

The Impact of Inclusive, Accessible Housing on Residents' Quality of Life: Main Street Final Report

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Introduction

People with intellectual, developmental, physical, and other disabilities often live on the fringes of society. They typically reside with family members, in supported living facilities, or in low resource communities where access to community participation is extremely limited (Rimmer, 2016). The limited availability of inclusive and affordable housing can lead to social isolation and loneliness among people with disabilities (e.g., Gibson et al., 2012). Inadequate housing can depress physical and mental health and increase the risk of institutionalization or homelessness. During the past 18 months the COVID-19 pandemic has exacerbated this unfortunate situation and has had a disparate impact on people with disabilities, including their access to safe, affordable residential options in community-integrated environments (Shakespeare, Nadired & Seketi, 2020). Despite federal fair housing and nondiscrimination laws, such as the Americans with Disabilities Act, as well as court cases mandating least restrictive environments (e.g., *Olmstead v. L.C.*, 1999)¹, the vast majority of people with disabilities live in segregated settings, including nursing homes, congregate care settings or group homes set aside specifically for people with disabilities (Brucker & Houtenville, 2015). At the same time, as [Access Living](#) recently pointed out, most affordable housing is not accessible, and most accessible housing is unaffordable, new construction.

The dire housing situation for people with disabilities has served as a call to action among social justice advocates, who have proposed policy options to improve access to affordable, inclusive living for people with disabilities (see, for example the [Center for American Progress's Housing Accessibility Policy](#)). One such local option is *Main Street*, an affordable, inclusive apartment complex in downtown Rockville, Maryland that offers accessible apartment units situated within a vibrant urban environment that is proximate to a major metropolitan transit center. Main Street which opened in the summer of 2020, has 70 units, with 75% set aside as affordable, and 25% of the units specifically designated for individuals with varying special needs. The founding principles of [Main Street](#), according to its developers are “affordability, inclusivity, and sustainability” with the goal of creating a “vibrant community for continued learning, social engagement and health and wellness.” The apartment complex officially opened in Summer 2020.

The Main Street apartment complex represents an innovation in affordable and inclusive urban living for residents with and without disabilities. In order to capture the impact that residing in this type of inclusive community had on the lives of its residents, Main Street staff partnered with researchers from the University of Maryland (UMD) to study the effect of living in Main Street on the life satisfaction, community participation and overall quality of life of residents and family members. This *Report* describes our findings.

¹ The Supreme Court Construed Title II of the ADA to require states to place qualified individuals with mental disabilities in community settings rather than institutions.

Methods

Study Procedures

The study was conducted as a single group pre- and post-test design. Participants were assessed just prior to their move-in to the apartment complex and again about 6-7 months after baseline (generally 5-7 months after the resident had moved in). Assessments included: a) a baseline e-survey, hosted on *Qualtrics* assessing quality of life, subjective well-being and community participation, and b) a brief structured video-taped interview to clarify and/or expand on items related to participants' perspectives on how Main Street affected their community participation, goals, and overall life satisfaction. Baseline surveys and interviews were conducted in summer/early fall 2020, and again in spring 2021. Subsequent to approval from the Institutional Review Board (IRB) at the University of Maryland, Main Street staff invited potential participants who indicated their intention to occupy an apartment if they were willing to share their contact information with UMD researchers, who then reached out to interested residents to assess eligibility, describe the study, secure their informed consent, and schedule assessments.

Three groups of participants were eligible for this study: 1) residents with disabilities, voluntarily disclosed during their eligibility screening; 2) residents without disabilities; and 3) family members of residents with disabilities from whom contact information was obtained during the screening process. A total of 87 residents contacted UMD researchers by the close of the study recruitment phrase to learn more about it. Of these potential participants, we enrolled 26 residents (20 with disabilities and 6 without disabilities), and 31 family members of the 26 residents, for a total of 57 participants who completed the baseline assessments. Forty-four participants (77%) were available at follow-up, which included 19 residents and 25 family members. Sample attrition was primarily due to COVID-19 effects on participants' decision not to move into Main Street (n=9) during the pandemic.

Data Sources

Data were collected from all consenting residents and their family members via an electronic 57-item survey hosted on *Qualtrics*. The survey included scales derived from three standardized instruments measuring quality of life, life satisfaction across multiple life domains, and subjective well-being. These are described below.

Quality of Life Inventory (QOLI; Frisch, 1994) assesses an individual's quality of life through self-report of the importance they attach to each of 16 life domains (on a 3-point rating scale) as well as their current satisfaction with each domain (on a 6-point scale). The QOLI has been normed in a community sample of adults, and has been used to track changes in individuals over the course of treatment or intervention. Examples of the 16 life domains include: work, play, friends, home, neighbors, and community. For this sample, scale reliability (Cronbach's alpha) was .78 at Time 1 and .83 at Time 2.

