By Devlin Hanson and Sarah Gillespie

'Housing First' Increased Psychiatric Care Office Visits And Prescriptions While Reducing Emergency Visits

ABSTRACT Housing First is an approach to ending homelessness that recognizes permanent housing as a platform for stability and engagement in health services. As part of a randomized controlled trial to test the effects of permanent supportive housing with the Housing First approach in Denver, Colorado, we analyzed the intervention's impact on health care use, Medicaid enrollment, and mortality among people experiencing chronic homelessness who had frequent arrests and jail stays. Two years after assignment to the Housing First intervention, participants had an average of eight more office-based visits for psychiatric diagnoses, three more prescription medications, and six fewer emergency department visits than the control group. Although enrollment in Medicaid increased over the course of the study for both the intervention group and the control group, the intervention group was 5 percentage points less likely to be enrolled in Medicaid. Supportive housing had no significant impact on mortality. When considering pathways to scale up supportive housing, policy makers should recognize the potential of Housing First to facilitate the use of office-based psychiatric care and medications in a population with many health care needs.

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Housing First is an approach to ending homelessness that recognizes housing as a platform for stability and engagement in health services. In contrast to approaches that require people to receive treatment for mental health or substance use disorders before securing housing, Housing First is built on the idea that people must have safe, affordable, and permanent housing to consistently engage with other services such as needed health care.[1] The Housing First approach is often used in permanent supportive housing programs, which combine long-term rental assistance and supportive services designed to maintain housing stability for people experiencing chronic homelessness.[2] Evidence has been mounting on the effectiveness of permanent supportive housing for outcomes such as housing retention[3] and reductions in jail time,[4–6] but rigorous evidence of its impact on health care use has been mixed. Based on an evaluation of the evidence on permanent supportive housing's impact on health outcomes for people experiencing homelessness, an expert committee of the National Academies of Sciences, Engineering, and Medicine reported in 2018 that for most outcomes, the data were too limited to draw conclusions.[7]

Studies on the impact of supportive housing on hospitalization rates, lengths-of-stay, use of the emergency department (ED), psychiatric hospitalizations, detoxification facility days, and residential alcohol and drug treatment days have had mixed results.[3–6,8–12] Our study was intended to build on this work.

In 2016, the City and County of Denver, Colorado, launched the Denver Supportive Housing Social Impact Bond Initiative (SIB), a supportive housing intervention designed to serve a chronically homeless population that had frequent arrests and jail stays. From January 2016 through December 2020, we conducted a randomized controlled trial to evaluate the initiative's effects on multiple outcomes, including housing stability, homeless shelter stays, police interactions, jail time, use of detoxification services, and program costs,[13] as well as on health care use, Medicaid enrollment, and mortality, during a two-year period. Here we describe the trial and present our analysis of the Denver SIB's impact on the latter three outcomes.

Study Data And Methods

DATA Our study relied on several data sources. We used 2013–19 data from the Denver Police Department to measure demographics, arrests, and any police contacts other than arrests. To measure jail stays, we gathered data from the Denver Sheriff Department for 2008–19. We used data from the Colorado Department of Public Health and Environment's Vital Statistics Program from the period 2010–19 to measure mortality.

To gather data on diagnoses and measure Medicaid enrollment and use of Medicaid-covered services, we used 2015–19 Medicaid data in Denver County. We collected data from two entities: Colorado Access, the regional organization for Health First Colorado (Colorado's Medicaid program) in Denver County that manages physical and behavioral health care, and the Denver Health Medicaid Choice Plan, the other managed care plan for Health First Colorado in Denver County. The data reflect the use of services covered by these two Medicaid managed care organizations only and do not include data from Medicaid managed care plans outside of Denver or fee-for-service claims for some physical health care services that are paid directly by the state.

Our analyses of health services use and diagnoses were limited to study participants who were enrolled in one of the two Medicaid managed care organizations in Denver at any point in the year before being randomly assigned. This included 275 participants from the intervention group and 274 from the control group. Eighty-one percent of these people were enrolled for the full year before random assignment, and another 10 percent were enrolled for more than half the year before random assignment.

