Schizophrenia Care Among People Experiencing Homelessness in the Matanuska Susitna Borough

Mary K. Wargo

University of Alaska Anchorage School of Nursing

NS A475 Nursing Integrative Capstone

Dr. Sharyl Toscano

February 2, 2025

Standard of Care

Schizophrenia is a chronic mental disorder that often manifests in early adulthood (Jauhar et al., 2022). Positive symptoms include reality distortions, disordered thinking, hallucinations, or delusions; while negative symptoms are seen in an individual's lack of motivation and expression (Jauhar et al., 2022; Norris, 2019). Cognitive deficits are also a clinical feature (Harvey et al., 2022; Jauhar et al., 2022). Schizophrenia affects an estimated 0.3 – 1.6% of the United States population (Finnerty et al., 2024). Most recent data from Alaska reveals 1,664 Alaskans live with schizophrenia (Heun-Johnson et al., 2019). Despite the small percentage of the population with a diagnosis, these individuals have a disproportionately high burden of disease. Patients with schizophrenia are hospitalized at a higher rate than those with other severe mental health disorders and their stay is longer and more costly (Heun-Johnson et al., 2019). The burden of the disease is also felt as a loss of productivity, as patients may be unable to maintain employment, need significant support from caregivers, and have shorter lives (Heun-Johnson et al., 2019; Schizophrenia & Psychosis Action Alliance, 2021). Many people with schizophrenia live independently, but others are unhoused, live in care facilities, or are incarcerated, which adds to disease burden (Schizophrenia & Psychosis Action Alliance, 2021).

The current standard of care for schizophrenia involves pharmacologic and nonpharmacologic approaches. Antipsychotic medications are the cornerstone, although common side effects complicate adherence to treatment, including obesity, metabolic disturbances, or tardive dyskinesia (Rubio & Kane, 2022). Pharmacologic treatment reduces the symptoms of schizophrenia, and accompanying non-pharmacologic interventions can improve quality of life (McDonaugh et al., 2017). Early detection and treatment lead to a better long-term prognosis (Crawford & Go, 2022, Lin & Lane, 2019). The National Institute of Mental Health (NIMH)

gathered approaches to managing schizophrenia into a package called coordinated specialty care (CSC) (NIMH, 2023). CSC is based on early intervention and an individualized treatment plan that provides medication management, cognitive behavioral therapy, family support, case management, employment support, and psychoeducation (NIMH, 2023). This approach is also reflected in the most recent practice guideline from the American Psychiatric Association. This guideline includes recommendations related to initial assessment, the use of antipsychotic medication, CSC programs, cognitive behavioral therapy, assertive community treatment for patients with histories of poor adherence or relapse, as well as employment, social skills, family, and cognitive support (Keepers et al., 2021).

Search Strategy

CINAHL, PubMed, and Quick Search were used to conduct a literature search using the terms “schizophrenia,” “medication,” and “coordinated specialty care.” Articles were limited to those published in English within five years. CINAHL and Quick Search allowed an additional filter for peer-reviewed articles only. The number of articles obtained via CINAHL was insufficient while Quick Search was overly broad. Results were ultimately selected from the PubMed database to obtain a reasonable number of articles related to delivery of healthcare services. Figure A1 depicts the overlapping search results for the relevant terms used.

Literature Review

The literature review revealed several themes associated with care for people with schizophrenia: the importance of early intervention, appropriate use of antipsychotic medication, and implementation of CSC. The concept of early intervention incorporates both early detection of prodromal symptoms or psychosis and shortening the duration of time between detection and

treatment. Multiple studies suggest that more time between symptom onset and treatment may lead to greater functional losses and more persistent symptoms over the long term (Srihari et al., 2022; Weiss et al., 2024; Zambrano et al., 2022). Successful early intervention is more likely if delays of detection and delays of treatment are both addressed (Srihari et al., 2022). Barriers to early detection and treatment may disproportionately affect certain populations such as those who lack insurance or who are unhoused (Zambrano et al., 2022). Further research focused on these populations may identify areas for intervention that are more effective for those at higher risk of untreated psychosis.

