prevalent Themes.

Theme	Description	Number of Coding References (% Coding References)	Valence Number (% Theme)
1) Benefits (value propositions including both advantages and disadvantages)	Factors that add value or limit value of technology-enhanced nurse monitoring services (including LW@H research) for different stakeholder groups	116 (15%)	Positive = 80 (69%) Neutral = 12 (10%) Negative = 24 (21%)
2) Triggers (and responses)	Issues related to communication and coordination between clinical nurse specialists and assisted living staff when potential problems are identified by technology-enhanced nurse monitoring	37 (5%)	Not Applicable
3) Costs of technology	Concerns about high costs and affordability of technology-enhanced nurse monitoring for residents	34 (4%)	Not Applicable
4) Invasion of privacy (objectivity of technologies)	Resident concerns about technology-enhanced nurse monitoring services invading their privacy (and references to the objectivity of these technologies compared to resident self-reports)	29 (4%)	Not Applicable
5) Technology versus staff observations	Relative value of sensor technologies in assisted living facilities versus staff who are likely to be more responsive (than technologies per se) to resident needs	28 (4%)	Not Applicable
6) Improvements	Suggestions about how to improve sensor technologies and online reports generated by data management systems	28 (4%)	Not Applicable

Table 1, Continued. 10 Most Prevalent Themes.

Theme	Description	Number of Coding References (% Coding References)	Valence Number (% Theme)
7) Marketing and sales	Issues related to marketing and sales of technology-enhanced nurse monitoring	27 (3%)	Not Applicable
8) Sleep	Positive and negative value propositions offered by using sleep sensors to monitor resident sleep patterns	26 (3%)	Positive = 20 (77%) Neutral = 1 (4%) Negative = 5 (19%)
9) False positives, false negatives and system errors	False positives and false negatives, and system errors generated by sensors (especially bed sensors)	26 (3%)	False Positives = 16 (62%) Errors = 5 (19%) False Negatives = 5 (19%)
10) Family members	Value propositions offered by technology-enhanced nurse monitoring services for family members with aging relatives who are at risk	24 (3%)	Positive = 20 (83%) Neutral = 1 (4%) Negative = 3 (13%)

dents often fear involuntary relocation to a nursing home. This phenomenon has been referred in literature as the “cultural aversion hypothesis” (i.e., fear of nursing home placement grounded in one’s cultural values and normative expectations that are deeply imbedded; one’s cultural beliefs and life experiences).

In America, many seniors place a high value on their independence and self-reliance. Accordingly, many residents do not want to be seen as a burden to others. Some residents may be in denial about their aging and personal frailties. Denial as a coping mechanism helps support a more positive “self-concept” compared to objective reality (that may be evidenced in the data tracked by sensors and information collected by the data management system). Accordingly, some residents may “mask” their frailties by concealing adverse events such as falls. Other residents deny infrequent bathing or showering when the objective data show otherwise.

This type of “cognitive dissonance” can pose challenges in convincing at-risk or frail seniors that they would benefit from these technologies. One manager noted: “I have learned that your residents will mask their symptoms to make you think that they are healthier than sometimes they are.” Another states: “Well, sometimes I think that they want to portray to us that they are healthy so they can stay at the assisted living. They have this fear of going to the nursing home, and they feel, like, if I have one more UTI or one more fall, they’re gonna get rid of me. This technology doesn’t lie. I mean, it gives you a real view of what is happening to them. And some of them would not consent to the program because they did not want us to have access to that [information]. You know, they felt it was an invasion of their privacy.”

Theme Five: Technology Versus Staff Observations

This theme occurred 28 times. It has to do with the relative value of the monitoring technologies compared to staff observations described in Theme One: Benefits (described as negative value propositions). Some managers saw greater value in staff observations due to the late trigger notifications generated by the data management system. One manager stated: “Well, because of the assisted living environment, they’re [residents] out three times a day [for meals]. We’re checking on them more than that with all the medication passes. We can catch it [problems] probably 80% of the time before the sensors catch it, if not more.” Another stated: “Pneumonia we can catch quicker because we are in constant contact with them. We’re giving them meds every day. They are eating every day, and we see them every day. Like I say, we’re to the doctor and back before the trigger even comes.”

Theme Six: Improvements

Numerous suggestions were made about how to improve technology-enhanced nurse monitoring services. This theme occurred 28 times. Some of these issues have been noted previously, such as developing more timely or “real time” reporting capabilities. Other suggestions for improvement included the following ideas: developing direct intercom communications between residents and clinical nurse specialists; providing broadband connections, as opposed to analogue connections over telephone lines, to speed up the rate of data transfer in the data management system; providing better training for assisted living staff about how to use the capabilities of the data management system; and developing standardized protocols for when and how triggers are sent by clinical nurse specialists.

Theme Seven: Marketing and Sales

Potential challenges in marketing technology-enhanced nurse monitoring services to assisted living residents came up 27 times. Issues related to its

costs and affordability were described previously in Theme Three: Costs (costs of technology). Some housing managers believe that these services would be easier to market to seniors living at home than to those living in assisted living facilities. One manager commented: “I think that the technology is probably geared for those living at home. They want to stay at home anyway, and it would be great to market that they can stay at home. And at a certain price, it’s [more] affordable to have the technology put in their home than for them to move into assisted living or a nursing home.”

Theme Eight: Sleep

Issues related to sleep patterns and sleep sensors were referenced 26 times. Of all the sensors deployed, sleep sensors were the most challenging to install and maintain. Bed sensors yielded more false positives, leading to more false triggers from clinical nurse specialists than other sensors. False positives accounted for most (77%) of the coding references under the theme of sleep. On the other hand, some managers saw tremendous value in reports about resident sleep patterns. One manager noted: “I am big on sleep. I really think that people need sleep, so I always look at their sleep and how well they sleep and how well they’re rested...If they’re not sleeping very well, there is something wrong. They are coming down with something.”

Theme Nine: False Positives and Negatives

This theme came up 26 times. Many false positives occurred due to faulty sensors. Most coding references under this theme were false positives (62%). Non-directional system errors and false negatives each accounted for 19% of the total. As noted previously, faulty bed sensors caused many false positives. One manager described his experience as follows: “I have never had that happen where it [bed sensors] sent a signal that they were in bed and they weren’t. Mostly it’s that they’re in bed, but it’s not sending. There is so many variables with the beds. I mean,

with the mattresses and the form and getting it off-set, or broken wires, or connections, or the box [local data storage and transmission device used in the data management system]. I mean, there's just so many variables with the bed sets. Yeah, that's 90% of our technology problems."

Theme 10: Family Members

This theme came up 24 times during the focus groups. Families of assisted living residents are clearly an important stakeholder group. Family members, including housing managers who have firsthand experience caregiving for a parent, generally see value in these technologies and especially so within community-based settings where an at-risk senior is socially isolated. Frequently, the caregiver is "caregiving from a distance." In these situations, these technologies offer "peace of mind" that may help alleviate "caregiver burden." The caregiver knows that his/her parent's safety and well-being have a higher degree of assurance through technology-enhanced nurse monitoring. Most value propositions for family members (83%) were positive. One manager recounted her personal story: "My mother was in the independent housing out in the state of Washington a year ago, and my sister found her on the floor. She was out cold, and she probably had been there for a few hours. It all started with a UTI [urinary tract infection], but she spent four months in a nursing home due to a UTI. But if she had had this thing [nurse monitoring] where she lived...if that had been in her apartment...which I would have been more than willing to pay for...she probably never would have had that hospital stay. Well, she was in the hospital seven times, back and forth in that four-month period, plus in the nursing home. We probably could have avoided that because increased bathroom things [visits] would have been captured by these monitors." Another manager noted: "I think the families value anything that is going to decrease hospital visits, doctor visits, ER [emergency room] visits."

CONCLUSION

Study Limitations

This study presents descriptive information about the value of technology-enhanced nurse monitoring services within GSS assisted living facilities. Our preliminary findings generally support the value of these services for housing managers and family members. The many limitations of these services also are highlighted. Our ultimate goal is to evaluate the effectiveness and cost-effectiveness of these services more systematically in future research, using quantitative methods. When Medicare claims data become available, we will compare costs associated with deploying these systems with potential savings in health care costs. Future analyses testing the economic value of these services will be vital to persuade public and private insurers to provide broader reimbursement to improve affordability and access to these services.

This study has a number of limitations. The analysis is based entirely on subjective perceptions of 12 housing managers at 12 GSS assisted living facilities, collected during focus groups, so there is the possibility of response-set bias whereby respondents give "socially desirable" responses as opposed to expressing their "true beliefs." And these findings may not generalize to other assisted living sites. All three focus groups described herein were completed with housing managers, so other stakeholder groups were excluded from the analysis. The value propositions and perceptions of these services, as well as the LW@H program, are likely to diverge across key stakeholder groups.

Implications

To study potential privacy concerns raised by residents, researchers should develop a typology or taxonomy of connected health technologies and services. At present, the lack of a meaningful classification system makes it challenging to evaluate these services systematically; e.g., connected health technologies may be differentiated along key dimen-

sions related to potential privacy concerns such as the following:

- voluntary versus involuntary nature of the device or intervention
- obtrusiveness versus unobtrusiveness of the monitoring devices
- active versus passive nature of the interaction between the client and the monitoring devices
- remote versus onsite monitoring of telemetry generated by the monitoring devices
- human versus computerized (machine) monitoring of telemetry

Using these five criteria, systems that are involuntary, obtrusive, passive, and monitored remotely by a human are more likely to raise privacy concerns among clients, compared to systems that are voluntary, unobtrusive, active, and monitored on site by a computerized system. Using this or another taxonomy, research should be conducted to determine which set of connected health technologies is more likely or less likely to be perceived by clients as posing a threat to their privacy.

To support more widespread adoption of technology-enhanced nurse monitoring services, research must demonstrate improvements in health outcomes with concomitant cost savings. Research also must identify the types of individuals (i.e., subpopulations) who are most likely to benefit from these services. Are there specific sub-populations (e.g., persons with dementia, heart disease, pulmonary disease, or other chronic conditions) who are most likely to benefit from technology-enhanced nurse monitoring services? From a cost-effectiveness perspective, identifying and targeting those who are at greatest risk will be critical to achieving a positive return on investment. How can these services be provided in a way that make it affordable for low-income seniors and simultaneously yield cost savings and/or produce positive outcomes at a reasonable cost (e.g., to Medicare, Medicaid, private insurance, or other third-party payers)? Current monthly costs for the sensor technologies and monitoring services are about \$90 a month within a typical GSS assisted liv-

ing facility. Cost is a concern raised by some housing managers, residents, and their family caregivers. The pricing model that is used to market these services will be important not only regarding the sustainability of this service line for the GSS but also regarding its affordability to clients.