We used Denver Police Department data to identify the target population and select study participants. For each participant, the Denver Police Department created a unique identifier, crosswalked with the person's name and date of birth. The Police Department sent the crosswalked data to each Denver municipal agency and managed care organization providing data for the study. The other entities matched crosswalked data with their own data and appended the matched research identifiers to their data sets. Each agency and organization then sent the evaluation team a file containing the research identifiers for all study participants, along with matched data on their jail stays, health services use, or mortality. The agencies and organizations stripped all individually identifiable information, including participants' first and last names, from the data sets before sending them to the evaluation team. The target population for the Denver SIB included people with eight or more arrests, at least three of which were transient arrests (defined as those with no address or a homeless shelter address at time of arrest), over the course of three years, based on Denver Police Department records. Because these records did not have an indicator for chronic homelessness, we used the status of having three or more transient arrests as a proxy. Based on arrest data from the period 2013–15, the Denver Police Department created a deidentified list of people in the target population for the Denver SIB in 2016. The Police Department updated the full list in each year of the study.

Throughout the study, the Police Department sent the evaluation team a daily report that included a deidentified list of people from the target population who had a police contact in the previous twenty-four hours. When program slots for the Denver SIB were available, we randomly assigned people listed on the latest daily report to the intervention or control group for the randomized controlled trial (henceforth we refer to this process as randomization). The control group received services as usual in the community, which primarily included emergency shelter and some short-term housing assistance, such as rapid rehousing or transitional housing, which provide time-limited rental assistance and minimal case management services. People assigned to the intervention group for the Denver SIB were referred to one of the two participating permanent supportive housing providers: the Colorado Coalition for the Homeless or the Mental Health Center of Denver. These providers were responsible for locating people assigned to the intervention group, verifying that they were homeless, and engaging them in the intervention. We received a waiver of consent for participation in the randomized controlled trial from the Urban Institute Institutional Review Board.

SERVICES PROVIDED TO THE INTERVENTION GROUP Consistent with the Housing First model,

the intervention group was not subject to any conditions of participation to be eligible for or receive permanent supportive housing through the Denver SIB. People in the intervention group who received housing were housed in either a scattered-site unit rented with a housing subsidy in the private rental market or a single-site building fully dedicated to supportive housing units. Scattered-site units were privately owned and located throughout the community, and single-site units were in buildings primarily dedicated to the Denver SIB supportive housing program and were owned by one of the two participating supportive housing providers. Supportive housing providers matched participants to appropriate housing placements on the basis of unit availability, housing subsidy requirements, and participants' needs and preferences. Many participants had multiple housing placements during their time in the Denver SIB. Supportive housing providers used a modified assertive community treatment (ACT) model, under which participants receive comprehensive care from multidisciplinary teams. Other core components of the ACT model are small, shared caseloads among all ACT team providers and delivery of nursing and psychiatry services in participants' homes, with no time limits on service eligibility. When the ACT teams were fully staffed and all intervention-group participants were enrolled, the Denver SIB achieved a 10:1 ratio of clients to health care providers for the intervention group.

The Denver SIB's multidisciplinary teams included clinical social workers, case managers, peer specialists, psychiatrists, and nurses. Team members visited clients in their homes at least weekly, and more often as needed. ACT services for the Denver SIB were funded mainly by the City and County of Denver through an outcomes-based contract that linked payments to metrics for housing stability and reduction in jail days. Denver SIB supportive housing providers also received Medicaid reimbursement for a share of the intervention's supportive services based on each provider's contract with Colorado Medicaid. Although the Mental Health Center of Denver's contract as a community mental health center covered most ACT services, the Colorado Coalition for the Homeless's contract as a federally qualified health care center covered a much smaller share of ACT services provided to Denver SIB participants.

We defined health services use as the use of services billed to Denver County's Medicaid managed care organizations in the two years after people's assignment to the intervention and control groups. Both of the housing providers billed some of their ACT services, as well as other types of health care services, to Medicaid. It was not possible to differentiate between ACT services and other Medicaid-covered services in the Medicaid claims data. ACT services were therefore included in the outcome measures of office-based care services and other services. Secondary outcomes of interest were diagnoses, Medicaid enrollment, and mortality. Mortality was measured using death records from the Colorado Department of Public Health and Environment's Vital Statistics data.

