

**What's new in homeless health care?
A no-jargon summary of the latest research**

I. Health status
Travis Baggett

Factors Associated with Mortality Among Homeless Older Adults in California: The HOPE HOME Study

Brown RT, Evans JL, Valle K, Guzman D, Chen YH, Kushel MB
JAMA Intern Med 2022;182(10):1052-1060

Summary: The authors examined mortality rates, causes of death, and risk factors for death in a community-based cohort of older homeless adults (median age 58 years, 76% male, 80% black) in Oakland, CA. Twenty-six percent (n=117) died over a median follow-up of 55 months, yielding an age-adjusted all-cause mortality rate 3.5 times higher than in the Oakland general population. The leading causes of death were heart disease (14.5%), cancer (14.5%), drug overdose (12.0%), chronic lower respiratory diseases (9.4%), and chronic liver disease (6.8%). Risk factors for death included having a first episode of homelessness at ≥ 50 years old, current homelessness or institutionalization (SNF/jail/prison) at follow-up, fair/poor self-rated health, and diabetes.

Why we chose this paper: This study expands knowledge about mortality and risk factors for death among older homeless adults using a strong methodologic approach that included longitudinal follow-up with detailed data collection every 6 months. Findings emphasize the importance of preventing late-life homelessness, provision of permanent supportive housing for older homeless adults, and tailored chronic disease management and end-of-life care for an aging homeless population.

Related papers:

Semere W, Kaplan L, Valle K, Guzman D, Ramsey C, Garcia C, Kushel M. Caregiving Needs Are Unmet for Many Older Homeless Adults: Findings from the HOPE HOME Study. *J Gen Intern Med* 2022;37(14):3611-3619.

Garcia-Grossman I, Kaplan L, Valle K, Guzman D, Williams B, Kushel M. Factors Associated with Incarceration in Older Adults Experiencing Homelessness: Results from the HOPE HOME Study. *J Gen Intern Med* 2022;37(5):1088-1096.

Cawley C, Kanzaria HK, Zevin B, Doran KM, Kushel M, Raven MC. Mortality Among People Experiencing Homelessness in San Francisco During the COVID-19 Pandemic. *JAMA Netw Open* 2022;5(3):e221870.

City streetscapes and neighborhood characteristics of fatal opioid overdoses among people experiencing homelessness who use drugs in New York City, 2017-2019

Nesoff ED, Wiebe DJ, Martins SS
Int J Drug Policy 2022;110:103904

Summary: The authors used data from the New York City Office of the Chief Medical Examiner to identify 3,276 people who died of accidental opioid overdose between February 2017 and December 2019. They used Google Street View to conduct systematic social observations of the street blocks where each overdose death occurred and then compared the social and structural characteristics of overdose locations for homeless vs. non-homeless decedents. Overdoses involving homeless decedents were geographically clustered in Manhattan, South Bronx, and Brooklyn. In comparison to overdoses involving non-homeless individuals, overdoses among homeless decedents were more likely to occur in areas with construction, graffiti, police presence, loitering, and high levels of neighborhood deprivation, and were less likely to occur in areas with game courts, public benches, traffic calming features, security alarm signs, adults doing yard work, and higher proportions of residential structures.

Why we chose this paper: This innovative study combines rigorous observational methods with geospatial epidemiology to shed light on the built and social environment as it relates to opioid overdose deaths among people experiencing homelessness. Although the mechanisms by which these structural features

might influence health are uncertain, there could be implications for the potential use of these features to guide the deployment of individual and neighborhood-level interventions focusing on harm reduction and treatment outreach.

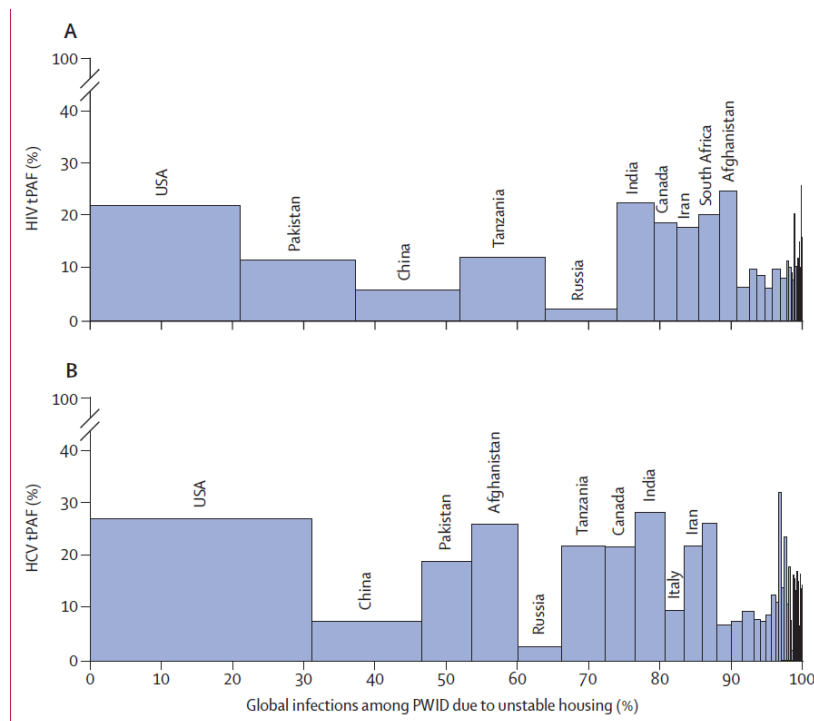
Related papers:

Liu M, Richard L, Campitelli MA, Nisenbaum R, Dosani N, Dhalla IA, Wadhwa RK, Shariff SZ, Hwang SW. Drug Overdoses During the COVID-19 Pandemic Among Recently Homeless Individuals. *Addiction* 2022;117(6):1692-1701.