Technology Limitations

Technology-enhanced nurse monitoring services offer an innovative strategy for providers to improve the coordination of health services within assisted living facilities. To date, these practices have not diffused widely within the assisted living industry. Can assisted living providers use these services to better address the health care needs of their residents? This analysis shows how these services can identify clinically relevant events, such as urinary tract infections, that warrant proactive intervention and/or early treatment. On the other hand, there remain a number of limitations that are likely to create barriers to adoption, including reliability of the information generated by sensors (e.g., false positives); timeliness of the reporting systems; challenges in communication (e.g., between clinical nurse specialists and frontline staff); high costs and limited affordability of these technologies; perceived invasion of privacy among residents; challenges installing, maintaining, and utilizing these devices effectively; limited value of these systems, given the availability of staff observations; challenges marketing these services; and need for improvements (especially more timely or real time data and reporting capabilities). Despite limitations, stakeholder groups, including housing managers and families of assisted living residents, generally see positive value in these innovations. For housing managers, these services offer “validation” to help manage risks proactively. Family members gain added assurance knowing that nurses are monitoring the safety and well-being of their relative.

Organizations implementing remote nurse monitoring systems must develop processes to deploy, maintain, and use these new technologies effectively; e.g., providers must develop systems to document

false positives and false negatives, and conduct root cause analyses to minimize these “errors.” Providers should develop strategies to facilitate communication between geographically separated monitoring teams and frontline staff working at the point of service. To gain “buy-in” from diverse stakeholders, providers must adopt implementation strategies to optimize value across multiple stakeholder groups.

To date, payment for technology-enhanced home monitoring services has remained limited on the part of federal and state programs as well as private insurers. Federal and state programs currently do not pay for these services except on an extremely limited basis. Reimbursement for technology-enhanced home monitoring services needs to be expanded to make these services more affordable for seniors on limited incomes. Moreover, public and private insurers need to establish a common nomenclature to differentiate technology-enhanced nurse monitoring services from related systems (e.g., telemonitoring, telehealth, telemedicine, and other connected health technologies). Insurers must develop common definitions for these services, implement payment structures for covered devices, and define the scope of services provided using these systems. Alternatively, these services could be included as part of the scope of services provided within a bundled payment system (e.g., under a risk-sharing contract).

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Multidimensional Needs Assessment for Low-Income Chinese Seniors in Subsidized Housing in Los Angeles

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ABSTRACT

When the board of a public subsidized housing property in Los Angeles recognized that more than 90% of their residents were older Chinese immigrants who had been living there for more than 30 years, they were faced with the challenge of how to better serve the residents. In collaboration with the University of Southern California's School of Social Work, a needs assessment was conducted to explore the multidimensional needs of residents. The instrument used in this study measured physical and functional health status, cognitive ability, social support network, psychological well-being, and in-home supportive service use and need for social work services. Many respondents provided ratings of fair to good for the first four measured domains, but a significant number of respondents provided lower ratings, as well. This article describes how the results of this assessment may help to guide the seniors housing providers in developing new services that meet the needs of the immigrant residents.

INTRODUCTION

According to a national survey conducted by AARP, many American older adults express a desire to age in place (Tingerthal, 2011), or age in an independent, familiar, and self-determined homelike environment (Rowles, 1994; Lee, 2008). Studies have shown that older adults living in subsidized housing also express a preference to age in place (Gillis, 2010; Locke, Lam, Henry, & Brown, 2011; Prosper, 2004); e.g., Prosper (2004) found that 67% of elderly householders in government-subsidized housing remain living there until death. Generally, older adults, especially those with a low economic status, want to remain in the same home because relocation may cause negative consequences such as financial burdens, grief, isolation, stress, and an overall decline in physical and psychological functioning (Chapin & Dobbs-Kepper, 2001; Thomasma, Yeaworth, & McCable, 1990).

In response to the preference for aging in place, services providing in-home and community-based care for low-income seniors have increased, further decreasing the need for placement in a costly long-term care facility (Prosper, 2004). A considerable number of studies have examined these housing care services, and they are known by various labels, including in-home supportive services (IHSS), affordable residential care, affordable housing plus services, residential supportive service program (SSP), and service-coordinated program (SCP) (Golant, 1999; Jenkins, Carder, & Maher, 2004; Pynoos, Feldman, & Ahrens, 2004; Stone, Harahan, & Sanders, 2008). Most of these programs are federally funded, and many are included as part of rent-assisted apartment development programs funded by the Department of Housing and Urban Development (HUD), including Sections 8, 202, and 221 housing developments; however, some residents of Section 8 housing may be at more of a disadvantage in that these developments may or may not have the ability to include housing supportive services or health-related services in their programs (Golant, Parsons, & Boling, 2010). For

these residents, IHSS and SCPs become important services to meet their needs.

IHSS help older adults cover expenses for assistance with daily tasks such as house cleaning, meal preparation, laundry, and personal care. This program is particularly beneficial for low-income older adults or persons with disabilities so they can safely and independently remain living in their homes (Department of Public Social Services, 2012). A number of government-financed programs also are identified as being effective for aging in place, such as Medi-Cal and Medicare programs that provide home-support health services to enable seniors eligible for nursing homes to remain in their own homes (Lee, 2008).

Most experts believe that service coordinators are important frontline staff in the housing care setting (Golant et al., 2010) because their primary role is to coordinate the provision of supportive services for older residents to prevent premature and inappropriate placement in long-term care facilities and thereby improving their quality of life (KRA Corporation, 1996). Service coordinators, however, have an uneven presence in subsidized housing settings (Golant et al., 2010); e.g., even in the most lauded HUD Section 202 program, less than 50% of the properties had HUD-funded service coordination, and 8% had non-HUD-funded service coordination (Levine & Robinson, 2008). Moreover, in HUD-subsidized facilities, there are still needs not being met that contribute to aging in place for low-income seniors. This deficit is caused by the limited services provided by SCP, the voluntary nature of the program, the lack of social or community resources, and the lack of appropriate training for the service coordinator (KRA Corporation, 1996). According to a survey conducted by HUD in 2011, after SCPs were implemented, there were still residents dying or who were forced to leave subsidized housing because the services or support they required was not provided by their housing facility (HUD, 2013). This situation was even more severe in subsidized housing agencies that lacked an SCP. Therefore, it is

essential to have a comprehensive understanding of the needs of residents in subsidized housing facilities to better assist them in aging in place.

Whereas studies have indicated that aging in place is a relatively common preference among low-income seniors in subsidized housing, literature describing the particular needs of ethnic-racial minorities while aging is scarce. For minority residents, fully understanding the complexities of their needs and requirements for aging in place is not possible from generalizations about the needs of all older residents in subsidized housing. Each racial and ethnic group has distinct characteristics and may have different cultural expectations. Therefore, to explore minority residents' aging experiences and expectations and fulfill their needs for culturally competent care, studies concerning specific and divergent issues in aging are critical.

Among minority populations, particular attention should be paid to Asian immigrants because of their unique immigration history and cultural background, which make them vulnerable in the U.S. (Kalish & Yuen, 1971). Research has shown that currently in the U.S., most older Asian Americans are first-generation immigrants (Frey, 1995). They experienced significant racial and linguistic discrimination because of low English language proficiency and maintained mostly low occupational statuses. Thus, they have had less visibility and less power in obtaining services than their counterparts from larger and more politically aggressive groups (Kalish & Yuen, 1971). In addition, many older East Asian immigrants are unique because their cultural beliefs are strongly attached to the principle of aging in place; e.g., there is filial piety, a Chinese value that emphasizes the idea that children should respect and take care of their parents; thus, placing a parent in a professional and long-term care institution represents a sense of ambivalence in children (Chen, 2008). At the same time, the parents also may feel a sense of loss and abandonment. Therefore, it is

important for older Chinese immigrants to be able to age in place.

The site of this study was "Facility G,"¹ an independent-living senior housing center that follows government regulations required by the HUD Section 8 program (HUD, 2013). This program also is known as the Housing Choice Voucher program, which provides rent assistance to low-income renters (HUD, 2013). Facility G is owned by a non-profit organization that aims to provide housing for low-income older Chinese immigrants. The location of Facility G is in Monterey Park, Los Angeles County, California. According to the U.S. Census (2010), the Chinese population in 2008 reached 27,012, which accounts for almost half (42%) of the total residents of Monterey Park. Although this facility is open to all low-income U.S. citizens ages 65 years or older, more than 98% of the residents are immigrants from China, Hong Kong, and Taiwan, and most cannot speak English, which is partially due to the uniqueness of Facility G's location and environment.

This article presents a multidimensional needs assessment study that was performed at Facility G in 2012. The administrative board at Facility G was interested in how and to what degree the low-income residents were experiencing hindered independence and lowered quality of life because of bio-psychosocial conditions. In collaboration with the University of Southern California's School of Social Work, a comprehensive needs assessment was conducted to identify the unmet needs of the residents, to inform the construction of targeted social services, and to maximize aging in place.

METHODOLOGY

Participants

There were 144 residents living in Facility G at the time of the study in 2012. All residents were invited to participate in the survey, and a majority (83%) did

¹ The actual name is withheld for confidentiality reasons.

participate. Of the remaining 24 residents, 10 were unable to be contacted, 10 rejected the invitation, two were out of the country, one was hospitalized, and one struggled with the language barrier. The sociodemographic information of the respondents is shown in **Table 1**. The average age of the respondents was 83.63 years; 28.3% were men and 71.7% were women. Many of the respondents were either widowed (49.2%) or married (45%), and most respondents had a high school education or higher (69.2%). In addition, a majority of the respondents (84.2%) reported that their financial status was just enough.

Instrument

The study instrument included five domains: a) physical and functional health status; b) cognitive ability; c) social support network; d) psychological well-being; and e) IHSS use and needs for social work services.

Physical and functional health status. Physical and functional health was measured using three methods: a) self-rated health status; b) activities of daily living (ADL); and (c) instrumental activities of daily living (IADL).

