

Use of HMIS in Conjunction with Evaluating the Rebuilding Lives Initiative



Introduction

In 1999 the Community Shelter Board (CSB), at the request of the City of Columbus, Ohio, developed the *Rebuilding Lives* plan – a 10-year, two-pronged, approach to ending homelessness and literally “rebuilding lives.” This plan was initiated in response to the redevelopment of Columbus’ downtown area, a process which displaced several emergency shelters. *Rebuilding Lives* sought an alternative approach to shelter for addressing homelessness. While the short-term needs of homeless men and women would still be met through an improved safety net of emergency shelter, long-term needs would be met through the development of 800 units of permanent supportive housing (PSH). As a result, the local shelter system was reconfigured and the local Continuum of Care’s (CoC) permanent supportive housing capacity nearly doubled.

In 2006, eight years into the *Rebuilding Lives* initiative, CSB evaluated the plan in preparation for an updated 10-year-plan. As part of this evaluation, researchers from the University of Sciences in Philadelphia (USP) and the University of Pennsylvania (UPenn) analyzed HMIS and other administrative data to:

- assess dynamics of shelter and PSH usage;
- estimate the impact of PSH on shelter demand; and
- gauge the extent to which the sheltered homeless and PSH populations use other service systems not included in HMIS.

This case study presents the team’s methodology and research findings.

Description of Data

Columbus was one of the first localities in the United States to collect comprehensive data on homeless services use. As a result, CSB has an HMIS database containing more than 10 years of longitudinal data on those served in emergency shelter, transitional housing, and PSH. There is a gap in the data between 2001 and 2003 when a new HMIS platform was implemented. Additionally, data was matched with six other services providers, some outside the homeless care system, to examine any overlap in use of these services. Finally, an evaluation by Center for Urban Community Services (CUCS) determined historic and current capacities and *per diem* costs for each of the shelters and PSH providers that were covered by the HMIS.

Homelessness in Columbus/Franklin County, Ohio

- Population¹
301,621,157
Franklin county
1,118,107
- Homeless Point in Time Count as of January 29, 2008
1,341

¹ 2007 Population Estimates, U.S. Census Bureau; www.factfinder.census.gov

Description of Innovative Methods of Analysis

An array of methods was used in a comprehensive analysis of the HMIS data for the *Rebuilding Lives* evaluation. These methods are summarized below.

Descriptive Measures: The first analyses involved generating basic, descriptive measures of shelter and population trends. This generated the following outcomes:

- **Utilization Characteristics and Trends:** Measures of average daily census, monthly incidence and prevalence for sheltered families and single adults, as well as for households (singles and families) placed in transitional housing and PSH. These findings were used to assess long-term aggregate trends in shelter and PSH use.
- **Shelter and PSH exits, outcomes, and returns:** Calculation of lengths of tenure, rates of exits to stable housing and housing retention, return to shelter and use of multiple facilities during one episode (i.e. churning).
- **Individual household characteristics:** Demographic information, family/household composition, and household circumstances upon entering shelter or PSH.

The impact of expanded supply of PSH on demand for shelter. This analysis sought to estimate, on an individual client level, the reduction in shelter days consumed due to receiving a PSH placement. For this post-placement reduction in shelter use to be substantial, those placed in PSH would need to have both consumed a large number of shelter days before they were placed in PSH and have demonstrated a reduced number of days spent in shelters following placement. The second component of this analysis estimated the collective impact of PSH placements on the daily shelter census. In other words, it assessed the extent to which the population staying in shelters was reduced on an average night due to the persons placed in PSH being taken out of the shelter population.

This analysis first involved creating a comparison group for the group of persons placed in PSH. This comparison group needed to be as similar as possible to the study group in terms of characteristics — demographics (age, race, and sex) and disability status. In addition, the study and comparison groups needed to be similar in terms of their pre-placement shelter use patterns during the one-year period immediately prior to the intervention (i.e., number of bed-days consumed and the “gap” between shelter exit and housing intervention/surrogate point). Propensity score matching, which uses logistic regression² to match pairs based on a single, composite value of the aforementioned characteristics, was used. By using this matching procedure, a comparison group was constructed that, as a group, was similar to the control group in virtually all of these characteristics.