ANALYSIS For outcomes related to Medicaid enrollment and mortality, we used the full sample of all randomized participants. For outcomes related to health services use and diagnoses, the sample included only those enrolled in Medicaid at any point in the year before randomization. We used this subsample for health services use outcomes to avoid confounding actual changes in service use with new enrollment.

To identify the effects of the supportive housing program, we estimated the intention-to-treat effect, using ordinary least squares regressions for each outcome. The intention-to-treat analysis estimated the impact of the program on all people assigned to the intervention group, whether or not they received housing within the two-year period of the study. To test for baseline equivalence, we conducted t-tests to determine whether the intervention and control groups were similar.

Because not all people assigned to the intervention group received housing during the two-year study period, we also estimated a treatment-on-treated effect to measure the impact of the intervention on those who actually received housing during the study period. We used an instrumental variable approach for which assignment to the intervention group was an instrument for being housed in the supportive housing program.

All regressions controlled for age, sex, race and ethnicity, number of days in jail in the three years before randomization, number of arrests in the three years before randomization, and the value of the outcome in the year before randomization. In each regression, we controlled for the differences between the intervention and control groups with respect to the baseline value of the diagnosis and health outcomes. In all analyses, we used 0.05 as the threshold for statistical significance. We conducted sensitivity analyses to determine the impact of outliers on our results by running regressions where outcomes above the ninety-fifth percentile were top-coded at the ninety-fifth percentile value. In addition, to ensure that limiting our analysis to the subsample of people enrolled in Medicaid at any point in the year before randomization did not change the

results, we conducted robustness checks by running regressions on the health services use and diagnoses outcomes, using the full sample of 721 people randomized into the study.

LIMITATIONS Our analysis had several limitations. First, because people experiencing homelessness often use aliases, our data matching by first name, last name, and date of birth was subject to error. Second, our analysis of health services use was limited to services that were billed to Medicaid, but some study participants may have received care covered by insurance other than Medicaid, such as certain types of physical health care paid directly by the state, or they may have received care while uninsured during the study period. Health services use under these circumstances was not captured in the Medicaid claims data used for our analysis, which may have led to underestimation of use in the study population. Within the Medicaid data, it was not possible to differentiate between the intervention's ACT services and other Medicaid-covered services. As a result, the use of ACT services as part of the Denver SIB intervention was included in the outcome analysis for office-based care and other services. Finally, because our data source was Medicaid claims, the analysis of outcomes was limited to health care use; it did not include measures of health outcomes or well-being.

Study Results

A total of 724 people were randomly assigned to either the intervention group ($n = 363$) or the control group ($n = 361$) on a rolling basis between January 1, 2016, and December 31, 2017. Three randomized people died in the twenty-four hours between their police contact or arrest but before their randomization (two assigned to the intervention group and one assigned to the control group) and were excluded from the analysis (see online appendix exhibit 1).[14] This left an analysis sample of 721 randomly assigned people, with 361 in the intervention group and 360 in the control group. Sixty-three percent of the intervention group (229 people) were referred to the Colorado Coalition for the Homeless, and 37 percent (134 people) were referred to the other supportive housing provider, the Mental Health Center of Denver.

ENROLLMENT AND HOUSING The two housing service providers enrolled 82 percent of the 361 people randomly assigned to the intervention group in Housing First. Seventy-seven percent of people in the intervention group were housed within two years of being randomly assigned. Among those who received housing, the median time from randomization to being housed was sixty-three days (data not shown).