The contribution of unstable housing to HIV and hepatitis C virus transmission among people who inject drugs globally, regionally, and at country level: a modelling study

Stone J, Artenie A, Hickman M, Martin NK, Degenhardt L, Fraser H, Vickerman P
Lancet Public Health 2022;7(2):e136-e145

Summary: The authors developed computer simulation models to estimate the proportion of HIV and HCV transmission attributable to unstable housing among people who inject drugs in 58 countries, projected for the years 2020-2029. They found that 22% of HIV transmissions in the US were attributable to unstable housing, which in turn constituted 22% of unstable housing-attributable HIV transmissions globally among people who inject drugs. For HCV, they found that 27% of transmissions in the US were attributable to unstable housing, which in turn constituted 32% of unstable housing-attributable HCV transmissions globally among people who inject drugs.



Why we chose this paper: This study uses rigorous dynamic transmission modeling methods to generate the first global and country-specific projections of HIV and HCV transmission attributable to housing instability. Findings underscore the importance of addressing housing and homelessness as key strategies for reaching HIV and HCV elimination targets.

Related papers:

Tordoff DM, Kerani RP, Glick SN, Hood J, Golden MR, Lechtenberg R, Buskin S, Herbeck JT. Molecular Epidemiology of Individuals Experiencing Unstable Housing or Living Homeless at HIV Diagnosis: Analysis of HIV Surveillance Data in King County, Washington. *AIDS Behav* 2022 Oct;26(10):3459-3468.

Reddon H, Socias ME, Justice A, Cui Z, Nosova E, Barrios R, Fairbairn N, Marshall BDL, Milloy MJ. Periods of Homelessness Linked to Higher VACS Index Among HIV-Positive People Who Use Drugs. *AIDS Behav* 2022;26(6):1739-1749.

Marcus R, Tie Y, Dasgupta S, Beer L, Padilla M, Fagan J, Prejean J. Characteristics of Adults With Diagnosed HIV Who Experienced Housing Instability: Findings From the Centers for Disease Control and Prevention Medical Monitoring Project, United States, 2018. *J Assoc Nurses AIDS Care* 2022;33(3):283-294.

Berthaud V, Johnson L, Jennings R, Chandler-Auguste M, Osijo A, Baldwin MT, Matthews-Juarez P, Juarez P, Wilus D, Tabatabai M. The effect of homelessness on viral suppression in an underserved metropolitan area of middle Tennessee: potential implications for ending the HIV epidemic. *BMC Infect Dis* 2022;22(1):144.

Drug Overdose Mortality Among People Experiencing Homelessness, 2003 to 2018

Fine DR, Dickins KA, Adams LD, De Las Nueces D, Weinstock K, Wright J, Gaeta JM, Baggett TP
JAMA Netw Open 2022;5(1):e2142676

Summary: The authors examined temporal trends in drug overdose mortality rates from 2003 to 2018 among 60,092 patients (mean age 40 years, 63% male, 26.5% Black) seen at Boston Health Care for the Homeless Program. Drug overdose accounted for 1 in 4 deaths in the study cohort at an age- and sex-standardized rate that was 12 times higher than in the Massachusetts general population. Drug overdose death rates increased over the study period. Opioids were implicated in 91% of all overdose deaths; however, the composition of opioid-involved deaths changed over time, with synthetic opioids becoming nearly ubiquitous (96%) by 2018. In addition, opioid-involved polysubstance overdoses increased over time, with cocaine-plus-opioids being the most common combination.

Why we chose this paper: This study demonstrates the enormous toll of drug overdose deaths in a large population of people experiencing homelessness observed over a 16-year period. Synthetic opioids and polysubstance combinations – particularly involving cocaine – became more prominent over time. The findings have implications for interventions to reduce the burden of drug overdose deaths in this population.

Related papers:

Liu M, Richard L, Campitelli MA, Nisenbaum R, Dosani N, Dhalla IA, Wadhera RK, Shariff SZ, Hwang SW. Drug Overdoses During the COVID-19 Pandemic Among Recently Homeless Individuals. *Addiction* 2022;117(6):1692-1701.

Lower Prevalence of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Infection Among People Experiencing Homelessness Tested in Outdoor Encampments Compared With Overnight Shelters: Denver, Colorado, June-July 2020

Rowan SE, McCormick DW, Wendel KA, Scott T, Chavez-van de Hey J, Wilcox K, Stella SA, Kamis K, Burman WJ, Marx GE
Clin Infect Dis 2022;75(1):e157-e164

Summary: The authors tested 871 people experiencing homelessness (median age 46 years, 82% male, 22% Hispanic, 20% Black) for current and/or prior COVID infection during 11 testing events conducted June-July 2020 at 4 overnight shelters and 3 encampments in Denver, CO. They found that people tested at overnight shelters were significantly more likely to test positive for current COVID by PCR (8.6% vs. 2.5%) and for prior COVID by IgG antibody testing (21.5% vs. 8.7%) than people tested at encampments. These differences persisted even after controlling for age, gender, race/ethnicity, symptoms, and month.

Why we chose this paper: This study adds solid evidence in support of the intuitive notion that COVID transmission is higher in congregate shelters than in outdoor encampments and supports the CDC's recommendation to leave these encampments intact when individual housing options are not available.

Related papers:

Porter NAC, Brosnan HK, Chang AH, Henwood BF, Kuhn R. Race and Ethnicity and Sex Variation in COVID-19 Mortality Risks Among Adults Experiencing Homelessness in Los Angeles County, California. *JAMA Netw Open* 2022;5(12):e2245263.

Chang AH, Kwon JJ, Shover CL, Greenwell L, Gomih A, Blake J, Del Rosario A, Jones PS, Fisher R, Balter S, Brosnan HK. COVID-19 Mortality Rates in Los Angeles County Among People Experiencing Homelessness, March 2020-February 2021. *Public Health Rep* 2022;137(6):1170-1177.