Antipsychotics have long been a standard treatment for patients with schizophrenia, but non-adherence to the medication regimen complicates outcomes (Rubio & Kane, 2022). Real world application suggests that the route of administration plays a role, with long acting injectables performing slightly better than oral antipsychotics (Efthimiou et al., 2024; Kishimoto et al., 2021). Expanded research into identifying effective interventions to promote the use of long acting injectables for both providers and patients is necessary (Carroll et al., 2024).

CSC can lead to decreased hospitalizations, increased occupational and social functioning, and fewer positive and negative symptoms (Robinson et al., 2022; Westfall et al., 2021). Additional research on CSC among rural populations would reveal more about generalizability in these settings.

Critical Analysis of Literature

Applying the evidence hierarchy to the identified literature provides a framework to evaluate the strength of the evidence. At the top of the hierarchy, Systematic reviews and meta-analyses potentially provide the strongest evidence, and at the bottom, observational studies or

expert opinion provide useful but less strong evidence due to greater potential for bias (Wallace et al., 2022). The literature examined that was related to early intervention resulted from quasi experimental designs including using non-equivalent control groups and cross-sectional studies, level III and level IV evidence, respectively. Evidence related to medication was stronger, at level I, generated from meta-analysis and systematic reviews. Research on coordinated specialty care was informed by both level II clinical trials using site randomization and a level IV longitudinal study with no control group.

Impacts on Diversity, Equity, and Inclusion

Schizophrenia is thirty times more prevalent among people experiencing homelessness (PEH) than in the general population and most PEH have some type of mental health disorder (Barry et al., 2024; Jester et al., 2023). Health and homelessness interact with each other in a reciprocal way: health issues can lead to homelessness, homelessness can exacerbate health issues, and homelessness makes treatment or recovery difficult (Padgett, 2020).Viewed through the lens of Maslow's Hierarchy of Needs as depicted in Figure A2, PEH may be more concerned with addressing their basic physiological needs of food and shelter before they are motivated to address mental health issues (Fleury et al., 2021). A conceptual analysis noted that one factor associated with health-seeking behavior of PEH was their prioritization of physiological needs over health (Becker & Foli, 2022). The Alaska Department of Health (2024) reports approximately 2,000 people across the state are unhoused. A homeless needs assessment conducted in the Matanuska-Susitna Borough (Mat-Su) by the Mat-Su Health Foundation (MSHF) estimated 630 households experience homelessness each year, and 290 of these did not receive services (MSHF, 2022). Obtaining supportive housing in the Mat-Su involves cooperation from many different service providers and the large geographic area served presents

accessibility challenges (MSHF, 2022). The Mat-Su Coalition on Housing and Homelessness (n.d.) brings together the efforts of a group of organizations that target specific populations such as adolescents, former inmates, frequent users of emergency services, or families. Recommendations based on the needs assessment suggest an investment in supportive housing as an essential response to identified gaps surrounding homelessness (MSHF, 2022).

Evidence Based Practice Recommendations

Implementing the standard of care for patients with schizophrenia among those who are unhoused presents many challenges. These include achieving medication adherence and engagement with mental health needs when basic physiological needs feel more pressing (Fleury et al., 2021; Hird et al., 2023; Spranger Forte et al., 2023). The Housing First (HF) model is an evidence-based recommendation that prioritizes housing before treatment of underlying health needs, while providing the option of supportive services as the individual chooses (Peng et al., 2020). A systematic review by Peng et al. (2020) showed that HF approaches have strong evidence that they reduce homelessness, lower healthcare/emergency room use, and improve quality of life for PEH. There is less available evidence on outcomes for PEH living with schizophrenia, but some studies suggest that antipsychotic medication adherence improves and there are long-term cost savings among these patients (Hird et al., 2023; Rezansoff et al., 2017). Based on the identified gap of housing in the Mat-Su and the potential benefits of the HF model, increasing access to supportive housing is a necessary intervention to improve the standard of care for PEH with schizophrenia. The large geographic area of the Mat-Su makes establishing centralized supportive housing less practical. Concentrating on a scattered supportive housing model by developing relationships and incentives for landlords throughout the area is a more realistic approach to making housing accessible for more people (MSHF, 2023).