The self-rated status of physical and functional health was measured by asking respondents to rate their health with a Likert scale. Respondents could choose between a rating of 1 and 5, where 1 = *very good* and 5 = *very bad*. The Katz ADL scale (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963) was used to assess participants' physical and functional health statuses. The ADL included nine questions that measured a tenant's abilities in the following areas: using stairs, feeding, dressing, grooming, bathing, and toilet use. Questions 1-9 had an answer pattern of 1 = *independent*, 2 = *needs help*, or 3 = *dependent*. The total ADL scores ranged from 9 to 27. The ADL nine-item scores also were recoded as 0 = *independent*, 1 = *needs help* or *dependent*, with a total recoded ADL score range of 0 to 9. Higher scores indicated poorer functional status. The reliability Cronbach alpha of ADL was .91. The Lawton

IADL scale (Lawton & Brody, 1969) was used to assess participants' physical and functional health statuses. This tool included eight questions that measured a tenant's abilities relating to telephone use, shopping, food preparation, housekeeping, laundry, transportation, responsibility for their own medication, and handling finances. Each question had an answer pattern of 1 = *independent*, 2 = *needs help*, or 3 = *dependent*. The total IADL scores ranged from 8 to 24. The IADL eight-item scores also were recoded as 0 = *independent*, 1 = *needs help*, or 1 = *dependent*. The total recoded IADL scores ranged from 0 to 8. Higher scores indicated poorer functional status. The reliability Cronbach alpha of the IADL was .91. Both the ADL and IADL were translated into Chinese by bilingual researchers and tested for reliability (Chi & Boey, 1993).

Cognitive ability. Cognitive ability was measured by the Chinese version of the Short Portable Mental Status Questionnaire (SPMSQ). The SPMSQ was originally developed by Eric Pfeiffer (Pfeiffer, 1975) and includes 10 questions that measure cognitive conditions. In our study, each question had an answer pattern of 0 = *correct answer*, 1 = *incorrect answer*, or *don't know the answer*. The total SPMSQ scores ranged from 0 to 10. Higher scores equated to more severe cognitive impairment. The cut points were designated as follows: 0-2 errors = *normal mental functioning*, 3-4 errors = *mild cognitive impairment*, 5-7 errors = *moderate cognitive impairment*, and 8 or more errors = *severe cognitive impairment*.

Family and social support network. Family and social support network was measured using three constructs: a) the Chinese Lubben Social Network Scale-6 (LSNS-6); b) the network of children available and their status (number of children, number of children living in the Los Angeles area, frequency of meeting with children in the past 12 months, and frequency of talking to children on the phone in the past 12 months); and c) the religious network (have a religion, participate in religious activities, and frequency of participating in religious activities).

The LSNS-6 was developed by James Lubben

Table 1. Social Demographics of Residents (N =120).

	Number	Percentage
Age (mean = 83.63, SD = 8.70)		
65-74	18	15.0
75-84	46	38.3
85 and above	56	46.7
Gender		
Male	34	28.3
Female	86	71.7
Marital status		
Married	54	45.0
Widowed	59	49.2
Divorced	4	3.3
Single or never married	3	2.5
Highest education level		
Never went to school	9	7.5
Elementary school	12	10.0
Middle school	16	13.3
High school	29	24.2
Polytechnic school	10	8.3
Community college	12	10.0
University or above	32	26.7
Self-perceived financial status		
Very adequate	1	0.9
Fairly adequate	12	10.3
Just enough	101	86.3
Having some difficulties	3	2.6

(Lubben et al., 2006) and includes six questions that measure social support systems. In this study, each question had an answer pattern of 0 = *no one*, 1 = *one person*, 2 = *two persons*, 3 = *three or four persons*, 4 = *five to eight persons*, or 5 = *nine or more persons*. The

total LSNS-6 scores ranged from 0 to 30. Higher scores indicated larger networks. A clinical cut point score of less than 12 on the LSNS-6 indicated that, on average, the respondent had fewer than two people who could provide him/her with social sup-

port. Similarly, a cut point score of less than 6 on the three-item family subscale indicated that, on average, the respondent had fewer than two family members who could provide him/her with social support. Using a similar logic, we also adopted a cut point score of 6 for the three-item friend subscale (Lubben et al., 2006). The Chinese version of the LSNS-6 has been previously tested and widely used among older Chinese adults (e.g., Chou & Chi, 2001). The reliability Cronbach alpha of the LSNS-6 was .78.

Psychological well-being. Three major mental health instruments measured psychological well-being: the General Health Questionnaire-12 (GHQ-12), the Center for Epidemiologic Studies Depression Scale 9 (CESD-9), and the De Jong Gierveld Loneliness Scale. The GHQ-12 was developed by David P. Goldberg (Goldberg & Williams, 1988) and includes 12 questions. For this study, each question had an answer pattern of 0 = *no* or 1 = *yes*. Questions 1, 5, 6, 9, and 10 were reverse coded. The total GHQ-12 scores ranged from 0 to 12. Higher scores indicated poorer mental health status. The reliability Cronbach alpha of the GHQ-12 was .79.

Depression was measured using an adapted version of the CESD-9 (Radloff, 1977), which was tailored for the Chinese population (Hermalin, 2002) and has been widely used. This Chinese CESD-9 tool included nine questions. Each question had an answer pattern of 1 = *never*, 2 = *sometimes*, or 3 = *very often*. Questions 1, 4, and 9 were reverse coded. The total CESD-9 scores ranged from 1 to 27. Higher scores indicated a greater possibility the respondent was depressed. The reliability Cronbach alpha of the CESD-9 was .78.

Loneliness was measured using the Chinese version of the six-item De Jong Gierveld Loneliness Scale (Gierveld, Tilburg, & Tilburg, 2006). This tool was translated and validated by Leung, Gierveld, and Lam (2008) and included six questions. Each question had an answer pattern of 0 = *yes*, 1 = *so so*, or 2 = *no*. Questions 4, 5, and 6 were reverse coded. The total scale scores ranged from 6 to 18. Higher

scores indicated the respondent was less lonely. The reliability Cronbach alpha for the De Jong Gierveld Loneliness Scale was .63.

Additional questions included, “Do you have an in-home supportive service (IHSS)?” and “Are you satisfied with your IHSS?”; “If you don’t have an IHSS, do you feel you are in need of one?”; and “Do you feel a social worker is needed in Facility G in order to provide professional social services?”

Procedure

Voluntary recruitment flyers were posted in both English and Chinese on the bulletin board at Facility G. In addition, the housing manager announced the study at the monthly birthday party in April 2012. The research team refined the questionnaire several times based on the pilot study before finalizing the survey instrument. All questions were put into Qualtrics by the researchers and tested multiple times (Qualtrics, 2013). Trained interviewers administered survey questionnaires during face-to-face, individual interviews. All interviews were conducted in a private and quiet setting: some took place in an interviewee’s home, and some were in the Facility G social work office. Interviewers used electronic equipment, such as a laptop, iPad, or smart phone, for data collection, and data were automatically saved in the specific Qualtrics research account. Caregivers assisted respondents who obtained a score of 4 or lower on the SPMSQ. Data collection began in May 2012 and ended in July 2012.

RESULTS

Physical Health

The mean score of the ADL was 2.53 and the standard deviation was 3.07. The mean score of the IADL was 3.37, and the standard deviation was 3.01. Fewer than half of the respondents scored 0 on the ADL (42%) and scored 5 or higher on the IADL (41.1%), which suggested that most of the respondents had some difficulty in managing their daily activities. Among the six items on the ADL, the

Table 2. Multidimension Well-Being of the Residents (N = 120).

Well-Being Scale (Question)	Mean (N)	SD (%)
Activities of daily living (range, 0-8)	2.53	3.07
Instrumental activities of daily living (range, 0-8)	3.37	3.01
Self-rated health status		
Very good	(6)	(5.2)
Good	(25)	(21.7)
Fair	(34)	(29.6)
Bad	(47)	(40.9)
Very bad	(3)	(2.6)
Short Portable Mental Status Questionnaire (range, 0-10)	7.34	2.75
Center for Epidemiologic Studies Depression Scale-9 (range, 9-24)	15.80	4.00
De Jong Gierveld Loneliness Scale (range, 6-18)	10.03	2.75
General Health Questionnaire-12 (range, 0-12)	8.12	3.07

interviewees expressed the most difficulty regarding stair use and bathing. Among the eight items on the IADL, the interviewees expressed the most difficulty with shopping, food preparation, housekeeping, laundry, and transportation. More than two-thirds of the respondents self-perceived their health as either fair (28.3%) or bad (39.4%).

Cognitive Ability

The mean score of the SPMSQ was 7.34, and the standard deviation was 2.75. The cut points were 0-2 errors (intact or normal mental functioning), 3-4 errors (mild cognitive impairment), 5-7 errors (moderate cognitive impairment), and 8 or more errors (severe cognitive impairment). More than half (58.3%) of the respondents had a SPMSQ score of 8 or higher, suggesting normal cognitive functioning.

Mental Health

The mean score of the GHQ-12 was 8.12, and the standard deviation was 3.07. Most respondents scored between 7 and 12 (73.9%) on the GHQ-

12, which suggested most residents had relatively poor mental health statuses. The mean score of the CESD-9 was 15.80 and the standard deviation was 4.0. One-third of the respondents scored between 18 and 21 (33%) on the CESD-9, which indicated their depression levels were quite high. The mean score of the loneliness scale was 10.03 and the standard deviation was 2.75. Most respondents scored between 6 and 10 (89.5%) on the loneliness scale, which suggested poor social well-being of those residents.

Social Support

Table 3 shows the results of the family and social support network assessments. According to a clinical cut point of 12 for the LSNS-6, more than half of the respondents scored less than 12 (51.8%), which indicated that, on average, they had fewer than two people they felt close to or could rely on. The mean score of LSNS-6 was 11.67, and the standard deviation was 5.77. The mean score of the three-item LSNS friend subscale was 4.91 and the standard deviation was 4.05.

Table 3. Family and Social Engagement (N = 120).

	Mean (N)	SD (Frequency)
Lubben Social Network Scale-6 (range, 0-26)	11.67	5.70
Number of children	3.00	1.49
Number of children living in Los Angeles County	1.88	1.40
How often do you meet with your child within the last 12 months?		
At least once per week	(77)	(64.2)
Several times per month	(23)	(19.2)
Once a month	(1)	(0.8)
Several times per year	(6)	(5.0)
Barely meet	(10)	(8.3)
How often do you make phone calls with your child within the last 12 months?		
Almost every day	(38)	(31.7)
At least once per week	(37)	(30.8)
Several times per month	(14)	(11.7)
Once a month	(4)	(3.3)
Several times per year	(2)	(1.7)
Barely make phone calls	(22)	(18.3)
Have a religion	(71)	(59.2)
Participate in religious activities	(47)	(39.2)
How often do you participate in religious activities?		
Several times per week	(17)	(36.2)
Several times per month	(18)	(38.3)
Once in several months	(1)	(2.1)
No specific pattern	(11)	(23.4)

A majority of the respondents (97.5%) had at least one child. The mean number of children was 3 and the standard deviation was 1.49. In addition, a majority of the respondents (89.2%) had at least one child living in Los Angeles County. The mean number of children living in Los Angeles was 1.88 and the standard deviation was 1.40. More than half (64.2%) of the respondents met with their children at least once per week. Approximately one-third (31.7%) of the respondents talked to their children on the phone almost every day in the past 12 months.