Cox SN, Rogers JH, Thuo NB, Meehan A, Link AC, Lo NK, Manns BJ, Chow EJ, Al Achkar M, Hughes JP, Rolfes MA, Mosites E, Chu HY. Trends and factors associated with change in COVID-19 vaccination intent among residents and staff in six Seattle homeless shelters, March 2020 to August 2021. *Vaccine X* 2022;12:100232.

II. Health care delivery

Kate Diaz Vickery

Hospitalizations for COVID-19 Among US People Experiencing Incarceration or Homelessness

Montgomery MP, Hong K, Clarke KEN, Williams S, Fukunaga R, Fields VL, Park J, Schieber LZ, Kompaniyets L, Ray CM, Lambert LA, D'Inverno AS, Ray TK, Jeffers A, Mosites E
JAMA Netw Open 2022;5(1):e2143407

Summary: The authors compared COVID-19 hospitalizations for people experiencing homelessness (PEH) or incarceration (PEI) with hospitalizations among the general population in a cross-sectional analysis using the Premier Healthcare Database. This included 3,415 PEI and 9,434 PEH who were evaluated in more than 800 US hospitals for COVID-19 from April 1, 2020, to June 30, 2021. They found that PEH and PEI were hospitalized more often (2170 of 3415 [63.5%] PEI; 6088 of 9434 [64.5%] PEH) than the general population (624 470 of 1 257 250 [49.7%]) ($P < .001$). Both PEI and PEH hospitalized for COVID-19 were more likely to be younger, male, and non-Hispanic Black than the general population and had longer lengths of stay. PEI had a higher frequency of mechanical ventilation and mortality than the general population while PEH did not. They conclude that expanding medical respite may reduce hospitalizations in these disproportionately affected populations.

Why we chose this paper: An overwhelming volume of papers have been published documenting the impact of COVID-19 on PEH. This includes numerous papers about traditional hospitalization and isolation and/or quarantine hotels and other facilities. This paper was a large study with representation across the US that offers a glimpse into this emerging area.

Related papers:

Fleming MD, Evans JL, Graham-Squire D, Cawley C, Kanzaria HK, Kushel MB, Raven MC. Association of Shelter-in-Place Hotels With Health Services Use Among People Experiencing Homelessness During the COVID-19 Pandemic. *JAMA Netw Open* 2022;5(7):e2223891.

Kim B, Petrakis BA, Sliwinski SK, McInnes DK, Gifford AL, Smelson DA. Staff and Veteran Perspectives on Residential Treatment Programs' Responses to COVID-19: A Qualitative Study Guided by the WHO's After Action Review Framework. *Community Ment Health J* 2023;59(3):600-608.

Factors Associated with Sustained Virologic Response to Hepatitis C Treatment in a Homeless-Experienced Cohort in Boston, 2014-2020

Beiser ME, Shaw LC, Wilson GA, Muse KO, Shores SK, Baggett TP
J Gen Intern Med 2023;38(4):865-872

Summary: This study summarized more than 6 years of outcomes from the Care to Cure Hepatitis C Virus (HCV) treatment team at Boston Health Care for the Homeless Program. They began treatment with 867 people and assessed 678 for cure (78%, sustained virologic response [SVR]). They achieved SVR in 607 patients (70%) and found older age, more stable housing, and heavy alcohol use to be

associated with higher likelihood of SVR in multivariable analysis. They found drug use in the past year to be associated with lower likelihood of SVR.

Why we chose this study: This study demonstrates the feasibility and challenge of delivering HCV treatment within an HCH program. Authors document an impressive SVR rate among a population sometimes excluded from care. Furthermore, authors describe important strategies about how they built trust and delivered care with their street medicine team who have earned the trust of people who stay outside and heavily use alcohol and suggest approaches that could be used to improve care delivery for people who use drugs (e.g., integrating HCV treatment into trusted spaces such as syringe service programs).

Related papers:

McInnes DK, Troszak LK, Fincke BG, Shwartz M, Midboe AM, Gifford AL, Dunlap S, Byrne T. Is the Availability of Direct-Acting Antivirals Associated with Increased Access to Hepatitis C Treatment for Homeless and Unstably Housed Veterans? *J Gen Intern Med.* 2022 Apr;37(5):1038-1044.

Conti J, Dryden E, Fincke BG, Dunlap S, McInnes DK. Innovative Approaches to Engaging Homeless and Marginally Housed Patients in Care: a Case Study of Hepatitis C. *J Gen Intern Med.* 2023 Jan;38(1):156-164.

Khalili M, Powell J, Park HH, Bush D, Naugle J, Ricco M, Magee C, Braimoh G, Zevin B, Fokuo JK, Masson CL. Shelter-Based Integrated Model Is Effective in Scaling Up Hepatitis C Testing and Treatment in Persons Experiencing Homelessness. *Hepatology Commun.* 2022 Jan;6(1):50-64. doi: 10.1002/hep4.1791.

Saha R, Miller AP, Parriott A, Horvath H, Kahn JG, Malekinejad M. Viral blood-borne infections testing and linkage to care cascade among persons who experience homelessness in the United States: a systematic review and meta-analysis. *BMC Public Health.* 2022 Jul 26;22(1):1421. doi: 10.1186/s12889-022-13786-6.

Allen EM, Smither B, Barranco L, Reynolds J, Bursey K, Mattson K, Mosites E. Communicating Effectively With People Experiencing Homelessness to Prevent Infectious Diseases. *J Infect Dis.* 2022 Oct 7;226(Suppl 3):S340-S345. doi: 10.1093/infdis/jiac336.