Comparisons of the two groups, further refined by multiple regression techniques, then estimated differences in post-PSH placement shelter use by the average individual and by the entire group.

² In statistics, logistic regression is a model used for prediction of the probability of occurrence of an event by fitting data to a logistic curve. It makes use of several predictor variables that may be either numerical or categories. For example, the probability that a person has a heart attack within a specified time period might be predicted from knowledge of the person's age, sex and body mass index

Cluster analysis. To understand whether or not the *Rebuilding Lives* Initiative was impacting particular subgroups of persons using the shelter system, the evaluators used a technique called cluster analysis. The Cluster analysis procedures assigned single adults and families to three specific clusters using the criteria of days in shelter and number of episodes in the two-year period following initial shelter entry. By sorting the observations in a manner that provided well-defined and robust divisions between clusters, the procedure was relatively insensitive to outliers. While this process was much more systematic, the end result was analogous to looking at a graph where total days and total episodes were charted and circles drawn around the main groupings. The three cluster groupings were:

- **Transitional stayers** had one or two relatively short shelter stays, mostly lasting less than a month, and were then not again seen in the shelter system. This group contained the majority of shelter users.
- **Episodic users** had multiple, relatively short stays (again, usually lasting less than one month). This group “bounced” in and out of shelters, and the combined number of days a household typically spent was substantially higher than what the transitional household used.
- **Long-term stayers** had one or two very long shelter episodes. These often lasted for over six months. This group was a small proportion of the total population but consumed a vastly disproportionate amount of shelter days.

Comparisons of demographic characteristics and shelter use were made between these clusters for clients entering shelters between 1996 to 1998 and 2003 to 2004.

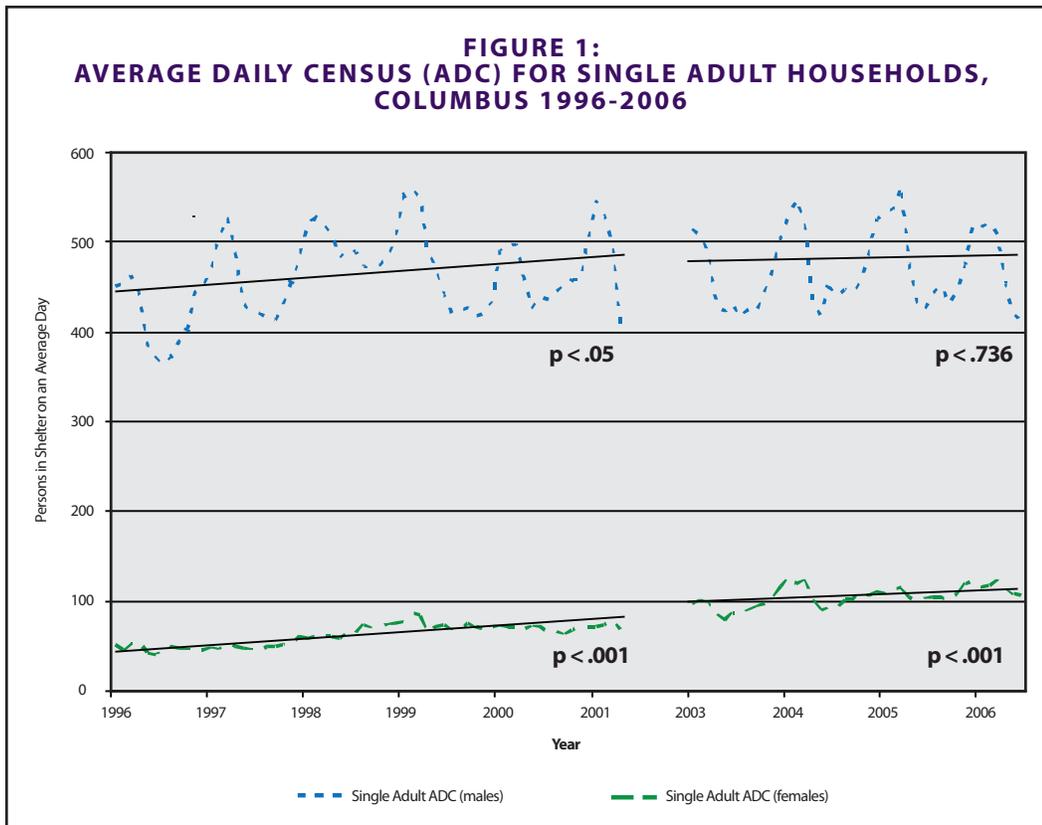
Churning. The Columbus/Franklin County CoC also looked at “churning” — a term used to describe the extent of stays in multiple shelters during a single episode. To evaluate this usage, the community agreed to a common definition of episode as a period of time ending with a sustained exit of at least 30 days without a return to shelter. For example, if a person stayed in a shelter for seven days, exited and returned five days later, and stayed for another seven days before exiting for a year, then these two stays would constitute one shelter episode lasting 19 days. This method accounted for brief times away from shelters that were not indicative of lasting exits from homelessness.