More than half (59.2%) of the respondents identified with a religion; however, only 39.2% of the respondents participated in religious activities. These activities were attended several times per week (36.2%) or per month (38.3%).

Most of the respondents (79.2%) were using the IHSS at the time of our study, and 75% of the residents receiving IHSS were satisfied with their IHSS providers. For those respondents who did not have IHSS, 29.17% felt they were in need of the service. Almost all respondents (91.7%) indicated they

needed a bilingual social worker to provide onsite professional services to them at Facility G.

DISCUSSION

This study aimed to assess the multidimensional needs of Facility G residents. Those needs were divided into four major domains: physical and functional health, cognitive condition, psychological well-being, and social support. Overall, positive results were found, and most residents seem to be doing well with both cognitive condition and health status. In addition, most of the respondents have at least one stable source of social support; however, there are still some residents reporting problems with each of the previously mentioned aspects. For instance, psychological well-being issues, especially social isolation and loneliness, were severe among the surveyed respondents. The next section provides a detailed discussion about the four primary assessment domains and the implications for each.

In general, most residents reported they were in moderate health and were able to perform the basic tasks of everyday life, but there are still some residents experiencing difficulties with those activities because of their fragile and worsening health conditions. The most widely reported activities with which the respondents have difficulty are doing laundry, cooking, and housekeeping. The next frequently reported unmet need is taking transportation to places beyond walking distance.

The present survey also revealed that IHSS is an important supportive service for Facility G residents in helping with their daily activities; however, there are some residents, especially those who are frail and physically weak, who reported that their basic needs remain unmet. Under this circumstance, combining formal IHSS and an informal mutual self-help approach, such as creating a senior-friendly neighborhood that provides free care services to older adults, has proven to be successful in facilitating the process of aging in place for two main reasons: First, this approach facilitates the active aging process

(Michael, Green, & Farquhar, 2006); second, the aged acquired services located near where they live (Cattan, 2003). In practice, services or support from the neighborhood establishments, such as free care services, easy access to shopping, and public transportation, should be provided accordingly (Tilson & Fahey, 1990); these types of services were prominent in the results of their needs from our survey.

For those who are healthier and able to take care of themselves independently, health promotion strategies are effective in preventing and reducing health risks in seniors (Locus & Lloyd, 2005). For example, encouraging active senior living is a good recommendation for this group of people. Facility G has two big rooms reserved for dancing, singing activities, and doing exercises, to which all residents have access. These common areas can provide a place for seniors to gather with other neighbors and partake in various activities. Although these residents are healthy and independent now, their physical functioning may deteriorate over time, so preventive measures are critical to allow them to age in place. Enhancement of living environment is also one of the key practices under health promotion strategies in response to the deterioration of physical functioning. Increasing the use of design features specifically tailored for seniors has been proven to be helpful in extending residents' independence and self-management (Lee, 2008). For example, resolving structural problems in buildings that contribute to the risk of falls and limited accessibility for residents using walkers and wheelchairs would accommodate aging residents and their changing needs.

The results of the SPMSQ reveal that the cognitive status of some respondents is good, but there are still 41.7% of participants with cognitive impairments at or more severe than a moderate level. For a small group of respondents who did not score higher than 4 on the SPMSQ, it is evident that they will require different and more intensive care, which will require more attention from care providers. Because the causes of cognitive impairment vary by individual, an evaluation of the underlying causes is

an important first step to finding solutions for this population (Cotrell & Carder, 2010). Research has shown that communication is very important for preventing decreases in seniors' cognitive abilities (Miller, 2009). In response to cognitive impairment, a possible strategy at Facility G could be to provide more opportunities for residents to gather together and communicate with each other. In addition, regular physical activities were found to be helpful in protecting elders from cognition decline (Laurin, Verreault, Lindsay, MacPherson, & Rockwood, 2001). Thus, opportunities for physical activities should be provided and organized to improve the overall cognition status of all residents at Facility G. According to Lain and Linda (2003), more than 50% of elders participate in less than two hours a week of physical activities. There are many factors, such as lack of interest, lack of access to a car, and joint pain, that prevent elders from participating in activities, despite their knowledge about the benefits to their health. Thus, the organizer of these activities may need to persuade and encourage residents to participate because some may live alone and may resist taking part in these communication opportunities.

Mental health is a significant part of overall health and well-being. In this study, the status of mental well-being was varied among the residents, and loneliness was reported as the most prevalent issue, especially for those who had lost their spouse and currently live alone. Although theories have been established to show that it is common for the elderly to feel alone because of a decrease in their social contacts and interactions as they enter retirement and grow older (Charles & Carstensen, 1999), it is still critical to provide informal support in the form of company or a friendly visit. Furthermore, it is also beneficial to intervene at an early stage because loneliness can result in mental health issues such as depression and feelings of worthlessness (Newall, 2011), which could, in turn, affect the length of tenancy for older individuals in independent housing (Cotrell & Carder, 2010). Therefore, support

for seniors from both formal and informal service systems is valuable. Family support and social activities participation play important roles in alleviating feelings of loneliness among older adults. Family support, moreover, may be even more important for Chinese people because their culture is family oriented and values filial piety. For those who have severe mental health issues, providing mental health support or referring the individual to a professional agency that provides mental health services could sufficiently allow the Facility G residents to fulfill their unmet mental health needs and facilitate the achievement of their final preference of aging in place. Thus, incorporating a case manager position at Facility G could be an important solution to fulfilling these unmet needs.

Approximately more than half of the residents reported that social isolation was a major issue. Their situations, to some extent, are understandable for two main reasons: First, older residents experience physical changes and mobility issues that are normal during the aging process and hinder their ability to be active and socialize; second, studies have shown that older immigrants are likely to encounter more linguistic, cultural, and social isolation than their native-born counterparts (Wisconsin Women's Network, 2011). Because the respondents in this study were older Chinese immigrants, their opportunities for socialization were limited because of language barriers, advanced age, and low-income status, which may be perceived as a form of social exclusion (Mullaly, 2007). This exclusion has significant effects on older immigrants' abilities to interact with important institutions such as the Social Security Administration (with regard to their Social Security and Supplemental Security Income), U.S. Immigration Office (for their legal status), and financial sector (for their financial status and banking needs). These difficulties set up older immigrants for potential risks such as identity theft (American Society on Aging, 2007), loan sharking (Robert, 2005), and other kinds of fraud. Therefore, an elder's ability to age with dignity and enjoy a

sense of security may be compromised as a result. Expanding older adults' social support networks has been proven to be an effective approach to eliminate negative individual and social effects that are produced by the issue of social exclusion (White, Philogene, Fine, & Sinha, 2009). Detailed methods that may address this need include encouraging residents to use community-based services around Facility G and providing more opportunities for residents to get together and fulfill their needs for socialization. In addition, other results have shown that educational and social activity group interventions that target specific groups of people can alleviate social isolation and loneliness among older people (Cattan & White, 2005).

Limitations

This study has several limitations. Although the response rate for this study was high, 16.7% of the residents did not participate. Some of these residents may need more support. According to the reports from the interviewers, the main reasons these residents declined the interview were hearing loss and severe physical conditions. They could not answer the survey, even with help. The exclusion of these residents may have influenced the results of the study.

Interviewers were not familiar to the Facility G residents. The lack of rapport may have led to unwillingness in some respondents to answer private or sensitive questions (e.g., situation of incontinence) in the survey. Some of respondents may have felt uncomfortable answering such questions because Chinese cultural deems it inappropriate to discuss private or personal issues with others. The design of future studies on similar topics or populations should take these limitations into consideration.

It is impossible to generalize the findings to other residents living in government-subsidized housing because of the variations in race, ethnicity, geographic location, and delivery format of the social services in certain communities. Therefore, future projects should include multiple housing commu-

nities in the survey to gain a more comprehensive and universal needs assessment for older adults in government-subsidized housing. Cooperating with state or local government housing departments, such as HUD, would be a good way to achieve that goal.

CONCLUSION

A multidimensional needs assessment was a good tool in helping identify the unmet needs of senior residents at Facility G. The presented study suggests that most Facility G residents are in good condition in terms of physical and functional health, cognitive status, mental health, and social support; however, a significant number of residents are not. Unfortunately, some of the previously mentioned needs currently remain unmet for this population because of the lack of a service coordinator or social worker who can work with tenant needs on site. The findings of this study may be valuable to the board in terms of identifying and targeting services for residents who are in need and preventing potential risks that result from unmet needs in the future.

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Meeting the Housing and Care Needs of Older Homeless Adults: A Permanent Supportive Housing Program Targeting Homeless Seniors

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ABSTRACT

The homeless population is aging faster than the general population in the U.S. As this vulnerable population continues to age, addressing complex care and housing needs will become increasingly important. This article reviews the often-overlooked issue of homelessness among older adults, including their poor health status and unique care needs, the factors that contribute to homelessness in this population, and the costs of homelessness to the U.S. health care system. Permanent supportive housing programs are presented as a potential solution to elder homelessness, and Hearth, an outreach and permanent supportive housing model in Boston, is described. Finally, specific policy changes are presented that could promote access to housing among the growing older homeless population.

INTRODUCTION

Homelessness is common in the U.S., affecting an estimated 1.5 million Americans each year (U.S. Department of Housing and Urban Development [HUD], 2012). Definitions of homelessness vary, but in the U.S., homelessness is most commonly defined by Congress's 1987 McKinney-Vento Homeless Assistance Act (42 U.S.C. 11431 et seq.); the McKinney-Vento Act defines homeless individuals or families as lacking "a fixed, regular, and adequate nighttime residence," including persons residing in emergency shelters or places not meant for human habitation. Congress expanded the definition of homelessness in 2009 to include individuals at imminent risk of homelessness (42 U.S.C. 11302 et seq.).