Relationship to Population Health

Homelessness is an issue encountered around the world with many definitions. These may include people sleeping in public spaces, people in temporary shelters, people in tents or slums, and people temporarily living with others (Herre & Arriagada, 2024; Spranger Forte et al., 2023). The causes of homelessness are complex, and a local response reflects those unique causal factors in the context of the surrounding culture. For example, Finland experienced a 50% reduction in homelessness while implementing a HF policy with a combination of congregate and scattered site housing options (Herre & Arriagada, 2024; Shinn & Khadduri, 2020). Japan has the lowest rate of homelessness in the world but focuses only on people living in public spaces (Herre & Arriagada, 2024). Policy approaches in Japan use punitive and supportive measures, such as compulsory eviction from public spaces and provision of supportive living facilities with the expectation that those able to work would do so (Kitagawa, 2021). This approach may be less effective in a more rural Mat-Su where people experience homelessness in more than the public spaces (MSHF, 2022).

Plan for Communication

In order to implement the HF model, there must be available housing. To ensure access throughout the entire Mat-Su, many private landlords must be encouraged to accept tenants currently experiencing homelessness with no requirements that they be treated for other issues. This presents a risk to landlords who might be concerned about disruptive or illegal behaviors or the impact on other tenants (Aubry et al., 2015). Using the Theory of Planned Behavior (TPB) to communicate with landlords may convey the need for landlord engagement in a way that increases participation (Montaño & Kaspryzyk, 2002). Figure A3 shows the components of the TPB with constructs tailored towards promoting participation in Housing First. Outreach to Mat-

Su landlords can occur through local professional organizations such as The Landlord's Almanac – Alaska, ads in real estate publications such as the Alaska Real Producers Magazine or the Mat Su Greatlander, or representation at trade shows such as the Mat Su Home Builders Show. Communication through face to face, print, and online channels as well as having a dedicated phone number for questions should address each component of the TPB. Landlord attitudes can be influenced by education about the effectiveness of HF in reducing homelessness, and highlighting benefits like guaranteed rent payments, fewer vacancies and turnover, regular program staff visits, a mitigation fund for damages, and 24/7 response to problems (Rae & Aubry, 2018). Subjective norms can be established by sharing testimonials of positive landlord and tenant experiences with HF, appreciation luncheons for participants, and thank you messages from prominent community members (Mat-Su Health Foundation, 2023; Rae & Aubry, 2018). Perceived control is enhanced by providing a flow chart of the program with clear information about steps to take when problems emerge and identifying a point of contact (Rae & Aubry, 2018). Figure A4 depicts the anticipated impact of messaging for landlords on the constructs of TPB.

Applying the multifaceted standard of care to schizophrenia treatment among PEH requires first addressing basic physiological needs for shelter. HF is an evidence-based method to accomplish this that must be tailored to the Mat-Su Borough's large geography and rural population. Enlisting the help of local landlords to improve access for HF tenants is a necessary first step to addressing this issue.

References

Alaska Department of Health. (2024). *Homelessness and Health*. Retrieved January 23, 2025, from https://health.alaska.gov/dph/Epi/id/Pages/homelessness.aspx

Aubry, T., Cherner, R., Ecker, J., Jetté, J., Rae, J., Yamin, S., & Sylvestre, J. (2015). Perceptions of private market landlords who rent to tenants of a housing first program. *Am J Community Psychol 55*, 292–303 (2015). https://doi-org.consortiumlibrary.idm.oclc.org/10.1007/s10464-015-9714-2

Barry, R., Anderson, J., Tran, L., Bahji, A., Dimitropoulos, G., Ghosh, S. M., Kirkham, J., Messier, G., Patten, S. B., Rittenbach, K., & Seitz, D. (2024). Prevalence of mental health disorders among individuals experiencing homelessness: A systematic review and meta-analysis. JAMA Psychiatry, 81(7), 691–699. https://doi.org/10.1001/jamapsychiatry.2024.0426

