



# INTERDISCIPLINARY RESEARCH LEADERS

## Health Effects After Renovation (HEAR) Study – Impacts on public housing residents' health and wellness

### WHY WE DID THIS STUDY

Public housing, administered by the US Department of Housing and Urban Development (HUD), is the nation's largest and oldest housing program for low-income renters. Yet, persistent underfunding from the federal government and local housing authorities has left public housing units in poor condition. In San Francisco, many public housing developments require extensive capital improvements for asbestos and black mold removal, sewer repair, plumbing, drainage systems and leaky roof repair, pest abatement, and attention to safety concerns such as poor outdoor lighting and broken sidewalks. Previous research has shown that living in substandard housing is associated with a wide variety of illnesses and infectious diseases; worsening of chronic medical and mental health disorders; and a plethora of trauma from violence and injuries.<sup>1-6</sup> In 2011, Congress authorized the Rental Assistance Demonstration (RAD) Program to address the backlog of repairs and growing needs for capital improvements to the nation's public housing stock. Through this new funding mechanism, private developers can enter into multiyear rental assistance agreements with HUD and assume responsibility for all repairs, management, and operations of the housing development. Simply stated, RAD transfers ownership and management to private developers so that developers can access private capital to improve buildings while preserving affordability. Over the last five years, San Francisco Housing Authority has transferred all the city's public housing stock to private developers through the RAD program.

Today, there are approximately 9,700 San Francisco residents who live in some form of publicly subsidized housing. Approximately 3,800 are living in 19 buildings undergoing a RAD conversion. Since these RAD conversions will impact 39 percent of all residents living in subsidized housing, we felt that it was important to understand the potential health impacts of these conversions. Such impacts are of interest because of San Francisco County's role in providing subsidized health care to residents in these housing units who are not covered by private insurance, Medicaid, or Medicare.

This study examines the effects of public housing renovation through the RAD program on resident health and social well-being. For residents living in seven properties managed by BRIDGE Housing Corporation, we explored the following questions:

- 1) What are the rates of health care utilization for RAD building residents before and after renovation? How does this compare with nearby neighbors who do not live in public housing?
- 2) What are the types and prevalence of health conditions of RAD building residents before and after renovation? How does this compare with the conditions of nearby neighbors who do not live in public housing?
- 3) How do RAD conversions influence building residents' perceived health and social well-being?

## WHAT WE FOUND

- After the renovations, there was a decrease in the proportion of RAD building residents who were previously uninsured.
- There were no changes in health-care utilization for RAD building residents before and after the renovations in comparison to their neighbors who do not live in public housing.
- RAD building conversions proved to be more traumatic for both seniors and individuals with disabilities than for individuals who lived in family buildings.
- RAD building residents with insurance provided by the County were more likely to use outpatient services and less likely to use inpatient services. However, with the exception of one housing development, there were no significant changes in the prevalence of medical or mental health disorders before and after renovations.

To answer our research questions, we used address-matched queries of electronic medical records from two of the largest health care systems in San Francisco (University of California, San Francisco and San Francisco Health Network) to measure both health-care utilization and health conditions for RAD building residents before and during renovations. We obtained visit data for nearly 298,000 patients over a 12-year period (2006-2017) and are examining visits associated with respiratory health, mental health, substance use, and injury (this part of the analysis is ongoing). We also conducted in-depth interviews with 42 housing residents and 12 housing site managers, affordable housing developers, and policy makers.

Study findings indicated a decrease in the proportion of uninsured all seven of the RAD sites we surveyed, which suggests that on-site services aimed at linking residents to health care coverage were effective. Among those surveyed, we also found that increased access to primary care services had the intended impact of increasing the utilization of outpatient services.

Findings also indicated that there was no change in the prevalence of physical and mental health disorders before and after renovations for RAD building residents in comparison to nearby neighbors who did not live in public housing. In fact, in just one of the seven housing developments surveyed was there an increase in residents seeking treatment for anxiety disorders, asthma, and obesity after renovation, compared to the nonpublic housing neighbors. This development called “Bayshore” is arguably one of the most geographically isolated public housing developments in the city of San Francisco. It is situated alongside a busy freeway, at the bottom of a steep hill. Most of the residents chose to stay on-site during the renovation. Bayshore residents told us that they were grateful for the new renovations but that many still felt “confined,” “isolated,” and “separate” from the larger community. Despite the addition of security features, such as surveillance cameras, residents of this building still had ongoing fears about safety.