BASELINE EQUIVALENCE At baseline, measured as one year before randomization, Medicaid claims showed high rates of mental health diagnoses (37 percent) and substance use disorder (SUD) diagnoses (67 percent), as well as injuries and poisonings (36 percent) among people in the study sample (appendix exhibit 3).[14] We found one significant baseline difference: The intervention group was more likely to be Native American than the control group. We found no other statistically significant differences with respect to demographics, criminal justice history, or receipt of homelessness assistance (appendix exhibit 2).[14]

Among the subsample of Denver SIB participants enrolled in Medicaid one year before randomization who were included in our analysis of diagnoses and health services use, there were few significant differences between the intervention and control groups with respect to demographics, criminal justice history, receipt of homelessness assistance, diagnoses, or use of health services billed to Medicaid (appendix exhibit 3).[14] People in the intervention group were more likely to have a diagnosis of posttraumatic stress disorder or other substance use, which included SUD involving cannabis, inhalants, psychoactive substances, sedative hypnotics or anxiolytics, hallucinogens, amphetamines, or nosology or polysubstance. Compared with the control group, the intervention group also had, on average, significantly more office-based care visits with "other diagnoses" (any diagnosis that would not be considered SUD or psychiatric—primarily physical health diagnoses such as asthma and physical injury), ED visits, ambulance services, and "other services" (services, such as those provided by independent laboratories, that could not be categorized as office-based visits, ED visits, hospitalizations, ambulance, or medication based on category or place of service) (appendix exhibit 3).[14]

HEALTH CARE USE The intervention had significant effects on the use of several types of health care services. Compared with the control group (the intention-to-treat analysis), overall, the intervention group had, on average, eight more office-based visits with a psychiatric diagnosis. People in the intervention group who received housing within the study period (the treatment-on-treated analysis) had, on average, ten more office-based visits with a psychiatric diagnosis (exhibit 1) compared with people in the control group. People in the intervention group overall had, on average, six fewer ED visits than those in the control group. People in the intervention group who received housing within two years had, on average, eight fewer ED visits. On average, the intervention group received three more

EXHIBIT 1

Average number of Medicaid-covered health services used by participants in the Denver Supportive Housing Social Impact Bond Initiative, by service type, 2016–19

Service types	Intention-to-treat analysis			Treatment-on-treated analysis[a]
	Intervention (mean)	Control (mean)	Difference	Difference
No. of office-based care visits				
Any	43	38	5	6
Primary SUD diagnosis	26	29	−3	−3
Primary psychiatric diagnosis	13	5	8****	10****
Other diagnoses[b]	5	5	1	1
No. of ED visits				
Any	9	15	−6***	−8***
No. of hospitalizations				
Any	6	4	1	2
Primary SUD diagnosis	1	1	−0	−0
Primary psychiatric diagnosis	2	1	1	1
Other diagnosis[b]	4	3	1	1
No. of ambulance trips	9	11	−2	−2
No. of medications	13	10	3***	4***
No. of other services[c]	30	17	12****	16****

SOURCES Medicaid encounter data are from Colorado Access and Denver Health and Hospital Authority, 2015–19. Demographic and arrest data used as controls in the intention-to-treat (ITT) and treatment-on-treated (TOT) regression analyses are from the Denver Police Department, 2015–19. Jail stay data used as controls in the ITT and TOT regression analyses are from the Denver Sheriff Department, 2015–19. **NOTES** The ITT analyses compared the health services use of all participants in the intervention group ($n = 275$), who were referred to Housing First, whether or not they received housing during the 2-year study period, with the health services use of participants in the control group ($n = 274$), who were not referred to Housing First. The sample corresponding to the results shown includes people in both groups who were enrolled in Medicaid in Denver County at any point in the year before randomization (random assignment of study participants to either the intervention or the control group). Results reflect use within 2 years of randomization. The regression-adjusted ITT and TOT models included the following control variables: age, sex, race and ethnicity, days in jail in the 3 years before randomization, number of arrests in the 3 years before randomization, and the value of the outcome in the year before randomization. [a]The TOT approach compared outcomes of the subset of people in the intervention group who were housed by the end of the 2-year study period with outcomes of people in the control group. [b]Includes any diagnosis that would not be considered substance use disorder (SUD) or psychiatric. [c]Includes all other services that did not fit into office-based, emergency department (ED), hospital, ambulance, or medication based on category or place of service. ***$p < 0.01$ ****$p < 0.001$

unique prescription medications over the course of two years, and the subset of the intervention group that was housed within two years received, on average, four more unique prescription medications than the control group. On average, the intervention group received twelve more "other services" over the course of two years, and the subset of the intervention group that was housed within two years received, on average, sixteen more "other services" than the control group.