Geospatial analysis of associations among mental health need, housing need, and involuntary psychiatric hospitalizations of people experiencing homelessness in Los Angeles County

Grotts JH, Mead MM, Rab S, Walker IJ, Choi KR
Soc Sci Med 2022;311:115343

Summary: This study used geospatial indicators of mental health need and homelessness in Los Angeles County Service Planning Areas (SPAs) and a psychiatric sample of adults who were homeless to investigate: 1) overlap between area levels of mental health need and corresponding volume of involuntary psychiatric hospitalizations over time; 2) overlap between area levels of unsheltered homelessness and corresponding volume of involuntary psychiatric hospitalizations over time; and 3) associations between area level of mental health need, area level of unsheltered homelessness, and initiation of a mental health conservatorship for grave disability. Their sample included 373 adults who were homeless and hospitalized on an involuntary psychiatric hold from 2016 to 2018. They found a significantly growing volume of patients admitted from areas with higher levels of mental illness need that grew from 2016 to 2018 but fewer patients admitted from areas with higher levels of unsheltered homelessness over the same years. Being admitted from areas with the highest levels of unsheltered homelessness was associated with higher odds of conservatorship initiation (OR = 1.73, 95% CI = 1.82-16.74). Authors conclude a need for targeted mental health and housing services to reach areas of highest need in Los Angeles County.

Why we chose this paper: This study uses novel geospatial analyses to generate data on an important, under-studied area that is under consideration for expansion in places like New York City (see Inskeep

below). The other paper (see Choi et al., below) found longer hospital admission but higher rates of housing among people with serious mental illness, elucidating a tension between resources and support for this vulnerable population.

Related media/papers:

Inskeep S, Garsd J. NYC's mayor faces backlash for planning to involuntarily hospitalize homeless people. *NPR*. <https://www.npr.org/2023/01/03/1146620873/nycs-mayor-faces-backlash-for-planning-to-involuntarily-hospitalize-homeless-peo>. Published January 3, 2023. Accessed May 13, 2023.

Choi KR, Castillo EG, Seamans MJ, Grotts JH, Rab S, Kalofonos I, Mead M, Walker IJ, Starks SL. Mental Health Conservatorship Among Homeless People With Serious Mental Illness. *Psychiatr Serv*. 2022 Jun;73(6):613-619.

COVID-19 vaccine coverage and factors associated with vaccine uptake among 23 247 adults with a recent history of homelessness in Ontario, Canada: a population-based cohort study

Shariff SZ, Richard L, Hwang SW, Kwong JC, Forchuk C, Dosani N, Booth R
Lancet Public Health. 2022;7(4):e366-e377

Summary: This study used population-based health care administrative data from Ontario, Canada to describe COVID-19 vaccine coverage and compare PEH to the general population. They found lower rates of vaccination among PEH with 61.4% (95% CI 60.8-62.0) having received at least one dose of a COVID-19 vaccine and 47.7% (95% CI 47.0-48.3) having received two doses, in comparison to 86.6% and 81.6% of adults in the total Ontario population, respectively. In multivariable analysis, factors associated with COVID-19 uptake were one or more outpatient visits to a general practitioner, older age, receipt of an influenza vaccine, being identified as homeless via a visit to a community health center versus exclusively a hospital-based encounter, and the presence of chronic health conditions. People living in a smaller metropolitan region (aRR 0.92 [95% CI 0.90-0.94]) or rural location (0.93 [0.90-0.97]) versus large metropolitan regions had lower uptake.

Why we chose this paper: This study was the largest we reviewed to summarize Covid-19 vaccine uptake among PEH. Despite higher risk of transmission and higher rates of co-morbidity, vaccine hesitancy was high among many PEH. There were many other papers demonstrating similar trends quantitatively as well as qualitatively documenting why this may be and possible solutions (see below).

Related papers:

Shearer RD, Vickery KD, Bodurtha P, Drawz PE, Johnson S, Jeruzal J, Waring S, Chamberlain AM, Kharbanda AB, Leopold J, Harrison B, Hiler H, Khazanchi R, Rossom R, Margolis KL, Rai NK, Muscoplat MH, Yu Y, Dudley RA, Klyn NAM, Winkelman TNA. COVID-19 Vaccination Of People Experiencing Homelessness And Incarceration In Minnesota. *Health Aff* 2022;41(6):846-852.

Berner L, Meehan A, Kenkel J, Montgomery M, Fields V, Henry A, Boyer A, Mosites E, Vickery KD. Clinic- and Community-Based SARS-CoV-2 Testing Among People Experiencing Homelessness in the United States, March-November 2020. *Public Health Rep* 2022;137(4):764-773.

Knight KR, Duke MR, Carey CA, Pruss G, Garcia CM, Lightfoot M, Imbert E, Kushel M. COVID-19 Testing and Vaccine Acceptability Among Homeless-Experienced Adults: Qualitative Data from Two Samples. *J Gen Intern Med* 2022;37(4):823-829.

McCosker LK, El-Heneidy A, Seale H, Ware RS, Downes MJ. Strategies to improve vaccination rates in people who are homeless: A systematic review. *Vaccine* 2022;40(23):3109-3126.

A longitudinal cross-sectional analysis of substance use treatment trends for individuals experiencing homelessness, criminal justice involvement, both, or neither - United States, 2006-2018

Shearer RD, Shippee ND, Vickery KD, Stevens MA, Winkelman TNA
Lancet Reg Health Am 2022;7:100174

Summary: This paper used the Treatment Episode Dataset-Admissions between 2006 to 2018 to describe characteristics and trends in publicly funded substance use treatment admissions indicating homelessness (n=2,524,413), criminal justice involvement (CJI) (4,764,750), both (509,902), or neither (8,950,797) in the US. They found heroin admissions increased across all groups. Methamphetamine-related admissions rose substantially for individuals experiencing homelessness, CJI, or both. They found gender-based differences in primary substances driving admissions with heroin surpassing alcohol for homeless women and women with neither homelessness nor CJI. They found lower treatment quality among homeless and/or CJI groups with higher use of detoxification facilities (which the American Society of Addiction Medicine deems inappropriate for opioid use disorder) and lower use of medication for opioid use disorder.

