



Medical Respite as an Intervention for Reducing Acute Healthcare Utilization for Individuals Experiencing Homelessness

A collaborative study with The INN Between and local hospitals

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Abstract

National rates of homelessness are rising, creating challenges in providing medical and behavioral health care for homeless populations after hospital discharge (National Alliance to End Homelessness, 2023; Moore et al., 2019). Without intermediary care solutions that bridge the gap between hospital and shelter stays, people experiencing homelessness are at higher risk for condition exacerbation resulting in high acute utilization and poor health outcomes. Current studies show the efficacy of medical respite care as an intervention to improve care outcomes as evidenced by reduced ED utilization, hospital length of stay, and readmissions (Biederman et al., 2019; Holmes et al., 2020; Kertesz et al., 2009; Moore et al., 2019). However, many of these studies are limited to comparisons between unlike populations. This article compares acute care utilization of individuals experiencing homelessness who were referred and admitted to medical respite to those who were referred to medical respite but unable to be admitted due to lack of bed space. The data show clinically significant reductions in emergency department utilization, length of stay, and readmissions. Additionally, the cost implications of such reductions are explored.

Keywords: medical respite, homelessness, social determinants of health, intermediary care

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National rates of homelessness have increased year-over-year since 2017, with 22% of individuals experiencing homelessness categorized as chronically homeless due to disabilities and chronic health challenges (National Alliance to End Homelessness, 2023). Social determinants of health, including financial hardship, domestic violence, and environmental factors, can further exacerbate health conditions, resulting in difficulty treating such illnesses and poor patient outcomes (Hans et al., 2022; Moore et al., 2019). Furthermore, high rates of comorbid medical and behavioral conditions place people experiencing homelessness at higher risk for condition complications resulting in increased emergency department visits and readmissions (Miyawaki et al., 2020). Studies repeatedly show greater acute care utilization for homeless populations, with persons experiencing homelessness utilizing emergency services between 14 to 19 times more than housed populations and having higher rates of 30-day and one-year readmissions (Abramson, Sanko & Eckstein, 2020; Dirmyer, 2016; Herrera-Imbroda et al., 2023; McAuliffe, 2022). However, many of the common primary diagnoses for these visits—namely hypertension (24.8%), major depressive disorder (19.7%), psychotic disorders (16.1%), and chronic obstructive pulmonary disease (10.3%)—could be treated effectively at a lower acuity level with reliable access to housing, medications, nutrition, and rest (Moore et al., 2019; Tipton et al., 2021).

Literature Review

Medical respite can improve outcomes for individuals experiencing homelessness by providing interim housing and care between hospital discharge and street or shelter stays (National Health Care for the Homeless Council, 2023). In studies of residents at the Barbara McInnis House, the first established medical respite facility in the U.S., early program data showed an average 50% decrease in 90-day hospital readmissions compared to persons experiencing homelessness who were discharged from the hospital to streets or shelters for recovery (Boston Health Care for the Homeless Program, 2023; Kertesz et al., 2009). Furthermore, aggregate research collected by the National Institute for Medical Respite Care (NIMRC) shows that medical respite interventions reduce hospital admissions an average of 24% in the year following respite (2021).

Studies also suggest medical respite as a solution for safely reducing hospital length of stay, which is historically longer for persons experiencing homelessness (Buchanan et al., 2006; Smith et al., 2021; Tipton et al., 2021). This is critical for improving the overall patient experience, which can be negatively impacted by long hospital stays or cold handoffs to community resources (Hadenfeldt, Todd & Hamzhie, 2023; Park et al., 2017). Unchecked, this poor experience creates barriers in accessing follow-up care and community resources—ultimately impacting long-term health outcomes (Moore et al., 2019; Zur, Linton & Mead, 2016). Conversely, when medical respite interventions are implemented and specifically include wraparound services that address such barriers, studies show length of stay decreases 27.19% and ED utilization is reduced for seven years following respite stays (Lachaud et al., 2021). Furthermore, patient experience improves as medical respite facilities provide a stable, homelike, and dignified environment for recuperation (Gazey et al., 2019).