While it is widely known that the general population is aging, few are aware that the homeless population is aging at an even faster rate. Over the past two decades, the median age of single homeless adults in the U.S. increased from 37 years in 1990 (Hahn, Kushel, Bangsberg, Riley, & Moss, 2006) to nearly 50 years in 2010 (U.S. Interagency Council on Homelessness [USICH], 2010; Culhane, Metraux, Byrne, Steno, & Bainbridge, 2013); one-third of homeless adults were ages 50 and older in 2003 (Hahn et al., 2006), a proportion that is likely even higher today. This aging trend is thought to be due to a cohort effect: individuals born in the second half of the baby boom generation, between 1954 and 1964, have a higher risk of homelessness compared to other age cohorts (Culhane et al., 2013).

While the causes of this increased risk of homelessness are still being investigated, several social and economic factors may have contributed. These include economic recessions in the late 1970s and early 1980s, as this cohort entered the labor market. These recessions led to depressed wages for unskilled workers and rising rates of youth unemployment, even as costs of housing rentals were rising. The crack cocaine epidemic of the 1980s also may have increased the risk of homelessness through the asso-

ciated risks of addiction, strict sentencing laws, and resulting involvement in the criminal justice system. Finally, social welfare expenditures dropped during the 1980s and 1990s, at the same time as demand for services among socioeconomically disadvantaged baby boomers increased (Culhane et al., 2013).

Because of the negative physical health, mental health, and economic outcomes associated with homelessness, the lack of stable, permanent housing must be addressed among all age groups. As the homeless population continues to age, however, addressing the care and housing needs of vulnerable older homeless persons will become increasingly pressing. This article reviews the often-overlooked issue of homelessness among older adults, including their poor health status and unique care needs, the factors that contribute to homelessness in this population, and the costs of homelessness to the U.S. health care system. Permanent supportive housing programs are presented as a potential solution to elder homelessness, and *Hearth*, an outreach and permanent supportive housing model in Boston developed specifically for older homeless adults, is described. Finally, specific policy changes are presented that could promote access to housing among the growing older homeless population.

Aging Among Homeless Adults

Homeless adults of all ages have poor health status compared to the general population, including high rates of physical and mental health problems and premature mortality (Burt et al., 1999; Hwang, Orav, O'Connell, Lebow, & Brennan, 1997; Hwang, 2000); however, homeless adults in their 50s have unique health care needs, both compared to their younger counterparts and to the general adult population.

Compared to younger homeless adults, older homeless adults have higher rates of chronic illnesses and geriatric conditions, including high blood pressure, arthritis (Garibaldi, Conde-Martel, & O'Toole, 2005), and functional disability (Gelberg, Linn, & Mayer-Oakes, 1990). Both older and younger

homeless adults experience premature mortality, but older adults are more likely to die from chronic conditions, including cardiovascular disease and cancer, while younger adults typically die from infectious disease and substance use (Baggett et al., 2013).

Older homeless adults also have unique care needs compared to the general population. In the general population, individuals ages 50 to 64 are considered middle-aged and have lower rates of chronic conditions compared to seniors 65 and older (Pleis, Ward, & Lucas, 2010). In contrast, homeless adults ages 50 and older have rates of chronic conditions similar to or higher than community-dwelling adults 15 to 20 years older, including so-called “geriatric conditions” that are often thought to be limited to the elderly (Gelberg et al., 1990; Brown, Kiely, Bharel, & Mitchell, 2012). Geriatric conditions include memory loss, falls, difficulty performing activities of daily living, and urinary incontinence. Because homeless adults experience early onset of these conditions, many experts consider them to be “elderly” at 50, 15 years earlier than the general population (Gelberg et al., 1990).

Even for seniors who have housing, managing geriatric conditions is challenging. An individual who falls frequently may need to use a walker or work with physical therapy to improve lower extremity strength; a person with difficulty bathing may need caregiver support and modifications to his/her home environment. These challenges are only compounded for older homeless adults, who must cope with these conditions while on the streets and/or in a homeless shelter, two chaotic and dangerous settings. Homeless people are unable to modify their physical environment to match their physical limitations, and adaptive equipment such as walkers and glasses may be stolen or lost. Features of the shelter environment, such as bunk beds and shared bathing facilities, may increase the risk of falls and injury. Moreover, many shelters require clients to vacate during the day, placing already vulnerable older adults at increased risk of injuries and victimization as they walk long distances to obtain food and shelter

(Kushel, 2012).

Factors Contributing to Homelessness Among Older Adults

Although relatively little is known about how older adults become homeless, two main pathways appear to exist. Some older adults have experienced many years of personal challenges, including mental illness, substance use problems, and imprisonment. These individuals tend to become homeless as younger adults and remain chronically homeless over many years. A second group of older adults have led relatively conventional but financially vulnerable lives and encounter a crisis late in life that leads to homelessness. Crises may include loss of housing (due to sale by a landlord or eviction), death of a partner or family member, or disabling illness (Shinn et al., 2007). Older adults who become homeless late in life are at increased risk of remaining homeless long term (Caton et al., 2005).

While the causes of homelessness are complex, they are often grouped into three broad categories: predisposing personal vulnerabilities (e.g., poverty and social isolation), structural factors (e.g., the lack of affordable housing), and the absence of a safety net (e.g., lack of health or social insurance) (Burt, Aron, Lee, & Valente, 2001). Nearly all older adults at risk of homelessness live in poverty (Shinn et al., 2007), and financial problems are the most common cause of homelessness reported by older adults. Other common triggers for homelessness among older adults include difficulty paying rent or a mortgage, and loss of housing due to sale by a landlord, foreclosure, or other factors (Crane et al., 2005).

Older adults with social vulnerabilities are also at increased risk of homelessness. Social isolation increases the risk of homelessness, as does lacking children, relatives or friends willing to provide housing (Shinn et al., 2007). Loss or breakdown of a relationship may lead to homelessness, including the death of a partner or relative, a divorce, or a dispute with a landlord, cotenant, or neighbor (Crane et al., 2005).

Regardless of the path to or precipitants of homelessness, older adults face significant challenges in regaining housing. Unlike younger adults, reentry into the work force is unlikely. Moreover, due to the high burden of comorbidity and disability among older homeless adults, they are almost certain to require more rather than fewer services over time. Therefore, effective programs for homeless elders must adopt a service framework that recognizes the progression toward greater dependence as part of the natural course of aging.

The Costs of Chronic Homelessness

Over the past decade, clinicians, researchers, and policymakers have increasingly recognized both the human and societal costs of chronic homelessness, which is often considered the most severe form of homelessness. A person is considered chronically homeless if he/she has a disabling condition and has been continuously homeless for more than a year or has had at least four episodes of homelessness over three years (USICH, 2010). Not only do chronically homeless persons have poor health status, poor quality of life, and premature mortality (Burt, 2003), their care is extremely costly to the U.S. health care system.

Homeless individuals are hospitalized at rates four times higher than U.S. norms (Kushel, Vittinghoff, & Haas, 2001) and also have longer hospital stays; one study found an average additional cost of \$2,400 per hospitalization for homeless compared to low-income housed individuals (Salit, Kuhn, Hartz, Vu, & Mosso, 1998). Similarly, homeless individuals use the emergency department at rates three times higher than the general population (Kushel, Perr, Bangsberg, Clark, & Moss, 2002), have longer emergency department stays, and are more likely to arrive at the emergency department by ambulance compared to patients who are not homeless (Pearson, Bruggman, & Haukoos, 2007).

While few studies have focused on use of health services among older versus younger homeless adults, rates of emergency department visits among older

persons appear to be similarly high (Kushel et al., 2001, 2002), while hospitalization rates and ambulance use may be even higher (Brown & Steinman, 2013). Rates of institutionalization among older homeless adults have not been reported but also are likely to be high, given the elevated rates of geriatric conditions in this population.

Addressing Chronic Homelessness: Permanent Supportive Housing

Over the past decade, permanent supportive housing programs have emerged as an important resource to address chronic homelessness. Permanent supportive housing is defined by the U.S. Department of Housing and Urban Development (HUD) as permanent, subsidized housing with onsite or closely linked supportive services for chronically homeless persons (U.S. HUD, 2008). These programs directly address the underlying causes of homelessness to allow chronically homeless individuals to obtain and retain stable housing; subsidies make housing affordable for persons with low incomes, while a comprehensive array of optional supportive services address underlying personal vulnerabilities that increase the risk of homelessness. Supportive services may include medical, psychiatric, personal care, case management, vocational and substance use counseling services.

To be eligible for federal funds from HUD, permanent supportive programs must demonstrate that the residents they serve are homeless and disabled as defined by the McKinney-Vento Homeless Assistance Act. The Act includes standard definitions of disability such as those in the Social Security Act but also includes disabilities related to housing status, including “physical, mental, or emotional impairment which substantially impairs a person’s ability to live independently, and could be improved by more suitable housing (e.g., a substance use disorder)” (U.S. HUD, 2008).

Benefits of Permanent Supportive Housing Programs. Permanent supportive housing programs have demonstrated improved health outcomes and decreased

health care costs among chronically homeless persons with a range of disabilities, including active substance use, severe mental illness, and HIV/AIDS (Fitzpatrick-Lewis et al., 2011). These successes have led to increasing support for these programs by federal agencies and to proposals to fund supportive services with Medicaid. As the homeless population continues to age, however, these programs must adapt to address the needs of their younger residents as well as the unique health problems and high disability rates of older homeless adults.

Permanent Supportive Housing Versus Affordable Assisted Living. Although there is no single definition of affordable assisted living, in general terms it is an assisted living facility with monthly fees that are affordable for low- or moderate-income individuals. Permanent supportive housing and affordable assisted living programs both provide housing coupled with supportive services for persons with disabilities, but the programs differ in several key aspects. Assisted living facilities are regulated and certified at the state level, and often provide more intensive medical and personal care services than do permanent supportive housing programs, including 24-hour staffing and at least eight hours of daily nursing care. Typically, a permanent supportive housing resident who needs skilled nursing care or more intensive support of activities of daily living and instrumental activities of daily living may move to an assisted living facility to receive higher-level care.

Funding mechanisms also differ. As discussed, permanent supportive housing programs that meet federal guidelines are eligible for HUD funding, while assisted living facilities are generally not federally funded; however, an increasing number of states provide assisted living Medicaid waivers, which use Medicaid funds to pay for eligible patients to live in assisted living facilities rather than more costly long-term care facilities. The growth of Medicaid waivers for assisted living may make these facilities affordable for an increasing number of older adults.