Why we chose this paper: Substance use impacts some PEH and causes substantial morbidity and mortality. This paper was the largest and most comprehensive of several recent papers to use the homeless indicator present at admission in this large database of US substance use treatment admissions. See other interesting papers below.

Related papers:

Padwa H, Bass B, Urada D. Homelessness and publicly funded substance use disorder treatment in California, 2016-2019: Analysis of treatment needs, level of care placement, and outcomes. *J Subst Abuse Treat* 2022;137:108711.

Han BH, Doran KM, Krawczyk N. National trends in substance use treatment admissions for opioid use disorder among adults experiencing homelessness. *J Subst Abuse Treat* 2022;132:108504.

III. Interventions

Alaina Boyer

Supporting Vulnerable People During Challenging Transitions: A Systematic Review of Critical Time Intervention

Manuel JI, Nizza M, Herman DB, Conover S, Esquivel L, Yuan Y, Susser E
Adm Policy Ment Health 2023;50(1):100-113.

Summary: This is a systematic review to identify strengths and gaps in the evidence base of Critical Time Intervention (CTI) research. The authors prioritized this focus to determine the effectiveness of a prevention strategy related to homelessness and other adverse outcomes during life course transitions. Thirteen publications were included in the final review, showing that there seems to be positive impacts of the intervention on at-risk populations during times of transition. These findings demonstrate the need for more CTI studies to better understand the underlying mechanisms of action leading to successful outcomes.

Why we chose this paper: Better understanding the root causes of homelessness and developing upstream strategies are critical to reducing and ending homelessness. This review is a compilation of the CTI efforts that have been published and importantly includes non-traditional evidence (grey literature) that may not be considered rigorous enough to meet research standards but which has shown positive quality improvement outcomes.

Related papers (in addition to the 13 publications listed in the review):

Gabrielian S, Cordasco KM, Finley EP, Hoffmann LC, Harris T, Calderon RA, Barnard JM, Ganz DA, Olmos-Ochoa TT. Engaging stakeholders to inform national implementation of critical time intervention in a program serving homeless-experienced Veterans. *Front Psychol* 2022;13:1009467.

MIRRORS program: Helping pregnant and postpartum women and families with substance use problems

Bray JH, Zaring-Hinkle B, Scamp N, Tucker K, Cain MK
Subst Abuse 2022;43(1):792-800

Summary: The authors conducted a mixed methods intervention to evaluate the Maternal Initiative for Reflective Recovery-Oriented Residential Services (MIRRORS) program in a residential treatment service in Houston, TX. They enrolled 215 pregnant and postpartum women at three timepoints (intake, discharge, and 6-month follow-up). Quantitative data collection included six validated scales: Center for Substance Abuse Treatment GPRA Client Outcome Measures for Discretionary Programs (CSAT GPRA), Family Assessment Device (FAD), Recovery Capital Scale (RCS), Adult Adolescent Parenting Inventory-2 (AAPI-2), and Parent's Assessment of Parental Monitoring (PAPM). Eleven focus groups were conducted to identify successes and areas for program improvement. Enhanced services were also provided for the residents that included: Seeking Safety Therapy course, Celebrating Families course, Nurturing parenting, Prochaska & DiClemente's Transtheoretical Model Stages of Change, Motivational Interviewing, and Trauma Focused Cognitive Behavioral Therapy (TF-CBT). Outcomes were measured at intake and 6-month follow-up and included: substance use, housing status, employment and education status, crime and criminal justice status, family functioning, recovery capital, and parenting risk. Results showed healthier family functioning, improved capital for recovery, and improved parental monitoring. Significant changes were seen for all outcome measures, including less drug and alcohol use, less involvement with criminal justice, and improved housing status.

Why we chose this paper: This study shows that tailored, trauma-informed wraparound services for a high-risk population were effective in establishing trust and producing positive outcomes. Favorable impacts were seen beyond the individual level and extended to the family unit, including family reunification and empowering individuals to educate their family about addiction and recovery.

Related papers:

Spiegel JA, Graziano PA, Arcia E, Cox SK, Ayala M, Carnero NA, O'Mara NL; Sundari Foundation. Addressing Mental Health and Trauma-Related Needs of Sheltered Children and Families with Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT). *Adm Policy Ment Health* 2022;49(5):881-898.

Nelipovich S, Kotagiri N, Afreen E, Craft MA, Allen S, Davitt C, Ruffalo L, Diehr S. Impact Evaluation of Patient-Centered, Community-Engaged Health Modules for Homeless Pregnant Women. *WMJ* 2022 Jul;121(2):99-105.

Delivering collaborative mental health care within supportive housing: implementation evaluation of a community-hospital partnership

Barker LC, Lee-Evoy J, Butt A, Wijayasinghe S, Nakouz D, Hutcheson T, McCarney K, Kaloty R, Vigod SN *BMC Psychiatry* 2022;22(1):36

Summary: The authors led an implementation study using the Expert Recommendations for Implementing Change strategy to develop and evaluate an outpatient collaborative mental health care delivery model in a permanent supportive housing setting in Toronto, Canada. The project involved a partnership between the YWCA, Women's College Hospital, and Jean Tweed Centre, a community-based substance use and mental health agency to provide case management and nurse-led primary care services to the tenants. The outcomes measured were meeting tenant's mental health care needs, enhanced safety, trauma-informed and culturally-safe care, better sense of agency and support among staff, and sustainability in care. Thirteen tenants were enrolled, and 11 on-site staff and 3 stakeholders were involved in the implementation. Program activities included multidisciplinary support for tenants, tenant engagement, building staff capacity, 7 case conferences, 2 direct consultations, 1 psychoeducation session for tenants, and 1 teaching session for staff. A psychiatrist was on-site 3 days per week. 5-point Likert surveys found that all participants agreed they learned something new, the skills would be useful, they felt respected by the group and facilitators, and appreciated the on-site location. Facilitators and barriers were collected via focus groups at 6 months and showed positive feedback overall, with some barriers related to staff turnover and the top-down, leadership-driven approach.