Although initial study results suggest the positive impact of medical respite interventions, proving the efficacy of such programs remains difficult. Primarily, it is unethical to refer some individuals to medical respite while referring others that also need such services to a treatment-as-usual model. As such, researchers have been limited in their abilities to make direct comparisons between groups. Instead, studies such as Kertesz's examine utilization of those who qualified for medical respite against those whose conditions were not severe enough to qualify, then calibrate responses to account for differences in condition severity (2009).

The following study is unique in that all patients included met qualifications for admittance into medical respite; however, roughly half were not admitted due to lack of bed space at the time of referral. Those who were not admitted were discharged from the hospital to a shelter, skilled nursing facility, or the street depending on current resource availability and patient preference. By using a sample where the data for both populations meets the same referral criteria, this research allows for a more direct comparison between groups and a clearer understanding of the impact of medical respite as an intervention. Additionally, the use of secondary data where admittance decisions were strictly a result of available space at the time of referral helps minimize ethical challenges that would be present if medical respite care was denied for the sake of research.

Methods

Secondary data was analyzed for patients referred to The INN Between, a medical respite facility located in Salt Lake City, Utah, during 2023. While The INN Between receives referrals from various medical providers and clinics, this study focused specifically on those who were referred from two local acute care facilities: the University of Utah Hospital and the Huntsman Cancer Institute. These two organizations represent a significant percentage of acute referrals and

have similar referral and utilization tracking systems, providing an opportunity for uniformity of data across institutions. Of the 68 individuals referred by providers for medical respite, 29 were admitted to The INN Between for medical respite. The remaining 39 were not admitted due to lack of bed space at time of referral and were instead discharged from acute care to skilled nursing facilities, shelters, or back to the streets.

Providers at The INN Between utilized patient data and medical histories provided by referring institutions at the time of referral. Post-referral data for emergency department utilization, all-cause readmissions, and length of stay was tracked for patients using a shared database. All patient data analyzed was deidentified and assigned a random number by providers before being shared with researchers. Patient numbers also included a letter distinguishing whether the patient was referred from the hospital or the cancer institute to allow researchers to examine whether any differences in results might be correlated with the referring institutions rather than the care received at The INN Between. Averages for emergency department utilization, all-cause readmissions, and length of stay were compared for patients admitted to The INN Between and those not admitted due to lack of bed space. A few patients had extremely long length of stay numbers compared to the rest of the sample, which referring providers shared was often due to inability of referral organizations to receive these patients because of lack of space, insurance, ability to meet sobriety requirements, or other barriers. Researchers used z-score tests to identify and eliminate these outliers ($n=6$) that would skew data. Additionally, t-tests assuming equal variance were run to examine outcome relationships between the two groups. An R-squared analysis was used to specifically measure changes in length of stay pre-and-post admission to The INN Between.

Results

Patients included in the study met qualifications for medical respite care at the time of referral. Post-referral data for patients referred and admitted to The INN Between showed generally promising results in reducing yearly utilization of acute care services.

For patients who were referred and admitted to The INN Between, emergency department utilization decreased 18.88% compared to those referred and not admitted, and 12.14% compared to overall averages for the sample population. All-cause hospital readmissions decreased 16.36% compared to patients not admitted, and 10.39% compared to the overall patient averages. Finally, length of stay days for patients admitted to The INN Between decreased by an average of 10.89% compared to patients referred but not admitted. Furthermore, the amount of days spent in hospital pre-and-post admission were measured for The INN Between patients, with data showing that average annual length of stay dropped 13.49 days from preadmission to post admission. This represents a 91.44% decrease in hospital utilization.