The Hearth Model: Outreach and Permanent Supportive Housing for Older Homeless Adults

Founded in 1991, Hearth is a Boston-based non-profit organization dedicated to preventing and ending elder homelessness through a two-pronged strategy of outreach and housing. The Hearth Outreach Program identifies elders who are currently homeless or at risk of homelessness and helps them to obtain and remain in permanent housing, while Hearth permanent supportive housing provides safe, affordable housing and optional onsite supportive services. Both elements of the Hearth model address the unique needs of homeless adults ages 50 and older.

Hearth Outreach Program. The Hearth Outreach Program seeks to identify and house individuals ages 50 and older who are currently homeless or at risk of becoming homeless. To achieve this goal, the program employs a team of six case managers who are supervised by a licensed social worker. Each case manager works closely with up to 25 clients to help them obtain and retain long-term housing.

To identify older adults who are currently homeless, case managers visit 10 Boston homeless shelters weekly. At shelters, they get referrals from shelter staff and meet with shelter clients to answer questions about how to obtain permanent housing. Through frequent visits to the shelter, case managers build close relationships with shelter staff and clients and act as an important resource for assistance and advice in obtaining housing.

After identifying and enrolling clients in the program, case managers help clients navigate the challenging and lengthy subsidized housing application process. Case managers fill out paperwork, accompany clients to interviews, follow up with agencies, and ensure that the housing unit applied for is safe and affordable. Because the wait for a subsidized housing unit may exceed a year, case managers provide ongoing emotional support to clients. They also may help clients obtain health care, sort out legal and financial issues, address substance

use, or apply for Social Security or veterans' benefits.

Once a permanent apartment is identified, case managers accompany their clients to sign the lease, furnish and move into the unit, set up utilities, plan for healthy meals, access local transportation, and get acclimated to the neighborhood. After these initial steps are in place, case managers work with clients to identify additional services the client would like to receive. Case managers continue to check in regularly to ensure that the rent is paid, that clients are connected to the community, and that they continue to receive treatment for physical and mental disabilities, substance use, or other problems they have identified. In addition to one-on-one interaction with staff members, Hearth Outreach offers newly housed clients the option of mutual aid via a psycho-educational support group called Back on Our Feet. The group provides new residents with information and support from group facilitators (Outreach staff) and peers who have been housed for a longer period of time.

In addition to case managers who work with currently homeless elders, Hearth employs a case manager who works specifically with older adults who are at risk of homelessness. The at-risk case manager receives referrals from day shelters, medical providers, elder services, and visiting nurse association agencies, among other sources. Referred clients face a variety of threats to their housing, including eviction, foreclosure, or financial crisis; others are "doubled-up" with friends or relatives in housing that cannot accommodate them long term. After at-risk elders are identified and enrolled in the program, the case manager helps the clients stabilize their housing by accessing services, including tenant counseling, landlord mediation, money management, and eviction prevention. For clients who cannot remain in their housing, case managers help them to identify new housing.

Hearth Outreach now serves more than 250 homeless elders annually and is expanding its services to help 350 clients per year, including 50 elders at risk of homelessness. Since 1995, the Outreach team

has placed more than 1,000 clients in permanent housing. More than 96% of elders placed in housing maintain housing for one year or longer, surpassing HUD's benchmark housing retention rate of 71% at six months. Funding for Outreach comes from a combination of McKinney-Vento Homeless Assistance Act funds, Emergency Solutions Grant funds, and philanthropy.

Hearth Permanent Supportive Housing Program. Hearth currently operates 196 units of permanent supportive housing in eight residences across greater Boston, including a newly constructed 59-unit building. Each residence is supported by an interdisciplinary team that includes site directors, licensed social workers, registered nurses, resident assistants, and personal care homemakers. The team manages and coordinates the care needed to allow residents to remain in their own apartments. Hearth also provides group meals and activities to residents to nurture a sense of community in each residence.

The Hearth model of care addresses both the care needs that are unique to older homeless adults and the factors that contribute to homelessness in the older population. To address high rates of chronic illnesses and geriatric conditions, Hearth staff members facilitate access to medical care by helping residents to make medical appointments and arrange transportation. To accommodate high rates of disability and mobility impairment, all residences are equal opportunity and fully wheelchair accessible. Optional supportive services are designed to address personal vulnerabilities that commonly precipitate homelessness among older homeless adults. Group activities and shared living spaces are available to address social isolation; frequent check-ins with social workers and client-centered individual action plans address behavioral issues and mental illness; and onsite substance awareness groups and counseling address substance use problems (Hearth, 2009).

Because no single public agency or funding source focuses on the older homeless population's special need for housing linked with supportive services, Hearth relies on several funding sources. These

include Section 8 project-based housing subsidies and Medicaid and Department of Mental Health funding of eligible services, among other local and state funding sources.

Case Studies

Three case studies of Hearth clients illustrate how the Hearth Permanent Supportive Housing Program model serves the complex medical and social needs of its residents. These cases highlight the role that outreach, subsidized housing, and supportive services play in helping older homeless adults secure and maintain permanent, stable housing.

Case 1: Ms. S. Ms. S is a 65-year-old woman who has lived in Hearth housing for the past 10 years. She has multiple medical and psychiatric comorbidities, including paranoid schizophrenia, diabetes, and severe mobility impairment caused by a degenerative hip condition. Before moving into Hearth housing, Ms. S was staying in a local homeless shelter. She first became homeless after her husband died, and she could no longer afford to pay rent in their shared apartment. She took a room in a multifamily house but was evicted after falling behind on her rent. Staff members at the homeless shelter where Ms. S was staying referred her to a Hearth Outreach case manager, who worked with Ms. S over a period of a year to help her obtain Hearth housing.

Due to her religious beliefs, Ms. S had refused medical care for many years before moving to Hearth, including treatment for her degenerative hip condition. At Hearth, staff members, including the patient's nurse and social worker, gradually built rapport and trust both with Ms. S and with members of her religious community. After several years in Hearth housing, Ms. S consented to medical care and was seen by an orthopedic surgeon. Unfortunately, her hip joints had degenerated to the point where they were deemed inoperable. Today, Ms. S uses a walker and struggles greatly with personal care because she has lost so much mobility.

Ms. S considers Hearth staff and other residents to be part of her family and hopes to continue living

at Hearth; however, she currently requires a skilled nursing facility level of care, which is beyond the level of services provided by Hearth. Staff members are struggling with their desire to honor Ms. S's wish to age in place versus the reality that she needs more care than staff are able to provide. Both personal care homemaking and nursing staff have gone above and beyond their job descriptions to allow Ms. S to remain in her apartment as long as possible by providing a combination of supportive services, personal care, home care, and service coordination.

Case 2: Ms. E. Ms. E is a 63-year-old woman with schizoaffective disorder, high blood pressure, emphysema, diabetes, urinary incontinence, and tobacco dependence who has lived in Hearth housing for eight years. Before moving to Hearth, Ms. E stayed in local shelters or rented a room in the YMCA. She had lost connections with family over a period of years before becoming homeless and was very socially isolated before coming to Hearth. Like Ms. S, Ms. E was referred to the Hearth Outreach team by shelter staff members and obtained Hearth housing after working closely with her case manager over a period of nine months.

At Hearth, Ms. E experienced gradual functional and cognitive decline, with increasing paranoia and irritability and decreasing ability to perform self-care. Although she now requires more assistance with activities of daily living and instrumental activities of daily living, she has become increasingly resistant to receiving care, especially related to her significant urinary incontinence.

Hearth staff members developed several strategies to provide care to Ms. E, including checking in frequently with her and her treatment team, and developing a client-centered action plan to motivate her to improve her hygiene, choose her days for bathing, and cooperate with staff. Staff members also encourage Ms. E to cut down on her smoking, and she receives additional smoking-cessation support from an onsite substance awareness group.

Case 3: Mr. R. Mr. R is a 71-year-old man with

schizophrenia, dementia, traumatic brain injury from an attempted suicide, diabetes, coronary heart disease, and alcohol abuse issues. He has lived in Hearth housing for more than 10 years. He previously lived in a group home but was at risk of losing his housing due to escalating care needs. Staff members at his group home contacted the Hearth Outreach team, and a case manager was able to place Mr. R in Hearth housing.

Due to severe cognitive impairment, poor concentration, and impaired judgment, Mr. R requires assistance and supervision from Hearth staff to remain safely housed and to complete activities of daily living and instrumental activities of daily living. Mr. R has periods of sobriety followed by relapses and episodes of binge drinking. Onsite social work and nursing staff work with Mr. R to provide support around relapse prevention, including brief interventions and treatment referrals. Mr. R also continues to smoke in his apartment, even though this is a lease violation. Hearth staff members provide daily reminders about safe smoking with a focus on harm reduction.

These three cases emphasize the key elements of Hearth's success, including a continuum of service-enriched subsidized rental units to meet specific physical and mental health needs; a multidisciplinary services team to meet physical and mental health needs, including assessment, treatment planning, crisis management, medication management, and care coordination; wellness promotion and meal assistance to promote health; financial management, personal care, and homemaking services to help residents address daily needs; and group activities to prevent isolation and promote social engagement (Hearth, 2009).

Promoting Affordable Living for Homeless Older Adults

Because permanent supportive housing programs help chronically homeless individuals maintain housing while decreasing the use of acute care services and associated costs (Fitzpatrick-Lewis et al.,

2011), the U.S. federal government has recognized these programs as a priority intervention to address chronic homelessness (United States Interagency Council on Homelessness, 2010). An increasing number of communities across the country now offer permanent supportive housing programs for chronically homeless adults. Hearth serves as a potential model to be replicated, and the lessons learned from Hearth's more than 20 years of work with homeless elders may be adapted to help existing permanent supportive housing models become more informed about aging.

National awareness of the problem of and solutions for elder homelessness is gradually increasing through the efforts of Hearth and several partner organizations. Together with the nonprofits Corporation for Supportive Housing, Shelter Partnership, and LeadingAge, Hearth formed the National Leadership Initiative to End Elder Homelessness. This group is working to achieve national recognition of the impending crisis of elder homelessness and the importance of providing permanent supportive housing to elders who are homeless or at risk of homelessness. The initiative proposes several concrete policy responses to help prevent and end elder homelessness by addressing the lack of affordable housing units in the U.S. Key recommendations include:

1. amending the Low-Income Tax Credit Program to provide a 15% credit increase for permanent supportive housing
2. increasing funding for publicly assisted housing in need of renovation to create new permanent supportive housing through the Section 8 program, Public Housing Capital Fund, and other funding sources
3. improving the HUD Section 202 program through several measures, including encouraging communities to make these housing units more available to older adults who are homeless or at risk of homeless (National Leadership Initiative to End Elder Homelessness, 2011)

Because of the recent sequestration order, however, several HUD housing grants will be cut, resulting in an estimated 100,000 homeless and formerly homeless individuals being removed from their current housing and shelter programs (U.S. HUD, 2013). Ongoing advocacy and leadership are necessary to promote policy initiatives and prevent the reduction of existing resources.