Becker, J. N., & Foli, K. J. (2022). Health-seeking behaviours in the homeless population: A concept analysis. *Health & Social Care in the Community, 30*(2), e278–e286. https://doi.org/10.1111/hsc.13499

Benuto, L. T., Done, M., Zepeda, M., Fitzgerald, J., & Leany, B. (2023). A systematic review of persons of color participation in first episode psychosis coordinated specialty care randomized controlled trials in North America. *Psychiatry Research, 325*, 115221. https://doi.org/10.1016/j.psychres.2023.115221

Carroll, A. J., Robinson, D. G., Kane, J. M., Kordon, A., Bannon, J., Walunas, T. L., & Brown, C. H. (2024). Multi-level barriers and facilitators to implementing evidence-based

antipsychotics in the treatment of early-phase schizophrenia. *Frontiers in Health Services, 4*, 1385398. https://doi.org/10.3389/frhs.2024.1385398

Crawford, P., & Go, K. V. (2022). Schizophrenia. *Am Fam Physician, 106*(4), 388-396. Retrieved January 17, 2025, from https://www.aafp.org/pubs/afp/issues/2022/1000/schizophrenia.html

Efthimiou, O., Taipale, H., Radua, J., Schneider-Thoma, J., Pinzón-Espinosa, J., Ortuño, M., Vinkers, C. H., Mittendorfer-Rutz, E., Cardoner, N., Tanskanen, A., Fusar-Poli, P., Cipriani, A., Vieta, E., Leucht, S., Tiihonen, J., & Luykx, J. J. (2024). Efficacy and effectiveness of antipsychotics in schizophrenia: Network meta-analyses combining evidence from randomised controlled trials and real-world data. *The Lancet. Psychiatry, 11*(2), 102–111. https://doi.org/10.1016/S2215-0366(23)00366-8

Finnerty, M. T., Khan, A., You, K., Wang, R., Gu, G., Layman, D., Chen, Q., Elhadad, N., Joshi, S., Appelbaum, P. S., Lencz, T., Markx, S., Kushner, S. A., & Rzhetsky, A. (2024). Prevalence and incidence measures for schizophrenia among commercial health insurance and Medicaid enrollees. *Schizophrenia, 10*(1), 1–9. https://doi.org/10.1038/s41537-024-00490-0

Fleury, M.-J., Grenier, G., Sabetti, J., Bertrand, K., Clément, M., & Brochu, S. (2021). Met and unmet needs of homeless individuals at different stages of housing reintegration: A mixed-method investigation. *PLoS ONE, 16*(1), e0245088. https://doi.org/10.1371/journal.pone.0245088

Harvey, P. D., Bosia, M., Cavallaro, R., Howes, O. D., Kahn, R. S., Leucht, S., Müller, D. R., Penadés, R., & Vita, A. (2022). Cognitive dysfunction in schizophrenia: An expert group

paper on the current state of the art. *Schizophrenia Research: Cognition, 29*, 100249. https://doi.org/10.1016/j.scog.2022.100249

Herre, B., & Arriagada, P. (2024). *Homelessness.* Our World in Data. Retrieved January 24, 2025, from https://ourworldindata.org/homelessness

Heun-Johnson, H., Menchine, M., Goldman, D., & Seabury, S. (2019, August). *The cost of mental illness: Alaska facts and* figures [PowerPoint Slides]. University of Southern California Leonard D. Scheffer Center for Health Policy & Economics. https://healthpolicy.usc.edu/wp-content/uploads/2019/11/AK-Chartbook-v1-2019.pdf

Hird, R., Radhakrishnan, R., & Tsai, J. (2023). A systematic review of approaches to improve medication adherence in homeless adults with psychiatric disorders. Frontiers in Psychiatry, 14, 1339801. https://doi.org/10.3389/fpsyt.2023.1339801

Jauhar, S., Johnstone, M., & McKenna, P. J. (2022). Schizophrenia. *The Lancet, 399*(10323), 473–486. https://doi.org/10.1016/S0140-6736(21)01730-X