Our sensitivity analysis using top-coding did not alter the primary findings for the outcomes shown in exhibit 1. Specifically, when top-coding, we found results consistent with those of our main analysis with respect to direction and significance for the use of office-based care visits with a psychiatric diagnosis, ED visits, unique prescription medications, and other services (appendix exhibits 6a, 6c, 6f, and 6g).[14] However, top-coding did change the significance levels for a few of the outcomes shown in exhibit 1; the differences between the intervention and control groups became significant for office-based care for primary SUD diagnosis and office-based care for other diagnosis and for ambulance use; the direction of these differences did not change (appendix exhibits 6a, 6b, and 6f).[14]

As shown in exhibit 2, the share of people receiving Medicaid-billed services for any mental health diagnoses was 34 percentage points higher in the intervention group than the control group and 43 percentage points higher in the subset of people in the intervention group who received housing than in the control group. Compared with the control group, the share of people in the intervention group receiving any Medicaid-covered services with an anxiety diagnosis was 13 percentage points higher, the share with a psychotic disorder diagnosis was 9 percentage points higher, and the share with a posttraumatic stress disorder diagnosis was 24 percentage points higher. Among people in the intervention group who received housing, the share of people receiving any Medicaid-covered services with an anxiety diagnosis was 16 percentage points higher, the share with a psychotic disorder diag-

Share of participants in the Denver Supportive Housing Social Impact Bond Initiative who used Medicaid-covered health services, by diagnosis, 2016–19

Diagnoses	Intention-to-treat analysis			Treatment-on-treated analysis
	Intervention (%)	Control (%)	Difference[a]	Difference[a]
Any mental health diagnosis	75	41	34****	43****
Anxiety	27	15	13****	16****
Psychotic disorder	27	18	9***	12***
Developmental disorder	2	1	1	1
PTSD	32	8	24****	31****
Bipolar	19	13	6*	7*
Other	4	5	−2	−2
Any substance use diagnosis	75	75	1	1
Alcohol	53	57	−4	−5
Cocaine	9	7	2	2
Opiates	10	10	0	1
Other[b]	29	26	3	3
Any physical health diagnosis	70	71	−2	−2
COPD	13	12	2	2
Connective tissue disorder	0	0	−0	−0
Diabetes	5	8	−3*	−4*
Osteoarthritis	8	10	−2	−2
Seizure	7	8	−1	−1
HIV	2	2	1	1
Hepatitis	2	1	1	1
Other communicable disease	0	1	−0	−0
Any injuries	64	67	−3	−4
Wounds	61	62	−1	−2
Burns	2	2	−0	−0
Frostbite	2	3	−2	−2
Poisoning[c]	18	24	−6*	−8*
Other injuries	20	22	−3	−3

sources Medicaid encounter data are from Colorado Access and Denver Health and Hospital Authority, 2015–19. Demographic and arrest data used as controls in the intention-to-treat (ITT) and treatment-on-treated (TOT) regression analyses are from the Denver Police Department, 2015–19. Jail stay data used as controls in the regression are from the Denver Sheriff Department, 2015–19. **notes** The sample corresponding to the results shown includes participants in the intervention group ($n = 275$) and control group ($n = 274$) enrolled in Medicaid in Denver County at any point in the year before randomization. The definition of randomization, descriptions of the ITT and TOT analyses, and a list of the controls included in the regression-adjusted ITT and TOT models are in the exhibit 1 notes. Results reflect use within 2 years of randomization. PTSD is posttraumatic stress disorder. COPD is chronic obstructive pulmonary disease. [a]Percentage points. [b]Cannabis, inhalants, psychoactive substances, sedative hypnotics or anxiolytics, hallucinogens, amphetamines, or nosology or polysubstance. [c]Includes overdose. $*p < 0.10$ $***p < 0.01$ $****p < 0.001$

nosis was 12 percentage points higher, and the share with a posttraumatic stress disorder diagnosis was 31 percentage points higher compared with the control group. Although the p value was slightly over the threshold for significance, the intervention group was also 6 percentage points less likely to have any Medicaid-covered service with a poisoning diagnosis (which includes overdoses) than the control group.