CONCLUSION

Permanent supportive housing programs have been proven effective in decreasing the number of chronically homeless Americans and the costs associated with high rates of acute medical care. The Hearth model offers a way to extend these programs to address the complex needs of older homeless adults and improve their health and quality of life, while working to decrease high rates of costly acute care use and institutionalization in this population.

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Aging Research, Design Education, and the Perceptual Limits in Seniors Housing Design: Development of a Research-Based Design Model for Better Aging Environments

Steven J. Orfield

ABSTRACT

A growing body of research suggests that aging and decline are two separate processes. A reframing also has been moving through the medical, psychological, and specialized sensory research communities in studies of the relationship between sensory and cognitive activity and decline. We now know the extent of sensory decline in aging, yet companies are building and renovating facilities that don't employ either the research on perceptual decline or formal standards for improving the perceptual aspects of facility design. Over the past four years, Orfield Laboratories and the Architectural Research Consortium have instituted a research program in aging perception and performance that has developed building performance standards for seniors housing architecture and design. Intuitive attempts by the design community to understand the knowledge base and experience of aging perception have been unsuccessful. By adding a research-based design program to the design process, these definitional problems can be overcome. The result is generally a far better performing building constructed for the same total cost, with design focused more on the user than on the façade.

INTRODUCTION

For many years, there has been a growing body of research that suggests that aging and decline are two separate processes (Sale, Berardi, & Maffei, 2012).

While some decline is thought to be normal in aging, the variability associated with decline has resulted in many investigations of the influence of certain aspects of aging life on decline. The results of these investigations are beginning to bring together the findings of many fields in support of a newer view of aging. This has been clear in the seniors housing field with the emergence of the household model of familial nursing homes, which has now been in practice for more than 20 years in a small segment of the nursing home industry. Retraining of nursing home staffs to move from an institutional model to a familial model is beginning to be more broadly considered as well.

The changes have prompted a movement in architecture to downsize the scale of the aging resident's experience to approximate prior experiences in non-institutional living. This reframing also has been moving through the medical and psychological research communities and the specialized sensory research communities in studies of the relationship between sensory and cognitive activity and sensory and cognitive decline. Recent findings in the neuropsychology field suggest that when visual, aural, and cognitive connections to the environment decline due to disability or other causes, parallel declines occur in the brain (visual, auditory, cognitive declines). Even more recent studies suggest that due to brain plasticity, reversals of some of these losses are possible via specific therapeutic training that can be employed with aging populations, as well as surgical interventions such as lens implants for visual diseases with attendant increases in physical, adaptation, and neurological improvement (Fine, Smallman, Doyle, & MacLeod, 2002).

We are entering a more hopeful age in terms of understanding how lifestyle can mediate, reduce, and reverse some aging-related decline. Typical declines

in aging become severe to many in their 80s and 90s, and while those of us in the aging research and seniors housing field have a significant part to play, we are building and renovating facilities right now that don't employ either the research on perceptual decline or formal standards for improving the perceptual aspects of facility design. Our recent work in creating perceptual standards for aging design is suggesting a radically new view of design for aging that has the potential for reducing perceptual declines and supporting the stabilization and reversal of some of these declines.

DESIGN

Orfield Laboratories (OL) is a 42-year-old architectural and product design, research, and testing lab in Minneapolis. In architecture, the lab has been developing design standards for more than 35 years for building performance in architecture (daylighting, lighting, acoustics, thermal comfort, and indoor air quality). OL also has been developing and administering occupancy studies for much of this time. These standards as well as occupancy quality consulting have been used to design commercial environments in many building types in commercial architecture. In each building type, the standards relate to two user experience issues. First, the building needs to be perceptually comfortable for its users (building performance). Second, the building needs to have "design resonance" for its users. This means that the user needs to have a positive user experience that is reinforced by the aesthetic and user experience design of the spaces. Thus, we must apply building performance science to provide comfortable environments, and we must use quantitative subjective measurement science, not opinion-based methods, to define user feelings, associations, and preferences.

In the product development field, "user experience" is a well-known concept among major firms, but in architecture, user experience consulting is not formally used in the design of buildings, as architectural education seldom teaches user measurement

and benchmarking. (While the user is often lightly involved with the design process, there is the practice of programming and design charrettes, the latter being a method of gathering user opinions in a focus group context.) Architects aren't trained to understand that opinions are not user measurements and have little predictive validity.

In the pursuit of what is known as research-based design (often referred to in the medical field as evidence-based design), we have employed two well-established tools: instrumentation measurement of building performance and quantitative subjective measurement of the user's response to perceptual models of the proposed environment.

RESEARCH

In 2009 OL founded the Architectural Research Consortium (ARC), the nation's first research-based design architectural collaboration (currently, 21 architectural firms collaborate across the U.S.). Over the past four years, OL and ARC have instituted a research program in aging perception and performance, based on a 90-year-old cohort, in a four-part program to develop building performance standards for seniors housing architecture and design:

- in-depth discussions with major national nonprofits and their associated experts
- review of medical and psychological research on perception and aging, as well as personal discussions reviewing research with many top aging researchers
- review of the field in collaboration with academic programs associated with aging, on referral from the aging nonprofits and researchers
- conversion of research into architectural engineering metrics that can be directly applied to the normal design process in renovations or new buildings

Perceptual Research and Knowledge Transfer

As we entered into detailed discussions with many of the top researchers in perception, we found a great

deal of useful information to better understand aging perception. These researchers were collaborative in explaining their research and discussing its implications, but the research was specialized and was, like most research, not in a language and form that the public or the design field could easily find useful. So as we told the researchers about our efforts, we invited them to get involved in our process of defining standards and working with aging residents and facilities. Most declined and told us that their interest was research, not application. This response, which we have experienced in many areas of research, is one of the reasons why research often does not find its way into design education or practice, and this is one of the reasons for the development of "technology transfer" departments at many major universities; unless the architect or designer has been educated in specific research areas, there is no common ground for translation, assimilation, and use of research-based knowledge in design.

Aging Perception and Architectural Education

It has long been known that older populations have perceptual deficits that come with aging, and there is much research in the medical and psychological fields that attempts to define typical age-related ranges of performance in each of the areas of perception. Yet, there are some overwhelming structural reasons why the design of aging facilities, as with most facilities, has not taken science into account:

- Architects and designers, for the most part, do not have a professional background in scientific research related to buildings. As we have founded and administered national design research collaborations for 16 years, it is clear that this is true even with the largest of design firms that talk openly about research.
- Architects are educated in the use of intuition in design. Expert Intuition, a concept supported by the American Institute of Architects, suggests that design training teaches the architect a sufficient level of intuitive problem solving, and

that this is the method of design engagement. There is little scientific support for the use of intuitive expertise by creative professions as a method of defining needs accurately. Yet, architectural education supports this as a definitional method without regard to the architect's research knowledge of the specialized field of a particular building type (medical, aging, etc.).

- Those who are interested in science in design often have little training in reviewing research or in converting this research into quantitative design definitions or metrics.
- The evidence-based design movement in architecture has had the intent of bringing science into architecture, but it has had little success, due in part to the fact the architecture does not often employ or use a range of research experts. Some of the best-known evidence-based design organizations in the U.S. often release publications written by academics with no specific topic expertise in the areas in which they are writing. And many firms who claim that they do research admit privately that this is usually nothing more than reading design articles to get new ideas that can be employed.
- Most architects and designers leave building performance design to mechanical and electrical engineering consultants. Yet, most architectural engineers, who actually design the building systems, have not been trained in building performance science or engineering, and they often know little more about measurement and research in perception than the architects and designers they serve. Their engineering is often more focused on energy use and technology cost.
- Over the past few decades, architectural engineering has moved from a profession that models and calculates design solutions to a profession that often looks to the vending community for their engineering process and design, but the vending community is unlikely to provide performance metrics that can be used to benchmark the performance of their free design and

advice. (And, of course, many aging projects do not employ an engineering team for building system design, only mechanical and electrical contractors. Surprisingly, this also is often true in hospital design, another area where older populations are a primary market.)

The Consequences of Design Based on Expert Intuition

While research in aging is a very rich field, the intuitive attempt by the design community to understand the knowledge base and experience of aging perception is often a failure, as intuition is not a substitute for knowledge. Intuition is usefully practiced in thinking about relationships within a base of knowledge with which one is highly familiar. Aging perception is not such a field. Thus, attempting to understand the experience of aging perception via discussions with providers and older residents is a task that is destined for failure—it is like attempting surgery after interviewing a series of surgeons. The problems in aging facilities' design that arise from this practice are broad and deep, some of which include:

- In lighting design, while the architect may well be aware of the concept of visual deficits and the need for more lighting, there is little knowledge of the fact that lighting level (illuminance) is far less important than lighting glare (luminance). As a result, when lighting is increased in seniors housing in hopes of making the environment clearer for the elders, often the result is lower visual performance (less visibility). At age 90, visual acuity is often in the range of 20:100 to 20:150. A reading of 20:200 is the normal benchmark for legal blindness. Thus, aging vision is often very low in resolution. There is little understanding that the color and gloss of finishes can dramatically reduce the problems of visual clarity for older residents. This same elder population is often hundreds of times more visually disabled by glare, has poor color vision, has poor stereopsis (3-D vision), has narrowing

peripheral vision, and often may have specific visual diseases that add to this burden, including macular degeneration, glaucoma, diabetic retinopathy, etc.

- In acoustic design, an intuitive awareness of hearing difficulties is often dealt with by specifying the use of carpet. What's needed is acoustically modeling the space for reverberation, background noise, and other aural interference. The result of intuitive design is usually not beneficial. At age 90, reverberant spaces and background noise have a large impact, and the majority of this population does not have correct hearing instruments, as most medical plans do not pay for them. A large portion of understanding of speech is accomplished by lip reading, which is reduced by the environmental glare and darkness so often found in aging residences.
- In thermal comfort design, it is assumed that older residents need warmer environments, but thermal comfort theory and calculations are essentially unknown. If they were, designers would understand that thermal comfort differences in aging are partially accounted for by the thermal insulation value of clothing (the CLO) and the metabolic rate of the resident (the MET). They do not understand that the conflict between the thermal comfort of residents and staff can be at least partially compensated for by using those variables to bring the two populations' thermal comfort into equilibrium.
- In daylighting design, most facilities have small amounts of daylight, often for the stated reason that daylight can cause glare. But there is little understanding that glare is partially a function of luminance ratios in the field of view that are too extreme (a bright window in a dark room), and that visual adaptation is far more difficult unless the design systematically deals with balanced interior brightness and glare shielding, both

of which can be computer modeled. Designers often don't know that the failure to get sufficient daylighting reduces production of vitamin D and melatonin, thereby reducing the ability to sleep and causing significant restlessness in dementia and Alzheimer's residents. Daylighting also can have other health benefits, such as blood pressure reduction (Weller, 2013).