Jester, D. J., Thomas, M. L., Sturm, E. T., Harvey, P. D., Keshavan, M., Davis, B. J., Saxena, S., Tampi, R., Leutwyler, H., Compton, M. T., Palmer, B. W., & Jeste, D. V. (2023). Review of major social determinants of health in schizophrenia-spectrum psychotic disorders: I. clinical outcomes. *Schizophrenia Bulletin, 49*(4), 837–850. https://doi.org/10.1093/schbul/sbad023

Keepers, G. A., Fochtmann, L. J., Anzia, J. M., Benjamin, S., Lyness, J. M., Mojtabai, R., Servis, M., Walaszek, A., Buckley, P., Lenzenweger, M. F., Young, A. S., Degenhardt, A., Hong, S.-H., & (Systematic Review). (2020). The American Psychiatric Association practice

guideline for the treatment of patients with schizophrenia. *American Journal of Psychiatry, 177*(9), 868–872. https://doi.org/10.1176/appi.ajp.2020.177901

Kishimoto, T., Hagi, K., Kurokawa, S., Kane, J. M., & Correll, C. U. (2021). Long-acting injectable versus oral antipsychotics for the maintenance treatment of schizophrenia: A systematic review and comparative meta-analysis of randomised, cohort, and pre-post studies. *The Lancet. Psychiatry, 8*(5), 387–404. https://doi.org/10.1016/S2215-0366(21)00039-0

Kitagawa, Y. (2021). Homeless Policy as a Policy for Controlling Poverty in Tokyo: Considering the Relationship between Welfare Measures and Punitive Measures. Critical Sociology, 47(1), 91–110. https://doi.org/10.1177/0896920520921494

Lin, C.-H., & Lane, H.-Y. (2019). Early identification and intervention of schizophrenia: Insight from hypotheses of glutamate dysfunction and oxidative stress. *Frontiers in Psychiatry, 10*, 93. https://doi.org/10.3389/fpsyt.2019.00093

Mat-Su Coalition on Housing and Homelessness. (n.d.). Mat-Su Coalition on Housing and Homelessness. Retrieved January 23, 2025, from http://www.mschh.org/

Mat-Su Health Foundation. (2022). *Mat-Su homelessness needs assessment summary report*. Retrieved January 23, 2025, from https://www.healthymatsu.org/wp-content/uploads/Mat-Su-Homeless-Needs-Assessment-with-Appendices-Feb2022-2.pdf

Mat-Su Health Foundation. (2023). *Mat-Su homelessness action plan.* Retrieved January 24, 2025, from https://www.healthymatsu.org/wp-content/uploads/2023-Mat-Su-Homelessness-Action-Plan.pdf

McDonagh, M. S., Dana, T., Selph, S., Devine, E. B., Cantor, A., Bougatsos, C., Blazina, I., Grusing, S., Fu, R., Kopelovich, S. L., Monroe-DeVita, M., & Haupt, D. W. (2017). Treatments for schizophrenia in adults: A systematic review. Comparative effectiveness review no. 198. *AHRQ publication no. 17*(18)-EHC031-EF. https://effectivehealthcare.ahrq.gov/products/schizophrenia-adult/research-2017

Montaño, D. E., & Kaspryzyk, D. (2002). The theory of reasoned action and the theory of planned behavior. In K. Glanz, B. K. Rimer, & F. M. Lewis (Eds.), Health behavior and health education theory research and practice (3rd ed.) (pp. 67-95). Jossey-Bass.

National Institute of Mental Health. (2023, September 25). *RAISE-ing the standard of care for schizophrenia: The rapid adoption of coordinated specialty care in the United States.* National Institute of Mental Health (NIMH). Retrieved January 17, 2025, from https://www.nimh.nih.gov/news/science-news/2023/raise-ing-the-standard-of-care-for-schizophrenia-the-rapid-adoption-of-coordinated-specialty-care-in-the-united-statesNorris, T. L. (Ed.). (2019). *Porth's pathophysiology: Concepts of altered health states* (10th ed.). Wolters Kluwer.