Although averages of aggregate data show promising reductions in emergency department, readmission, and length of stay, additional statistical analyses showed mixed results. Two-tailed t-tests on the emergency department utilization, readmission rates, and lengths of stay of patients admitted to The INN Between and those of patients not admitted showed no statistical significance ($p < .05$). However, an R-squared analysis measuring the before and after length of stay of patients admitted to The INN Between showed an R-squared value of 0.21, or 21.03%, suggesting moderate predictive power for medical respite as an intervention.

Discussion

While the t-tests did not show statistical significance, the mean reductions in acute care utilization are consistent with findings of numerous existing studies (Biederman et al., 2019; Holmes et al., 2020; Kertesz et al., 2009; Moore et al., 2019). This suggests a clinical level of significance worth examining as providers working with homeless populations. Furthermore, regression analyses supported the moderate explanatory power of medical respite as an intervention. Due to the numerous other variables present in the study—including individual diagnoses, referring institution, patient adherence to medical recommendations, genetics, length of stay in the medical respite facility, and more—it is not surprising, and likely unavoidable, that there remains unexplained variance in these results.

The reductions in acute care have financial implications for stakeholders in the larger healthcare system such as hospitals, insurances, and government agencies as well. Individuals experiencing homelessness typically have multiple chronic and comorbid conditions, resulting in complex care needs (Biederman, 2019). However, the unique barriers of homelessness, lack of transportation, and potential distrust of the medical system bar these individuals from getting care at the most appropriate levels, leading to higher utilization of costly acute care services (Herrera-Imbroda et al., 2023). Without private insurance or ability to pay for these services, costs increase for Medicaid, Medicare, and the providers offering uncompensated care (Hans et al., 2022). Investing upfront in medical respite programs to address temporal barriers and administer needed transitional care helps alleviate this financial burden, with aggregate data from the NIMRC showing \$1.81 in savings per dollar invested (2021). Additional, smaller studies support this finding, suggesting between a 27% and 49% reduction in both long- and short-term costs as unnecessary acute care utilization is decreased through medical respite (Biederman et

al., 2019; Bring et al., 2020; Cantor, 2020). Utilizing the most recent cost averages for the state of Utah, the medical respite intervention in this study resulted in estimated \$47,110 in savings per patient per year (Agency for Healthcare Research and Quality, 2023; Kaiser Family Foundation, 2022). More importantly, patients received the care they needed—regardless of their social status or ability to pay—to thrive.

Summary

As the homeless population continues to grow, medical respite provides a promising solution to caring for these vulnerable patients effectively, compassionately, and affordably. The findings of this study showcase the positive clinical outcomes that result from medical respite programs. Specifically, the resources and care provided through medical respite can meaningfully reduce ED utilization, readmissions, and length of stay for persons experiencing homelessness. Additionally, cost averages suggest potential financial gains for stakeholders by investing in medical respite. These savings support medical respite as a sustainable solution for meeting the complex needs of one of our most vulnerable patient populations: people experiencing homelessness.

References

- Abramson, T. M., Sanko, S., & Eckstein, M. (2021). Emergency medical services utilization by homeless patients. *Prehospital Emergency Care*, 25(3), 333–340.
<https://doi.org/10.1080/10903127.2020.1777234>
- Agency for Healthcare Research and Quality. (2023). *Characteristics of 30-day all-cause hospital readmissions, 2016-2020* [Statistical Brief]. <https://hcup.us.ahrq.gov/reports/statbriefs/sb304-readmissions-2016-2020.jsp>
- Biederman, D. J., Modarai, F., Gamble, J., Sloane, R., Brown, A., Wilson, S. & Douglas, C. (2019). Identifying patients experiencing homelessness in an electronic health record and assessing qualification for medical respite: A five-year retrospective review. *Journal of Health Care for the Poor and Underserved*, 30(1), 297-309.
<https://doi.org/10.1353/hpu.2019.0022>
- Biederman, D. J., Gamble, J., Wilson, S., Douglas, C. & Feigal, J. (2019). Health care utilization following a homeless medical respite pilot program. *Public Health Nursing*, 36(1), 296-302. <https://doi.org/10.1111/phn.12589>
- Boston Health Care for the Homeless Program. (2023). *Medical respite*.
<https://www.bhchp.org/services/medical-respite/>
- Bring, C., Kruse, M., Ankarfeldt, M., Brünés, N., Pedersen, M., Petersen, J. & Andersen, O. (2020). Post-hospital medical respite care for homeless people in Denmark: a randomized controlled trial and cost-utility analysis. *BMC Health Services Research*, 20(1), 1–11.
<https://doi.org/10.21203/rs.2.15577/v1>
- Buchanan, D., Doblin, B., Sai, T. & Garcia, P. (2006). The effects of respite care for homeless