Matching with other data sources: Data from two other shelter providers not in HMIS — a domestic violence shelter and a youth shelter — were matched based on common identifiers. The degree of crossover between these shelters and shelters covered by HMIS was assessed.

Findings

Key findings of the research, based on the analyses described here, were reported for three household types: single adult men, single adult women, and families. Common findings across all household types indicated:

- Clients exiting to stable housing were less likely to return to shelter.
- Income at shelter exit, in the form of benefits or wages, substantially increased the odds of exit to stable housing. In family households, the presence of wages increased the likelihood of successful program completion more than sevenfold.



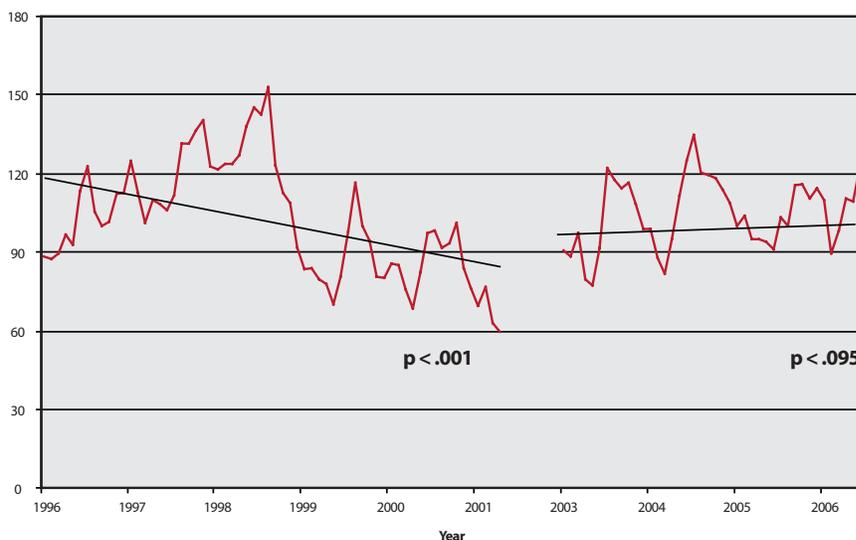
- Longer shelter episodes increased the likelihood of exiting to stable housing.
- “Churning” decreased the likelihood of receiving a stable housing placement. This was true even for the families, where switching shelters can be part of the normal intake and assessment process — one shelter acts as a central intake point, and then some families are reassigned from this shelter to the other family shelters. Additionally, “churning” increased the likelihood of returning to shelter. As “churning” was associated with negative outcomes, the research indicated that this is an undesirable dynamic.
- Multiple adults in families increased the likelihood of shelter return. The number of children within the household did not significantly affect this outcome.