- In heating and cooling (HVAC) design, there often are clear goals for temperature control, but indoor air quality is seldom adequately dealt with. It is not well known that the percentage of fresh air in a facility is not a function of fresh air intake but is rather a function of how much of what is taken into the lungs is fresh air. Often, the HVAC system takes in sufficient levels of fresh air, but the air supply and air return diffusers (vents) do not sufficiently include the resident in their path. And although there are requirements in most building codes for fresh air for residents, there are no site measurements normally required. In situ measurements often have confirmed limited fresh air, finding that when the fans cycle on, the CO₂ values don't change as they would with fresh air infusions.

In all these areas, there is much research available from professional societies about the consequences of not designing to specific performance standards.¹

Communication Between Designers and Clients

In order for a designer and a client to work together, there needs to be a common language shared by both, and this common language must include language that is useful in solving the major problems that are the focus of their collaboration. Architecture depends heavily on a visual and metaphorical language that most clients do not understand. It is often a poetic and reassuring language, and it often carries meaningful emotional and intentional messages.

¹ Professional societies with relevant background performance research include the American Society for Heating, Refrigerating and Air Conditioning Engineering - ASHRAE (HVAC), Acoustical Society of America - ASA (Acoustics and Hearing), Illuminating Engineering Society of North America - IESNA (Lighting, Daylighting, and Vision).

It is not a language shared between the client and designer. Architecture is not alone in this problem; most specialties have this same problem of communicating in different languages, with neither side letting on that they don't understand the other.

There is a further problem in aging design; neither the client nor the architect has personal experience in what the older resident perceives. Thus, the client and designer are not only talking in a different conceptual framework, but the assumption of shared understanding breaks down under the weight of lack of expert knowledge on either side. It is similar to what takes place in office workplace design discussions: The architect and the client share a motivation to talk about the relationship between design and productivity, but neither side realizes that most office work tasks are far too undefined for measurement of productivity to be possible, as one cannot measure what one cannot define with reasonable precision.

The Bridge Between Design and Perception—Experiential Immersion

This problem of common language has always been a core issue in our practice, and when we designed a new headquarters for architectural and product consulting in 1991, we were determined to bridge it. Our set of conclusions was so simple as to be obvious from the moment that we focused on them. Our experience in writing technical and research reports and making design recommendations inherently had the classic design problem: no common language with the client. So, as we planned to move to our new building, we decided that we would move toward an experiential practice. And a practice mantra followed this move toward experiential education and the decision to leave the formality of science in the background when dealing with clients and their design teams.

First, we had to speak in the common language of the client and avoid specialized language (our fields contain many specialized languages). Anything less was a failure to communicate. It also may be an

indication of too little knowledge and the use of language to obfuscate rather than to clarify. Second, we had to be able to construct real or simulated experiences that would allow the client to move through education, not didactically but experientially. We did not want clients to have to believe explanations; we wanted them to experience the concepts and self-educate. The result of this was the design of our Acoustic Simulation Lab, Visual Performance Lab, Open Office Lab, and other experiential simulations labs and computer simulations of many of these phenomena. This was followed later by incorporating the perceptual simulation software that came on the market over the following decade.

As we faced the problems of understanding design for aging, we found ourselves in the most difficult range of design communication in architecture, and we began to develop an experiential basis for this communication. Our educational process in this set of communications became the ARC Immersion Session, a four- to five-hour process of bringing clients through the understanding of design research via the perceptual experiences of older residents. This process of immersion has been the basis of our ARC members and their clients' ability to decide that they want to engage in research. With little knowledge of research upon arrival at our labs, the majority of design-client teams who visit make the decision to use research-based design by the end of the first visit.

During the Immersion Session, we use examples to demonstrate that research-based design, with its overlay of additional practices added to the standard design process, can be done in ways that add nothing to the total cost (fees and construction) of a building. While a building with set performance targets and definitions is always more successful for the user, it is also often less costly than a building designed based on "going shopping" for technology (rather than performance) solutions with vendors. Thus, we change the priority of projects toward a focus on the user and the interior and reduce the cost of overly expensive façades and non-user areas. We do spend more

money on our areas of user focus, but we save that by reducing the costs of non-user areas and façades. As I've shared in many seminars, in 40 years of consulting, I've never seen a dissatisfied client walk outside their building, look up at the façade and say, "Now I understand." Façade design is often important for marketing and branding purposes, but the solution to user experience problems is usually on the inside. Good architects can design successful façades less expensively in order to more strongly support better user experiences for these aging populations.

PROCESS AND RESULTS

With an awareness of the failure of many aging facilities to solve the perceptual problems of the older population, we must begin to reexamine the whole context of elder living. In this process, we must become aware that one of the main reasons for elder deterioration is the deterioration in the structure of the life of elders. Their perceptual clarity is often dramatically reduced, and their cognitive function slows. Their social life is reduced, their physical activity is lowered, and their perception of self-worth is in decline for good reasons. In the field of elder housing, there is often a failure to look at the matrix of quality of life issues and to understand that decline in elders is a logical consequence of many declines and withdrawals from full participation in life. This includes decline in their quality of experience, perception, activity, and social life.

Those of us in the seniors housing field can deal directly with perceptual clarity and therefore increase the ability to deal with these other deficits with a research-based design program. Research-based design normally functions on the basis of a design structure for a new or renovated facility that includes:

- market research and measurement of elder facilities perceived to be high in quality
- preoccupancy studies of a baseline client facility via building performance measures as well as subjective measures of the user population
- building performance standards development so that the environment will be perceptually clear

and comfortable for the elders

- perceptual visual juries to measure evoked feelings and associations related to the proposed design options
- building performance consulting to ensure that quantitative standards are modeled and met before construction (most architects and engineers need consulting help to engineer or measure at this complex level)
- performance commissioning to confirm that building performance standards are met
- post-occupancy studies to confirm perceptual comfort and user satisfaction, to be benchmarked against the preoccupancy studies that were completed earlier

Case Studies

Two ongoing projects have accepted this process with the commitment of their management and design teams that their budgets (design and construction) will not increase due to research-based design. (For our last ARC project, the client saved many times the research costs, so the budget was significantly reduced.)

Western Home Communities, Iowa. We are working with Western Home Communities (WHC), a 100-year-old nonprofit nursing care organization in Iowa, in the design of four household-style nursing care facilities for 15 residents each, two for memory care and two for non-memory care. WHC's design firm, AHTS Architects (an ARC member), decided to suggest research-based design to their client after an immersion visit to our laboratory. The CEO of WHC, Kris Hanson, went through this immersion with his design firm and supported his design firm's recommendations to take on a research-based design process.

WHC's nursing home project is intended to include the design of a research-based aging lab setting in public areas for observation of the benefits of environmental change (via controls on many perceptual variables) and therapeutic change. This facility also is planning a multisensory environment

to be used for experiential immersion and therapy for residents, as well as reminiscence immersion, remote training, and teleconferencing. This project has gone through preoccupancy studies as well as building performance measures on the existing building. Currently, it is near the end of schematic design, with design development and construction documents following. WHC will break ground on this project in fall 2013.

In addition, we are consulting with WHC and AHTS on an eight-story high-rise seniors housing project targeted for 55+ seniors but designed for the perceptual performance of 90 year olds. This is designed so that as the residents start to age into their late 70s and beyond, the housing unit that they occupied when they had fewer perceptual problems will suit many of them into their 90s, as perceptual performance reduces significantly. This is essentially the opposite of many seniors housing projects, which emulate condominium design, with its darker colors, high-glare lighting, and high levels of noise and reverberation.

Fair Haven—Methodist Homes, Alabama. We are also working with Methodist Homes of Alabama and Northwest Florida, one of the largest nonprofit nursing care organizations in the Southeast, and their designer/developer, Action Pact. This project includes the redesign of an existing campus and the addition of a 10-story high-rise central complex to tie the campus together, and to add a series of community amenities such as theaters, restaurants, and doctors and dental clinics. This project is an effort to renovate eight existing freestanding buildings, based on household design concepts, and to overlay the ARC building performance standards on all these facilities to adapt to elder standards for acoustics, lighting, daylighting, thermal comfort, and indoor air quality. The new 10-story tower will contain additional elder care facilities and will tie the existing campus together with a concourse that runs through the main and second floors of the new building, offering private and employee dining, conference rooms, clinics, a business center, coffee

bistro, post office, restaurant, theater, salon and barber shop, learning center, and billiards lounge. Each of these ancillary facilities will be designed with the same perceptual standards as the residence spaces, providing a cohesive community where social involvement will adapt to the population rather than create perceptual stress and difficult visual and aural communication in the public areas.

Methodist Homes and Action Pact have the intention of integrating the physical, financial, cultural, and operational elements of this project in the form of futuristic models that are designed and operated so that elders and the people who serve them will flourish.

CONCLUSION

Both of the aforementioned facilities will have a radically different level of perceptual clarity as well as user preference, and they will be validated by pre- and post-occupancy studies and measures of buildings and residents. These concepts and practices, comprised in a presentation titled “Universal Design: Research from Senior Design and Related Fields” were presented in an ARC conference at Orfield Labs in fall 2012. The concepts were again presented at a conference in Orlando on May 2, 2013, in a presentation titled “Innovations in Aging Environments,” organized by the Florida Council on Aging. Sponsors included Florida Blue, in partnership with the Florida Association of Aging Services Providers; Florida Health Care Association; AARP Florida; Walgreens; Chapters Health System; Leading Age Florida; Florida Department of Elder Affairs; Gresham Smith Architects; and the Architectural Research Consortium. (Margaret Lynn Duggar of Margaret Lynn Duggar and Associates, and Sue Maxwell, system director of gerontology at Lee Memorial Health System, the largest medical system in Florida, were the local organizers of this conference.)

Orfield Labs is in the process of developing standards for buildings for the autism spectrum disorder community as well as for other communities living

with perceptual disabilities.

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