Why we chose this paper: This evaluation shows that providing on-site mental health services within permanent supportive housing can build trust and provide tenants with useful skills. This study also measures implementation practices that may be applicable in setting up similar programs elsewhere.

Related papers:

Brothers TD, Leaman M, Bonn M, Lewer D, Atkinson J, Fraser J, Gillis A, Gniewek M, Hawker L, Hayman H, Jorna P, Martell D, O'Donnell T, Rivers-Bowerman H, Genge L. Evaluation of an emergency safe supply drugs and managed alcohol program in COVID-19 isolation hotel shelters for people experiencing homelessness. *Drug Alcohol Depend* 2022;235:109440.

HIV Treatment Outcomes in POP-UP: Drop-in HIV Primary Care Model for People Experiencing Homelessness

Hickey MD, Imbert E, Appa A, Del Rosario JB, Lynch E, Friend J, Avila R, Clemenzi-Allen A, Riley ED, Gandhi M, Havlir DV

J Infect Dis 2022;226(Suppl 3):S353-S362

Summary: The authors conducted a medical records review on two cohorts of patients that participated in the Positive-Health Onsite Program for Unstably Housed Populations (POP-UP) program embedded within the Ward 86 Ryan White funded clinic that provides HIV primary care and urgent services to patients experiencing homelessness. The two cohorts were 1) eligible patients referred to POP-UP, and 2) patients who enrolled in POP-UP between January 2019 – February 2021. Chart review was used to collect demographic information, mental health or current SUD status, housing status, and HIV viral load and CD4 counts at baseline and after 12 months. One hundred and twelve patients were enrolled (52% PEH, 100% SUD). After 12 months in the program, 44% had viral suppression. The low-barrier POP-UP model and program was associated with viral suppression among PEH with SUD.

Why we chose this paper: Chart reviews are valuable studies that can dig deeper into quality improvement interventions in the clinic setting to evaluate associations between pre and post program impact on health outcomes. This study supports the importance and value of low-barrier access to care for highly marginalized patients with HIV and SUD.

Related papers:

Fazio D, Zuiderveen S, Guyet D, Reid A, Lalane M, McCormack RP, Wall SP, Shelley D, Mijanovich T, Shinn M, Doran KM. ED-Home: Pilot feasibility study of a targeted homelessness prevention intervention for emergency department patients with drug or unhealthy alcohol use. *Acad Emerg Med* 2022;29(12):1453-1465.

Addressing HIV and Homelessness During COVID-19: A Community-Based Demonstration Project. Kay ES, Bruce J, Foster-Hill S, Rygiel A, Batey DS. *Health Promot Pract* 2022; 30:15248399221135589.

Assessing the impact of a health navigator on improving access to care and addressing the social needs of palliative care patients experiencing homelessness: A service evaluation

Robinson L, Trevors Babici L, Tedesco A, Spaner D, Morey T, Dosani N

Palliat Med 2023;37(4):646-651

Summary: The authors expanded the health navigator model to the palliative care setting with the Palliative Education and Care for the Homeless (PEACH) program in Toronto, Canada, which provides case and care management to PEH. They examined prospective data of logged and archived activities from July 2020 to July 2021 that were input by the health navigators from the PEACH program. A total of 407 activities were logged, measured by the rate of completion (low, moderate, and high frequency), and mapped to key performance indicators. Accompaniment to medical appointments, housing, and patient advocacy were the highest ranked referrals and coordination. As a result, five key areas were identified for service evaluation: 1) Facilitating access, 2) Coordinating care, 3) Addressing SDOH, 4) Advocating for patients, and 5) Counselling patients and loved ones.

Why we chose this paper: Expanding the health navigator model into other care coordination settings helps to amplify the success of the model and the value it brings to delivering quality and equitable care to PEH.

Related papers:

Biederman DJ, Harker M, Schmid L, Sloane R, Langan E, Taylor DH Jr. Cost-Effectiveness of a Homeless Care Transition Program: Durham Homeless Care Transitions. *N C Med J* 2022;83(6):454-460.

IV. Housing Stefan Kertesz

Housing interventions for women experiencing intimate partner violence: a systematic review.

Yakubovich AR, Bartsch A, Metheny N, Gesink D, O'Campo P
Lancet Public Health. 2022 Jan;7(1):e23-e35