In our robustness checks that included the full sample of 721 people randomly assigned to the intervention or control group, we found that the direction and significance of differences between the two groups were consistent with results of the main analyses with respect to the average number of Medicaid-covered services used and the share of participants with specified diagnoses who used those services (appendix exhibits 5a–5g and 8a–8j).[14]

MEDICAID ENROLLMENT Although the intervention group had significantly higher use of several Medicaid-covered services than the control group within the two-year study period, we found that compared with the control group, Medicaid enrollment was significantly lower among people in the intervention group and among the subset of that group who received housing than among those in the control group during the postrandomization period (exhibit 3). The percentage of people enrolled in Medicaid was higher in both the control group and the intervention group in the postrandomization period than in the prerandomization period (appendix exhibit 2);[14] however, the control

EXHIBIT 3

Medicaid enrollment among participants in the Denver Supportive Housing Social Impact Bond Initiative, by number of years since randomization, 2016–19

	Intention-to-treat analysis			Treatment-on-treated analysis
	Intervention	Control	Difference[a]	Difference[a]
Any Medicaid enrollment (%)				
1 year postrandomization	76	81	−6***	−8***
1–2 years postrandomization	76	81	−5**	−7**
2 years postrandomization	80	84	−5***	−6***
No. of months enrolled (mean)				
1 year postrandomization	9	9	−0**	−1**
1–2 years postrandomization	9	9	−1***	−1***
2 years postrandomization	18	19	−1***	−1***
Any Medicaid services (%)				
1 year postrandomization	75	72	3	4
1–2 years postrandomization	67	66	0	1
2 years postrandomization	78	80	−1	−2

SOURCE Medicaid enrollment data are from Colorado Access and Denver Health and Hospital Authority, 2015–19. Demographic and arrest data used as controls in the intention-to-treat (ITT) and treatment-on-treated (TOT) regression analyses are from the Denver Police Department, 2015–19. Jail stay data used as controls in the regression are from the Denver Sheriff Department, 2015–19. **NOTES** The sample for these regressions includes all participants randomized to either the intervention group ($n = 361$) or the control group ($n = 360$). The definition of randomization, descriptions of the ITT and TOT analyses, and a list of the controls included in the regression-adjusted ITT and TOT models are in the exhibit 1 notes. [a]Percentage points. **$p < 0.05$ ***$p < 0.01$

group had a larger increase in enrollment post-randomization, resulting in the significant differences in exhibit 3. People in the intervention group and those in the subset of the intervention group who received housing within two years were enrolled in Medicaid for an average of one month less than those in the control group.

MORTALITY There were no significant differences between the intervention and control groups with respect to mortality (exhibit 4). The sample size in our study was insufficient to enable us to analyze causes of death.

Discussion And Conclusion

As part of a randomized controlled trial to test the effects of a Housing First approach to permanent supportive housing, we analyzed the intervention's impact on health services use, Medicaid enrollment, and mortality among people who experienced chronic homelessness and had frequent arrests and jail stays in the Denver metropolitan area. We found that within the two-year study period, people in the intervention group had significantly more office-based care for psychiatric diagnoses, fewer ED visits, more unique

EXHIBIT 4

Mortality among participants in the Denver Supportive Housing Social Impact Bond Initiative, by number of years since randomization, 2016–19

	Intention-to-treat analysis			Treatment-on-treated analysis
	Intervention	Control	Difference[a]	Difference[a]
Mortality (%)				
1 year postrandomization	3	3	0.5	0.6
1 to 2 years postrandomization	4	2	2	2
2 years postrandomization	7	5	2	3