The World Health Organization Quality of Life_Brief Version (WHO, 2004) is a short scale measuring satisfaction across four life domains: Physical health (Activities of Daily Living), Psychological health (positive and negative affect), Social relationships, and Environment

(community resources and supports), as well as an item measuring global quality of life. Scale reliability (Cronbach's alpha) at Time 1 was .88 and .90 at Time 2.

The Personal Well-being Index (PWI; Cummins, 2013) contains seven items of satisfaction, each one corresponding to a life domain: standard of living, health, achieving in life, relationships, safety, community connectedness and future security. Scale reliabilities for this sample (Cronbach's alpha) were .91 at Time 1 and .92 at Time 2.

Structured Interviews. Brief interviews were conducted with participants to collect demographic and background information, and to expand or elaborate on how Main Street impacted life satisfaction and quality of life issues. As the study occurred in the time frame of the COVID-19 pandemic, all interviews were conducted via *Zoom* and videotaped.

Data Analyses

Quantitative methods were used to analyze the results of the *Qualtrics* Surveys which included the three instruments described earlier. First, aggregate scores on the three instruments: QOLI, PWI and WHOQOL were computed using the scoring keys/instructions located in the respective test manuals. Then, mean scores for the aggregate scale scores and their standard deviations were computed. Finally, to determine whether there were differences between Time 1 and Time 2 scores on the three instruments, and scored sub-scales, we analyzed the data using a paired-sample t-test in SPSS v. 25. For this analysis, we collapsed the three groups of participants into each sample (Time 1 and Time 2), to accommodate the small sample sizes.

Qualitative analysis of select items on the structured interview were first analyzed independently by two UMD research assistants, who coded the major concepts or themes identified, which were then independently evaluated by the report's senior authors. Since we were primarily interested in how Main Street impacted residents at follow-up, we only analyzed selected items from Time 2 for the structured interviews.

Results

Quantitative Findings

Table 1 depicts the descriptive data on the three instruments administered at Time 1 and Time 2. Mean scale scores at Times 1 and 2 improved on each of the aggregate scores on the three measures: Quality of Life Indicator, Personal Well-Being Scale, and WHO - Quality of Life. The relatively large standard deviations, which represent the spread of the scores around the mean, is what is generally seen in very small sample sizes.

TABLE 1: Descriptive Data on Three Instruments Scale

Scale	N	Mean	SD
T1_PWI	59	60.88	10.9
T2_PWI	45	60.93	13.5
T1_QOLI	59	180.32	33.7
T2_QOLI	45	192.33	36.8
T1_WHOQOL_Global	58	63.05	7.9
T2_WHOQOL_Global	45	65.82	7.7
T1_WHOQOL/Physical health	58	12.72	1.8
T1_WHOQOL/Physical health	45	13.07	1.9
T1_WHOQOL/Psychological health	58	14.41	2.2
T2_WHOQOL/Psychological health	45	15.40	1.8
T1_WHOQOL/Social well-being	58	7.86	1.5
T2_WHOQOL/Social well-being	45	8.17	1.4
T1_WHOQOL/Environment	58	19.7	3.4
T2_WHOQOL/Environment	45	20.9	2.8

Table 2 shows the results of the paired sample t-tests for the three instruments. The table shows the difference between the means on each of these instruments and subscales at Time 1 and Time 2. The analysis shows that participants reported *statistically significant* increases on four scales: QOLI total scores, WHOQOL total scores, the WHOQOL Psychological Health Scale, and the WHOQOL Environment Scale ($p < .05$). The last column in the table (Effect Size) indicates the size of the difference between the two groups. Cohen's *d* indicates how big the *standardized* difference is between the two scores; it is a way to determine whether a significant difference between two groups is meaningful or substantive. In this case, the effect sizes would be described as large ($>.8$); and therefore, we can conclude that the increased scores from Time 1 to Time 2 are meaningful.

Another way to see substantive difference in scores is by looking at the proportion of participants who exceeded their Time 1 scores at Time 2. In this case, for example, compared with T1 scores, *more than half of the participants (53%) reported higher total mean scores on the QOLI and the WHOQOL at Time 2*. Moreover, *more than a third of participants (38%) had significantly higher scores on two of the WHOQOL subscales (Psychological Health and Environment) at Time 2 compared to Time1*. On the Environment subscale, which measures community accessibility, *there was a 22% difference between T1 and T2 in respondent satisfaction with this domain*.

Table 2. The Paired Samples T-test

Scale	Mean Difference	SD	t	df	Sig	Effect Size (Cohen's d)
PWI_T1 - T2	0.31	11.315	-0.18	44	.855	-0.05
QOLI_T1 - T2	11.0	27.30	2.69	44	.010	0.81
WHOQOL_T1 - T2	2.1	4.84	2.92	44	.005	0.88
WHOQOL/Physical health_T1- T2	0.3	1.45	1.54	44	.129	0.46
WHOQOL/Psychological health_T1-T2	0.8	1.62	3.04	44	.004	0.91
WHOQOL/Social_T1- T2	0.16	1.35	0.76	44	.448	0.23
WHOQOL/Environment_T1- T2	1.0	2.78	2.47	44	.017	0.74

Note. Mean Difference = T2 score - T1 score.