- patients: A cohort study. *American Journal of Public Health*, 96(7), 1278-1281.
<https://doi.org/10.2105/AJPH.2005.067850>
- Cantor, J. C., Chakravarty, S., Nova, J., Kelly, T., Delia, D., Tiderington, E. & Brown, R. W. (2020). Medicaid utilization and spending among homeless adults in New Jersey: Implications for Medicaid-funded tenancy support services. *The Milbank Quarterly*, 98(1), 106-130. <https://doi.org/10.1111/1468-0009.12446>
- Dirmyer, V. (2016). The frequent fliers of New Mexico: Hospital readmissions among the homeless population. *Social Work in Public Health*, 31(4), 288-298.
<https://doi.org/10.1080/19371918.2015.1101036>
- Gazey, A., Vallesi, S., Martin, K., Cumming, C. & Wood, L. (2019). The Cottage: Providing medical respite care in a home-like environment for people experiencing homelessness. *Housing, Care and Support*, 22(1), 54-64. <https://doi.org/10.1108/hcs-08-2018-0020>
- Hadenfeldt, C., Todd, M. & Hamzhie, C. (2023). Medical respite post-hospitalization for adults experiencing homelessness. *Nursing*, 53(1), 47-52.
<https://doi.org/10.1097/01.nurse.0000918524.41501.98>
- Hans, K., Mike, L., Heidel, R., Benavidea, P., Arnce, R. & Talley, J. (2022). Comorbid patterns in the homeless population: A model to enhance patient care. *Western Journal of Emergency Medicine*, 23(2), 200-210. <https://doi.org/10.5811/westjem.2021.10.52539>
- Herrera-Imbroda, J., Guzman-Parra, J., Bordallo-Aragon, A., Moreno-Kustner, B. & Mayoral Cleries, F. (2023). Risk of psychiatric readmission in the homeless population: A 10-year follow-up study. *Frontiers in Psychology*, 14, 1-8.
<https://doi.org/10.3389/fpsyg.2023.1128158>
- Holmes, C. T., Holmes, K. A., MacDonald, A., Lonergan, F. R., Hunt, J. J., Shaikh, S., Cheeti,

- R., D'Etienne, J. P., Zenarosa, N. R. & Wang, H. (2020). Dedicated homeless clinics reduce inappropriate emergency department utilization. *Journal of the American College of Emergency Physicians Open*, 1(5), 829-836. <https://doi.org/10.1002/emp2.12054>
- Jenkinson, J., Wheeler, A., Wong, C. & Pires, L. M. (2020). Hospital discharge planning for people experiencing homelessness leaving acute care. *Healthcare Policy*, 16(1), 14-22. <https://doi.org/10.12927/hcpol.2020.26294>
- Kaiser Family Foundation. (2022). *Hospital adjusted expenses per inpatient day*. <https://www.kff.org/health-costs/state-indicator/expenses-per-inpatient-day/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>
- Kertesz, S. G., Posner, M. A., O'Connell, J. J., Swain, S., Mullins, A. N., Shwartz, M. & Ash, A. S. (2009). Post-hospital medical respite care and hospital readmission of homeless persons. *Journal of Prevention & Intervention in the Community*, 37(2), 129-142. <https://doi.org/10.1080/10852350902735734>
- Kinczewski, A. E., Johnson, E. E., Szymkowiak, D., Pfirman, S. J. & O'Toole, T. P. (2023). Mixed methods analysis of a national implementation of a medical respite program in transitional housing settings for veterans experiencing homelessness. *Journal of Social Distress and Homelessness*, 32(1), 97-103. <https://doi.org/10.1080/10530789.2021.2002631>
- Lachaud, J., Mejia-Lancheros, C., Durbin, A., Nisenbaum, R., Wang, R., O'Campo, P., Stergiopoulos, V. & Hwang, S. W. (2021). The effect of a housing first intervention on acute health care utilization among homeless adults with mental illness: Long-term