SOURCE Medicaid enrollment data are from Colorado Access and Denver Health and Hospital Authority 2015–19. Demographic and arrest data used as controls in the intention-to-treat (ITT) and treatment-on-treated (TOT) regression analyses are from the Denver Police Department, 2015–19. Jail stay data used as controls in the regression are from the Denver Sheriff Department, 2015–19. Mortality data are from the Colorado Department of Public Health and Environment's Vital Statistics Program, 2015–19. **NOTES** The sample for these regressions includes all participants randomly assigned to either the intervention group ($n = 361$) or the control group ($n = 360$) The definition of randomization, descriptions of the ITT and TOT analyses, and a list of the controls included in the regression-adjusted ITT and TOT models are in the exhibit 1 notes. [a]Percentage points.

medications, and greater use of other health care than people in the control group. These results are consistent with those of another randomized controlled trial, which also found that a Housing First intervention with ACT services reduced ED visits,[8] and with results from a randomized controlled trial indicating that permanent supportive housing increased the use of outpatient mental health care.[9] However, the latter study found no impact on ED visits.

Within the Medicaid data, it was not possible to differentiate between ACT services and other Medicaid-covered services. However, we believe that it is likely that much of the difference between the intervention group and the control group in office-based care for psychiatric diagnoses and prescription medications in our study can be attributed to the ACT services provided through the Denver SIB service model because some of these services were billed to Medicaid based on each SIB supportive housing provider's contract with Medicaid. ACT services are often intensive, with ACT team members having visits with participants up to multiple times per week based on participants' needs for services such as medication management. However, the increases in office-based visits for psychiatric care and prescription medications are particularly notable because engagement with the ACT team or other health care providers is not required for housing placement or retention but, rather, is driven by participants' goals for treatment and recovery. Unlike services as usual, the Housing First intervention led to a shift from ED visits to community-based care, which potentially enabled participants to address physical and mental health concerns in a timely manner and avoid health crises. Although it was slightly over the threshold for significance, we also believe that the finding that participants in the intervention were less likely to be treated for a poisoning diagnosis (which includes overdoses) is notable, given the high levels of SUD diagnoses in this population and efforts by supportive housing providers to implement effective strategies to address substance use. Future research is needed to examine changes in health status and well-being among the Denver SIB participants.

Although we found higher rates of Medicaid enrollment for the control group compared with the intervention group in the postrandomization period, Medicaid enrollment increased for both groups, and the difference was driven by more new enrollments in the control group, rather than by a decline in enrollments in the intervention group. We believe that the increase in new enrollments among the control group could be explained by local efforts to enroll people in Medicaid before release from jail. Participants in the control group spent more time in jail than those in the intervention group, on average, in the postrandomization period[13] and therefore were more likely to be enrolled through this local effort. Further research could focus on the pathway by which participants in the control group enrolled in Medicaid.

We found no significant differences in mortality rates between the intervention and control groups. The mortality rates for both groups are consistent with prior research that documents the medical vulnerability and mortality among people experiencing homelessness.[15] This suggests that stable housing is not always able to reverse the health effects of chronic homelessness. More research is needed to increase understanding of whether and how causes of death may differ between the two groups.

In 2022, federal data showed the highest total number of people experiencing homelessness and the highest number of people experiencing chronic homelessness since data collection began in 2007.[16] Homelessness remains an urgent public health concern, particularly for people who endure chronic homelessness and have high rates of mental health and substance use disorders.[17] Communities are expanding homeless service systems to meet the growing needs by increasing both permanent housing placements (such as permanent supportive housing) and temporary housing placements (such as emergency shelter), yet demand for supportive housing has continued to far outpace the available supply across the US.[16,18] Substantial increases in public funding for supportive housing are needed to implement Housing First approaches at scale. As policy makers seek increased funding to scale up effective ways to address the needs of populations experiencing chronic homelessness, our results provide evidence that supportive housing with a Housing First approach not only can provide a housing solution but also can facilitate engagement in needed health care services. The Medicaid program, hospitals, and other health care providers should be key partners in and potential funders for initiatives to scale supportive housing.

Results of the Denver SIB build on earlier evidence of the potential of Housing First to increase housing stability for people who have experienced chronic homelessness. When considering pathways to scale up supportive housing interventions, policy makers should recognize the potential of Housing First to facilitate office-based psychiatric care and the use of medications in a population with many health care needs. ∎

NOTES

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14 To access the appendix, click on the Details tab of the article online.

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