Padgett, D. K. (2020). Homelessness, housing instability and mental health: Making the connections. *BJPsych Bulletin, 44*(5), 197–201. https://doi.org/10.1192/bjb.2020.49

Rae, J. & Aubry, T. (2018). *The landlord engagement toolkit: A guide to working with landlords in housing first programs*. Employment and Social Development Canada. https://homelesshub.ca/wp-content/uploads/2023/12/LANDLORD-TOOLKIT_ENG_web.pdf

Rezansoff, S. N., Moniruzzaman, A., Fazel, S., McCandless, L., Procyshyn, R., & Somers, J. M. (2017). Housing first improves adherence to antipsychotic medication among formerly homeless adults with schizophrenia: Results of a randomized controlled trial. *Schizophrenia Bulletin, 43*(4), 852–861. https://doi.org/10.1093/schbul/sbw136

Robinson, D. G., Schooler, N. R., Marcy, P., Gibbons, R. D., Hendricks Brown, C., John, M., Mueser, K. T., Penn, D. L., Rosenheck, R. A., Addington, J., Brunette, M. F., Correll, C. U., Estroff, S. E., Mayer-Kalos, P. S., Gottlieb, J. D., Glynn, S. M., Lynde, D. W., Gingerich, S., Pipes, R., Miller, A. L., Severe, J. B., & Kane, J. M. (2022). Outcomes during and after early intervention services for first-episode psychosis: Results over 5 years from the RAISE-ETP site-randomized trial. *Schizophrenia Bulletin, 48*(5), 1021–1031. https://doi.org/10.1093/schbul/sbac053

Rubio, J. M., & Kane, J. M. (2022). The pharmacological treatment of schizophrenia: How far have we come? *PCN Reports: Psychiatry and Clinical Neurosciences, 1*(2), e13. https://doi.org/10.1002/pcn5.13 Schizophrenia & Psychosis Action Alliance. (2021). *Societal costs of schizophrenia & related disorders* [White Paper]. https://sczaction.org/wp-content/uploads/2021/11/571-012_WhitePaper_Report_FINAL_updated_11.09.21.pdf

Shinn, M., & Khadduri, J. (2020). How Finland Ended Homelessness. *Cityscape, 22*(2), 75–80.

Spranger Forte, A., Bento, A., & Gama Marques, J. (2023). Schizoaffective disorder in homeless patients: A systematic review. *The International Journal of Social Psychiatry, 69*(2), 243–252. https://doi.org/10.1177/00207640221131247

Srihari, V. H., Ferrara, M., Li, F., Kline, E., Gülöksüz, S., Pollard, J. M., Cahill, J. D., Mathis, W. S., Yoviene Sykes, L., Walsh, B. C., McDermott, G., Seidman, L. J., Gueorguieva, R., Woods, S. W., Tek, C., & Keshavan, M. S. (2022). Reducing the duration of untreated psychosis (DUP) in a US community: A quasi-experimental trial. *Schizophrenia Bulletin Open, 3*(1), sgab057. https://doi.org/10.1093/schizbullopen/sgab057

Wallace, S. S., Barak, G., Truong, G., & Parker, M. W. (2022). Hierarchy of evidence within the medical literature. *Hospital Pediatrics, 12*(8), 745–750. https://doi.org/10.1542/hpeds.2022-006690

Weiss, A., Chaudhry, S., Marhefka, A., & Khunkhun, V. (2024). Early intervention in the treatment of psychosis. *Child Adolesc Psychiatr Clin N Am., 33*(4), 645-658. https://pubmed.ncbi.nlm.nih.gov/39277317/

Westfall, M. B. E., Kohler, C. G., Hurford, I., Abegunde, C., Agosti, D., Brinen, A., Cadman, M. L., Conroy, C., Ered, A., Fooks, A., Franco, O., Huque, Z. M., Namowicz, D., O'Connor, S., Oross, M., Payne, E., Sarpal, D. K., Schmidt, L. R., Swigart, A., Wenzel, R. M., & Calkins, M. E. (2021). Pennsylvania coordinated specialty care programs for first-episode psychosis: 6- and 12-month outcomes. *Early Intervention in Psychiatry, 15*(5), 1395–1408. https://doi.org/10.1111/eip.13084