Summary: Intimate partner violence (IPV) is the leading cause of women's homelessness, report the authors of this article. That violence may be physical, psychological, or sexual. A great deal of systematic research on homelessness, including comparative trials, has focused on interventions for chronically homeless single adults. Homelessness among women contending with IPV is less visible and less studied but extremely common nonetheless. There have been some US-based systematic reviews before, but this study looked for published articles and "grey literature" (like dissertations) both within and outside the US. The authors sought articles that reported on some kind of housing component, whether it was emergency shelter, rapid rehousing, rent subsidies or stay-at-home support, and that had some form of comparison that might serve as a control, even if it was a simple "before and after" comparison. The authors found 34 studies published from 1985 to 2021, with 23 from peer-reviewed journals. The most common study was a non-controlled "before-and-after" (18 studies) but there were also 7 randomized controlled trials. Most studies (18 of 34) had a sheltering intervention although others had "shelter-plus" where some other service program was included in the evaluation, like safety planning, counseling, family violence education, legal advocacy, children's programming, parenting support, financial support and more. The mean sample size was 123 participants. Nearly all studies presented a high level of concern for bias. This was because limitations included measuring only one outcome (>90%), inadequate sample size (>90%), incomplete outcome data collection (>80%), failure to account for baseline characteristics of the groups being compared (>80%), inadequate concealment of treatment assignment (>90% in 16 studies with comparisons between different subjects), an intervention that was not isolated from other changes made in a before-and-after scenario (100% of the 18 before-after studies) and more. Still, the studies tended to find hints of improvement in mental health outcomes such as depressive symptoms, PTSD, or psychological distress. Some found "reductions in housing and partner stress and increases in perceived safety and intent to leave partner." The authors conservatively conclude that "there was no cumulative evidence of disadvantage" (from the IPV sheltering interventions, with or without services). They note the follow-up for these studies was brief (mean 4.8 months) and that the evidence was at high risk of bias. Nonetheless, the paper suggests that there is room to expand this literature.

Why we chose this paper: Our reviews at the National Health Care for the Homeless Council meeting have often failed to address IPV, and it's important to acknowledge that there are serious efforts to understand sheltering/housing interventions with and without service components.

Towards the Quadruple Aim in permanent supportive housing: A mixed methods study of workplace mental health among service providers.

Kerman N, Goodwin JM, Tiderington E, Ecker J, Stergiopoulos V, Kidd SA
Health Soc Care Community 2022;30(6):e6674-e6688

Summary: To date, research on permanent supportive housing (including "Housing First" models) usually focuses on housing, clinical, and cost outcomes for clients or communities. However, these are

not the only outcomes that matter. The concept of a “Quadruple Aim” comes from health care. It proposes that health systems must try to: 1) enhance the service experience, 2) reduce costs, 3) improve population health, and 4) improve the work-life of service providers. This particular study focuses on that last component (work-life of service providers). The authors collected survey data by email from 130 permanent supportive housing provider staff in Canada, in the early phase of the COVID-19 pandemic, and then did qualitative interviews with 18 of them. The survey was not truly random. However, it covered demographics, impacts of the pandemic, workplace experiences, and more. Among 130 staff, 30 (23.1%) had high psychological distress. The group of respondents was mostly female (82%) and white (78%). They were from all over Canada. In a statistical model, respondents who were younger, those who spent most or all of their time with clients, and those with less social support were more likely to have high levels of psychological distress. In the interviews, several key themes emerged. One was “Sisyphian Endeavors”. This included the continuous lack of affordable housing and the problem of trying to get people into health care services that the housing case managers simply could not provide (i.e. “We’re not healthcare”). Also, they described being unsupported by their organizations and rather overwhelmed by the work. This included an element of disconnection from leaders of housing programs who had low or no understanding of just how hard the work was. Finally, another key theme was described by the authors as “Wear and Tear of ‘Continuous Exposure to Crisis and Chaos.’” In essence, the workload was high, the needed services and funding were often absent, the clients often died, and trauma was all around them. The authors acknowledge that the survey and even the interviews were based on “convenience sampling.” But nonetheless the findings suggest that even if “only” ¼ of providers scored at “high levels of psychological distress” on the survey, the strains of the PSH job are substantial and mostly not understood.

Why we chose this paper: Permanent supportive housing and Housing First are both put forth as policy solutions to persistent homelessness, typically in policy discussions by policy advocates who are aware of promising findings from randomized trials. However, in my own observation and in my systematic research of Housing First as adopted by the Veterans Administration, the front-line staff are often (perhaps “usually”) underprepared and under-supported in managing the chaos, and their bosses rarely understand just how hard the work is. I think this leads to a high risk of Housing First that “overpromises and underdelivers” until and unless we take staff experiences seriously.

Related papers:

Kertesz SG, et al. Housing first on a large scale: Fidelity strengths and challenges in the VA's HUD-VASH program. *Psychol Serv* 2017;14(2):118-128.

Overdose Prevention and Housing: a Qualitative Study Examining Drug Use, Overdose Risk, and Access to Safer Supply in Permanent Supportive Housing in Vancouver, Canada.

Ivsins A, MacKinnon L, Bowles JM, Slaunwhite A, Bardwell G
J Urban Health 2022;99(5):855-864

Summary: Overdose death rates are very high among some homeless subpopulations in North America, most notably those who use illicit drugs and are exposed to combinations of fentanyl, xylazine, and other related chemicals that make for an unpredictable and dangerous drug supply. That risk is not necessarily alleviated by permanent supportive housing. There is a rising interest in certain harm reduction interventions that remain, for the most part, illegal in the US but are permitted in some parts of Canada. This qualitative study from Vancouver reports on residents of one permanent supportive housing building (“The Bellevue”) that provided a range of traditional onsite services (primary care, addiction treatment) along with two that are not typical in the US: a supervised drug consumption space, provision of drug use supplies (smoking and injection equipment) and prescription of “safer supply” (including hydromorphone tablets [“Dillies”] which may be suspended for injection or snorted, or slow-release morphine, along with ready access to agonist therapy such as methadone). This qualitative study involved voluntary interviews with 30 residents who lived in the Bellevue fairly early in the COVID-19 pandemic (October 2020-January 2021). Participants spoke favorably about residing at the Bellevue, often noting the staff and clinic were favorable. However, some had concerns about their safety or other residents making noise at night. Remarkably, in this group, **more participants reported using drugs in their rooms rather than in the potentially safer supervised**

consumption space. They mentioned preference for being alone, feelings of shame or stigma, and rules that prohibited smoking in the common area (some wished to smoke the drugs). Some detailed that use in front of another person led to requests: “You do a hoot (i.e. inhale drugs) and everybody’s all of a sudden starting at you. Like, they’ll be, like, ‘What, you got one for me?’ And it’s, like, ‘F off.’ You know, what are you starting at me for?” Others noted a degree of discretion: “I’d be too ashamed. I am too ashamed.” In regard to safer supply medications, 12 of the 30 participants received onsite prescribed opioids that included morphine, transdermal fentanyl, or hydromorphone. These were delivered in their rooms or available for pick-up. A number described feeling this was safer for them and reported using less illicit drugs and carrying out less criminal activity as a result of the safe supply.