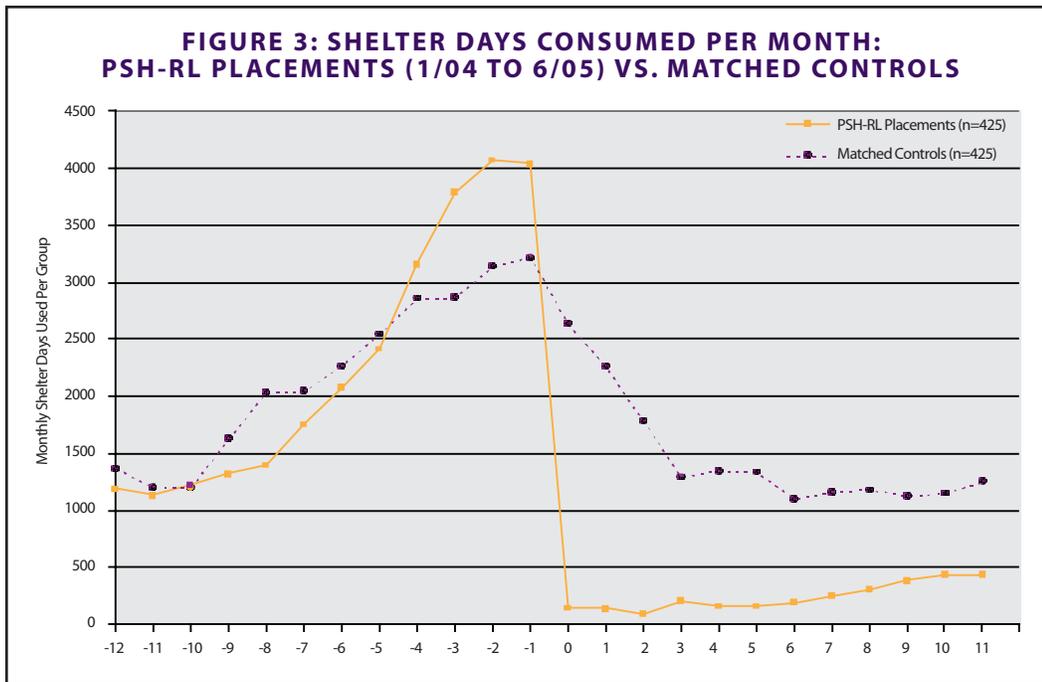
The research looked at shelter census data since 2003. It showed that single adult male shelter census was stable for the time frame reviewed (Figure 1). It also showed that although there was a low rate of exits to permanent housing for single adult males, those who did exit to permanent housing had a lower rate of return to shelter. The study found that only 17.7 percent of the *Rebuilding Lives* clients returned to shelter, compared to 47.5 percent of the clients not in the program (Table 1). The rate of “churning” was most prevalent in the single adult male group, with 26.8 percent staying in at least two shelters during their episode. Placements in housing for this group of long-term stayers coincided with reductions in instances of long stays. But this finding also discovered an unexpected increase in the length of episodic stays, which resulted in minimal overall change in the Average Daily Census numbers. The study also found that functional skill measures were better indicators of success than diagnosis, and that, for single adult males only, veteran status was associated with increased likelihood of exit to stable housing.

TABLE 1 – EPISODES (1) LEADING TO PLACEMENTS INTO HOUSING AND SHELTER RETURNS BROKEN DOWN BY HOUSEHOLD TYPE: 2003 THROUGH JUNE, 2006