- outcomes of the At Home/Chez-Soi randomized pragmatic trial. *Journal of Urban Health*, 98(4), 505–515. <https://doi.org/10.1007/s11524-021-00550-1>
- McAuliffe, T., Plorde, M., Meischke, H. & Fischer, M. (2022). REACHing out: Connecting EMS patients to social services. *Journal of Social Distress and Homelessness*, 31(1), 115-118. <https://doi.org/10.1080/10530789.2020.1852503>
- Miyawaki, A., Hasegawa, K., Figueroa, J. & Tsugawa, Y. (2020). Hospital readmission and emergency department revisits of homeless patients treated at homeless-serving hospitals in the USA: Observational study. *Journal of General Internal Medicine*, 35(9), 2560-2568. <https://doi.org/10.1007/s11606-020-06029-0>
- Moore, M., Conrick, K. M., Reddy, A., Allen, A. & Jaffe, C. (2019). From their perspective: The connection between life stressors and health care service use patterns of homeless frequent users of the emergency department. *Health & Social Work*, 44(2), 113-122. <https://doi.org/10.1093/hsw/hlz010>
- National Alliance to End Homelessness. (2023). *State of homelessness: 2023*. <https://endhomelessness.org/homelessness-in-america/homelessness-statistics/state-of-homelessness/>
- National Health Care for the Homeless Council. (2018). *Health Care for the Homeless, Inc (Baltimore)*. <https://nhchc.org/health-care-for-the-homeless-inc-baltimore/>
- National Health Care for the Homeless Council. (2023). *Medical respite care*. <https://nhchc.org/clinical-practice/medical-respite-care/>
- National Institute for Medical Respite Care. (2021). *Approaches to financing medical*

respite/recuperative care programs [Whitepaper]. https://nhchc.org/wp-content/uploads/2021/08/NIMRC-White-Paper_Approaches-to-Financing-MRRC-Programs-July-2021-2-1.pdf

National Institute for Medical Respite Care. (2021). *Medical respite literature review: An update on the evidence for medical respite care*. https://nimrc.org/wp-content/uploads/2021/08/NIMRC_Medical-Respite-Literature-Review.pdf

Park, B., Beckman, E. Glatz, C., Pisansky, A. & Song, J. (2017). A place to heal: A qualitative focus group study of respite care preferences among individuals experiencing homelessness. *Journal of Social Distress and the Homeless*, 26(2), 104-115. <https://doi.org/10.1080/10530789.2017.1341462>

Smith, C. M., Feigal, J., Sloane, R. & Biederman, D. J. (2021). Differences in clinical outcomes of adults referred to a homeless transitional care program based on multimorbid health profiles: A latent class analysis. *Frontiers in Psychiatry*, 12(1). <https://doi.org/10.3389/fpsy.2021.780366>

Tipton, K., Leas, B. F., Mull, N. K (2021 September). *Interventions to decrease hospital length of stay*. Agency for Healthcare Research and Quality (U.S.). <https://www.ncbi.nlm.nih.gov/books/NBK574438/>

Zur, J., Linton, S. & Mead, H. (2016). Medical respite and linkages to outpatient health care providers among individuals experiencing homelessness. *Journal of Community Health Nursing*, 33(2), 81-89. <https://doi.org/10.1080/07370016.2016.1159439>