Cohen's d > 0.5 indicates a "medium" effect size; Cohen's d > 0.8 indicates a "large" effect size.

Qualitative Findings

The video-taped structured interviews, and transcripts, were analyzed by UMD research assistants focusing on Time 2 responses and questions that tapped participants' Main Street living experiences over the five to six-month period, their satisfaction with the lived experience, and the extent to which it met their expectations.

Main Street residents with disabilities and their families, expressed overall satisfaction with their residential experiences. The quotes from residents displayed in the boxes to the right and the text below reflected pride and autonomy. One resident's comments highlighted her independence and satisfaction. "I love being at Main Street because I can be by myself and do things as I choose."

Inclusion and engagement also emerged as themes. For example, one resident with a disability appreciated the community spirit she found there, stating: "When I come in the morning and when I leave at night, not only am I happy to be at Main Street, but everyone is happy to see me, everyone is always engaging." Another resident described living at Main Street as "really awesome... the staff here has been amazing – activities and you know...everybody has been so helpful here." One resident with a disability mentioned the impact of COVID on the community, stating, "I can't wait for the community to be open all the time...I like the kitchen, I like the people, I like everything about being here!"

"I have never had an experience where I've felt truly at ease or truly at rest like being at Main Street."

Family members of residents shared similar feelings about their adult children moving to Main Street, highlighting independence, community inclusion and the future. For example, one parent said, “I think our daughter feels more freedom, more flexibility to do things without having to interact with us.” Another parent looking to the future noted: “I am thinking about this in terms of decades...this could be where he lives for decades and [this situation] helps ensure that we set him up for success.” The Main Street inclusive community was noted by a parent who said, “I think what’s really exciting about Main Street is that the whole facility is the community. That it has a strong presence for residents.” Another parent said, “Setting is important in many ways. Main Street is quieter, more secure, they have great programming; my son has improved some of his skills of being independent.”

“They’ve done an exemplary job with this building and I am truly honored to be a resident at Main Street.”

Residents without disabilities also appreciated the Main Street apartment setting; one noting, “the neighbors are friendly, not a loud apartment, quiet and close to a bus stop; good location.” Another resident who did not disclose her disability, but implied it in the interview stated, “since I have moved in, I’ve started taking care of myself and my mental health.... from my apartment [at Main Street] I can go out a little bit and see people, go out to eat and walk around in the neighborhood.”

Discussion

The generally inadequate and isolated housing available for the majority of people with disabilities in the United States requires the development of residential options that are affordable, accessible, and inclusive. Housing advocates call for additional state and local incentives that can be used to expand quality housing options for people with disabilities and ensure that these options are situated close to community resources and employment; these are core features of Main Street.

As this study has demonstrated, quality housing options that feature community integration and inclusive living can significantly contribute to the quality of life of people with disabilities and their families. In spite of a small sample size we observed statistically significant differences in several of the measures of quality of life, life satisfaction and community participation. In general, achieving statistically significant differences when sample sizes are small increases confidence in the results, particularly when effect sizes are strong, as they are in this study. Moreover, the differences observed at Time 1 and Time 2 on the measures we administered were amplified in the qualitative responses, suggesting that the impact of Main Street on improving various aspects of the quality of life of residents was not only statistically significant, but meaningful to residents and their families.

It is also important to consider the context of this study, which was conducted during the COVID-19 pandemic, a circumstance that exerted a downward pressure on many aspects of quality of life for all citizens, perhaps more so the residents of Main Street, who, as the study results indicated, were drawn to the apartment complex because of its emphasis on community and inclusion. As one resident put it, “I can’t wait for the communal areas to be open all the

time!” However, Main Street residents and their family members still showed significant improvements in their quality of life that they attributed to their involvement with Main Street, implying that the impact of accessible and inclusive housing on the lives of these residents might have been significantly greater but for the social restrictions mandated by the public health pandemic.

Policy implications of this study are aligned with a broader national agenda for accessible, quality housing options. For example, housing advocates are encouraging state and local governments to deploy incentives, such as those in the Affirmatively Furthering Fair Housing (AFFH) Act, described in the earlier cited Center for American Progress’ Housing Accessibility Policy, to explicitly prioritize the needs of the most underserved and at-risk communities, and to end housing discrimination and especially segregation for marginalized people, which includes residing in group homes set aside exclusively for people with disabilities. The findings of this study, and others such as one conducted by the [University of Montana's Rural Institute](#) (*Life Starts at Home*) (2018) can offer useful evidence of the impact of these housing solutions on the lives of people with disabilities. The World Health Organization (2001) - endorsing a global policy agenda for community integrated housing - stated that the interaction between a person and their environment can either support or inhibit their needs to live independently and participate in the community. Or, as one Main Street parent put it, “I hope the study you are conducting will come up with beneficial [information] for this community of special needs people. I think we need more investment in this type of living “environment, because it is so important and because it is in short supply.”

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