The building renovations resulting from RAD conversions were particularly challenging for the seniors we interviewed. Many questioned the need for the building updates that were taking place, which included safety measures such as grab bars, panic buttons, stove timers, and bathroom

**“We are all the same here. We are all old, disabled, and low-income. We all relate. We all know this is our last home. There is actual community here.”**

— Michael, aged 72

**“Resident health is at the center of our decision-making, but there are many ways to achieve health and many negotiations and choices that have to be made along the way. Budget realities, competing priorities, and multiple outcomes for success make some renovation, refurbishment, and redevelopment decisions challenging.”**

— Affordable Housing Developer

lights. Rather than viewing these measures positively, some seniors described feeling like they were being “institutionalized” or being but in a “nursing home.”

Despite housing units needing major repairs, few seniors wanted to leave the premises during the renovations. They perceived their current living space as their “last home” and expressed concern that they had no other housing choices. For those seniors who stayed onsite during the construction, many endured the daily disruptions of living on an active construction site, which included increased anxiety and sleep disruptions. For seniors who moved temporarily off-site, loss of social connections and disruption of routines were their main concerns. Many also had fears that they would not be allowed to return despite being told otherwise. No one was prepared for extent of the disruption they experienced. In the follow-up interviews we conducted, several stated “things are settling down” and routines and social connections were being reestablished.

## WHAT DO THESE FINDINGS MEAN

The number of subsidized housing residents impacted by building renovations through RAD conversions is unprecedented in its scope and scale. Beyond the bricks and mortar of building renovation, these research findings underscore how important it is for affordable housing developers to consider and plan for the range of services that building residents will need access to during the renovation, including: health care, social services, social networking activities, and wellness programs. Strategies for addressing the physical and psycho-social health needs of residents living in RAD conversion buildings might include: [insert a sentence or two based on study findings here.] engaging residents in the design and implementation of a communications campaign that provides frequent updates on rehabilitation progress. While this approach cannot fully alleviate the stress caused by construction and relocation, transparent communication can help reduce residents’ sense of lack of control over the process. A strong communication plan can also include more transparency around the decisions that are made, which builds resident-ownership trust, promote shared understanding, and gives residents a fuller view into developers’ competing choices.

## MORE ABOUT THIS STUDY

This study used a prospective mixed-method design that conjoined quantitative data that measured change in the prevalence of health conditions and health care utilization over time with qualitative data that captured the experiences of housing residents living through these renovations. In contrast to survey-based measures of health status that sample from tenant lists of on-lease residents, our use of clinical health data enabled us to ascertain health-care visits and diagnoses of all residents with an address at our target sites within the context of the type and scope of renovation being undertaken. This approach also addresses many of the limitations of prior public housing and health research because it allows us to measure the health status of the same residents before and after renovations and it also compares the health status of public housing residents to nonpublic housing residents living in contiguous areas over time.

Since most RAD renovations were completed in 2018, there may have been insufficient time to measure the health effects of these building renovations. It is possible that later health effects might have occurred that were not observable during the study period.

## SOURCES

Coley, R. I., Leventhal, T., Lynch, A. D., & Kull, M. (2013). Relations between housing characteristics and the well-being of low-income children and adolescents. *Developmental Psychology* 49(9), 1775–1789.

Kersten, E., LeWinn, K. Z., Gottlieb, L., Jutte, D. P., & Adler, N. E. (2014). San Francisco children living in redeveloped public housing used acute services less than children in older public housing. *Health Affairs*, 33(12), 2230–2237.

Howell, E., Harris, L. E., & Popkin, S. J. (2005). The health status of HOPE VI public housing residents. *Journal of Health Care for the Poor and Underserved*, 16(2), 273–285.

Leventhal, T., & Newman, S. (2010). Housing and child development. *Children and Youth Services Review*, 32(9), 1165–1174.

Ruel, E., Oakley, D., Wilson, G. E., & Maddox, R. (2010). Is public housing the cause of poor health or a safety net for the poor? *Journal of Urban Health*, 87(5), 827–838.

Shaw, M. (2004). Housing and public health. *Annual Review of Public Health*, 25, 397–418.

### **STUDY CONTACT INFORMATION:**

Leslie Dubbin (leslie.dubin@ucsf.edu), Susan Neufield (sneufield@bridgehousing.com), and Irene Yen (iyen@ucmerced.edu). This research was conducted as part of their distinguished fellowship in the Robert Wood Johnson Foundation Interdisciplinary Research Leaders program from 2016 to 2019.