| | Single Males | Single Females | Families |
|---|--------------|----------------|----------|
| Number of Exits | 9,064 | 3,219 | 2,069 |
| Exit to stable housing (2) | 13.9% | 19.7% | 54.4% |
| Return shelter stay (within one year) (3) | 36.4% | 25.9% | 10.0% |
| Length of Shelter Episode (median) | 15 days | 10 days | 32 days |
| "Churning" | | | |
| In 2 Shelters During Episode | 18.0% | 14.7% | 28.6% |
| In 3 Shelters During Episode | 5.9% | 3.7% | 0.6% |
| In 4 or More Shelters During Episode | 2.9% | 0.5% | 0.0% |
| ^a – All episodes here start with the first time the person/family entered a shelter during this time period, and end upon a sustained exit from shelter, meaning the individual/family does not return for at least 30 days. ^b – Stable housing refers to exits to housing arrangements where the person or family has a long-term, formal living arrangement, usually involving a lease and often a housing subsidy. ^c – Only includes stays ending before June 30, 2005, so as to have a year of opportunity to return to shelter. | | | |

For families, the study found that the shelter census also was stable (Figure 2). Families had high rates of exit to housing and low rates of return to shelter, but had longer stays in shelter before they obtained housing (the median stay was 32 days). Additionally, the family usage pattern showed that a drastic decrease in the numbers served corresponded to a longer length of stay in the shelter system, indicating that they were serving less families with longer lengths of stay before obtaining housing. Of those that obtained housing, 90 percent stayed stably housed. Families actually had a higher rate of "churning" than the single adult male group (29.2 percent), but much of this utilization is a reflection of the process – one shelter acts as the central intake point and then families get reassigned from the intake shelter to a more appropriate shelter setting (Table 1). There was a small increase in likelihood of exit to stable housing associated with larger numbers of children in the family.

FIGURE 2: AVERAGE DAILY CENSUS FOR FAMILY HOUSEHOLDS, COLUMBUS 1996-2006



For single adult females, it is a different picture. This group is experiencing an increase in both the numbers of persons using shelter as well as an increase in the length of time they stay in shelter (Figure 1). Single adult females had substantially less “churning” than the single adult male and family groups, which partially could be explained by the smaller number of female shelters in Columbus. Single adult females also experienced a relatively small rate of successful exits to stable housing (19.7 percent) (Table 1). Additionally, there was a substantial crossover between the HMIS and the domestic violence shelter data (34.4 percent). Of those that left the domestic violence shelter program, 46.2 percent entered an HMIS shelter within 30 days and 73.1 percent within 6 months – warranting further examination of the characteristics that put women at higher risk and a closer look at interventions, including housing that may mitigate this high level of crossover.

PSH, for the size of the intervention, had a substantial impact on shelter use. Due to data limitations, only the 470 persons with PSH placements between January 2004 and June 2005 were included in this analysis. Figure 3 shows, in this subgroup, that persons receiving supportive housing placements subsequently used shelters much less than the comparison group. Each PSH placement resulted in an estimated 34.7 fewer shelter days annually and collectively reduced the demand for shelter by an estimated 3.4 percent to 4.4 percent annually. This reduction in demand would stand to be substantially higher if all the PSH placements were able to be included in this analysis.

Impact/Policy Implications

The low percentage of single adults exiting to permanent housing indicates that the supply of housing, including subsidized and supportive housing, still is not sufficient to make a large impact on this population. The need for more such housing is underscored by the findings that those leaving shelter to stable housing have a significantly lower likelihood of returning to shelter. Although the research verified the success of the original *Rebuilding Lives Initiative*, its primary purpose was to identify and inform strategy development for the new 10-year-plan. Four new focus areas were identified for the updated plan: access, crisis response, transition, and advocacy. Within these focus areas, several new strategies were developed that would:

- Provide immediate and systematic access to mainstream benefits and services for persons who are homeless and served by the homeless services system;
- Develop an additional 1,400 units of PSH for single adults and couples, and 150 family units for disabled adults and families;
- Develop 430 long-term rent subsidies for homeless single adults to meet annual need; and
- Launch a campaign to increase resources for affordable and supportive housing as well as rent subsidies.

Next Steps/Future Uses

The Columbus/Franklin County CoC evaluation also identified avenues for further exploration. In particular, the aging of the single adult homeless, the decreasing income among the families, and the crossover between the domestic violence shelter and the HMIS shelter network are areas noteworthy for further analysis.

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