Why we chose this paper: This study offers a novel approach to harm reduction as a service that can (and perhaps **should**) be available in permanent supportive housing. Harm reduction may include overdose reversal agents, clinicians who treat addiction onsite, testing supplies, and, where legal, prescription of safer supply. At the same time, this study hints that “clinical” space is not always where people who use drugs are going to want to use. A more “social” space might be worth considering.

Related papers:

Brothers TD, et al. Evaluation of an emergency safe supply drugs and managed alcohol program in COVID-19 isolation hotel shelters for people experiencing homelessness. *Drug and Alcohol Dependence* 2022;235:109440. This is a review of 77 COVID-19 isolation hotel residents who had to undergo 14 days isolation period in Halifax, Nova Scotia, Canada. To help them maintain isolation, several received drugs or alcohol: 17 received methadone, buprenorphine, or slow-release oral morphine, 27 received hydromorphone (Dilaudid, which may be snorted or injected), six received alcohol and 42 received managed alcohol (12-13 drinks per day, which could include beer, wine or in some instances hard liquor), and 64 received cigarettes. Among 77 hotel residents, just 6 left against advice but 4 of those returned quickly. There were 0 overdose deaths.

Association of Promoting Housing Affordability and Stability With Improved Health Outcomes: A Systematic Review

Chen KL, Miake-Lye IM, Begashaw MM, Zimmerman FJ, Larkin J, McGrath EL, Shekelle PG
JAMA Netw Open 2022;5(11):e2239860

Summary: Do efforts to stabilize rents and affordability confer a health benefit? The introduction to this paper notes that 37 million households live with unaffordable housing and that 2 million households face eviction each year. Since housing insecurity is associated with health problems, the investigators sought to review literature that would assess health benefits from programs that prevent housing insecurity, make housing more affordable, or promote housing “stability,” a term not defined in the article (sadly). However, the authors sought studies (2005-2021) of health system-partnered primary preventive interventions (focused on community) and “targeted primary prevention to help at-risk households” (focused on household). Among “primary prevention” interventions they looked for examples of interventions where health systems financed, supported, or constructed affordable rental units. For targeted interventions they look at strategies that ranged from eviction moratoria to rental assistance, to longer-term interventions like rent stabilization or rent subsidies. The authors found 26 articles (including 3 randomized controlled trials and 20 observational studies and 4 “cross-sectional quasi-waiting list control designs comparing current versus future recipients of an intervention”). For short-term strategies like rental help or eviction moratoria, there were a few studies suggesting lower risk of COVID-19 infection, health care cost savings, or improvement in anxiety and depression symptoms. For “targeted primary prevention” (such as long-term rent subsidies), there were 19 articles, four of which were from a large “Family Options Study.” In general, **studies of long-term rent subsidies found no clear evidence of mental, physical, or behavioral health improvement, or were inconclusive and mixed in their findings.** Overall, the one area of “moderate-certainty evidence” was for eviction moratoria and avoidance of COVID-19 cases and deaths. The authors consider many explanations for why household-targeted affordability interventions don’t appear to deliver health benefits. One was that stabilizing a household’s rental affordability does not “modify the overall supply of housing nor the structural causes of economic segregation and health disparities, such as barriers in access to education, wealth, childcare, or employment.”

Why we chose this paper: The statement that “**housing is health care**” has only rarely found support in studies designed to improve housing. Often, as in this case, the housing interventions do not appear to contribute a health benefit. That is a message that may be frustrating to read. This study is helpful in part because it focuses on a type of housing intervention separate from permanent supportive housing, and it’s one that some health systems have begun to invest in.

Implementation and 12-Month Health Service Utilization and Cost Outcomes from a Managed Care Health Plan's Permanent Supportive Housing Program

Hunter SB, Scherling A, McBain RK, Cefalu M, Briscombe B, Mcconnell W, Batra P

Rand Health Q. 2022;9(4):8

Summary: Managed care plans sometimes invest in permanent supportive housing (PSH). This paper from Rand Corporation is the third to assess results from a managed care program that offered a long-term housing subsidy with intensive case management for adult plan members who were homeless and who were using high levels of inpatient health care. The analysis considers 162 health plan members for 12 months before enrolling in the PSH program and 12 months after, and a comparable group of 356 who were not enrolled. Before enrollment, these members used about \$70,000 worth of services per person during 12 months. After enrollment, health service utilization went up and overall other service use declined. Once enrolled persons were actually housed, a later time, then monthly health care costs declined from \$5542 per month to \$2919, and this was more of a reduction than happened in the comparison group. That initially high service use (prior to actually getting in a housing unit) is an important finding because it’s not always discussed or taken into account. The actual permanent supportive housing costs were \$2,545 per member per month. There was a greater chance of using a health care service each month for the persons who were housed, although they were less likely to have high health care costs in a month. Overall, there was no “net cost savings”. That is, like in prior studies, there is no overall cost savings that occurs from housing people, even though there was a decrease in inpatient and emergency health care and greater use of outpatient health care for chronic conditions among those in housing.

Why we chose this paper: This is a rather complicated data and modeling paper. It does underscore something of a theme in housing intervention studies. While some studies do find a potential for net cost savings, others do not. It’s not, at present, clear that programs or health insurers can expect to become wealthier or to gain in financial status by helping house homeless populations.