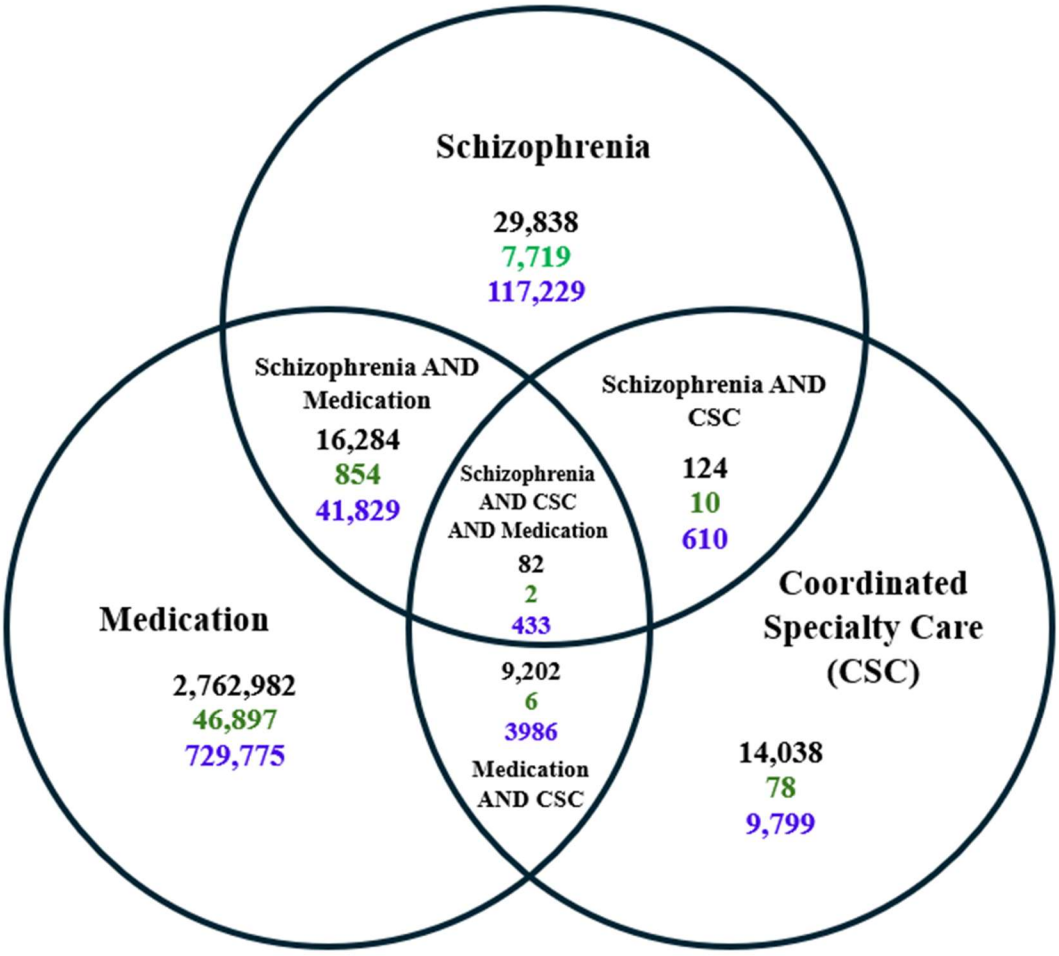
Zambrano, J., Scodes, J., Marino, L. A., Nossel, I., Bello, I., Ngo, H., Dixon, L. B., & van der Ven, E. (2022). Predictors of persistent symptoms in people in coordinated specialty care services for early psychosis in New York State. *Psychiatric Services (Washington, D.C.), 73*(1), 92–95. https://doi.org/10.1176/appi.ps.202000821

Appendix

Collection of Figures

Figure A1

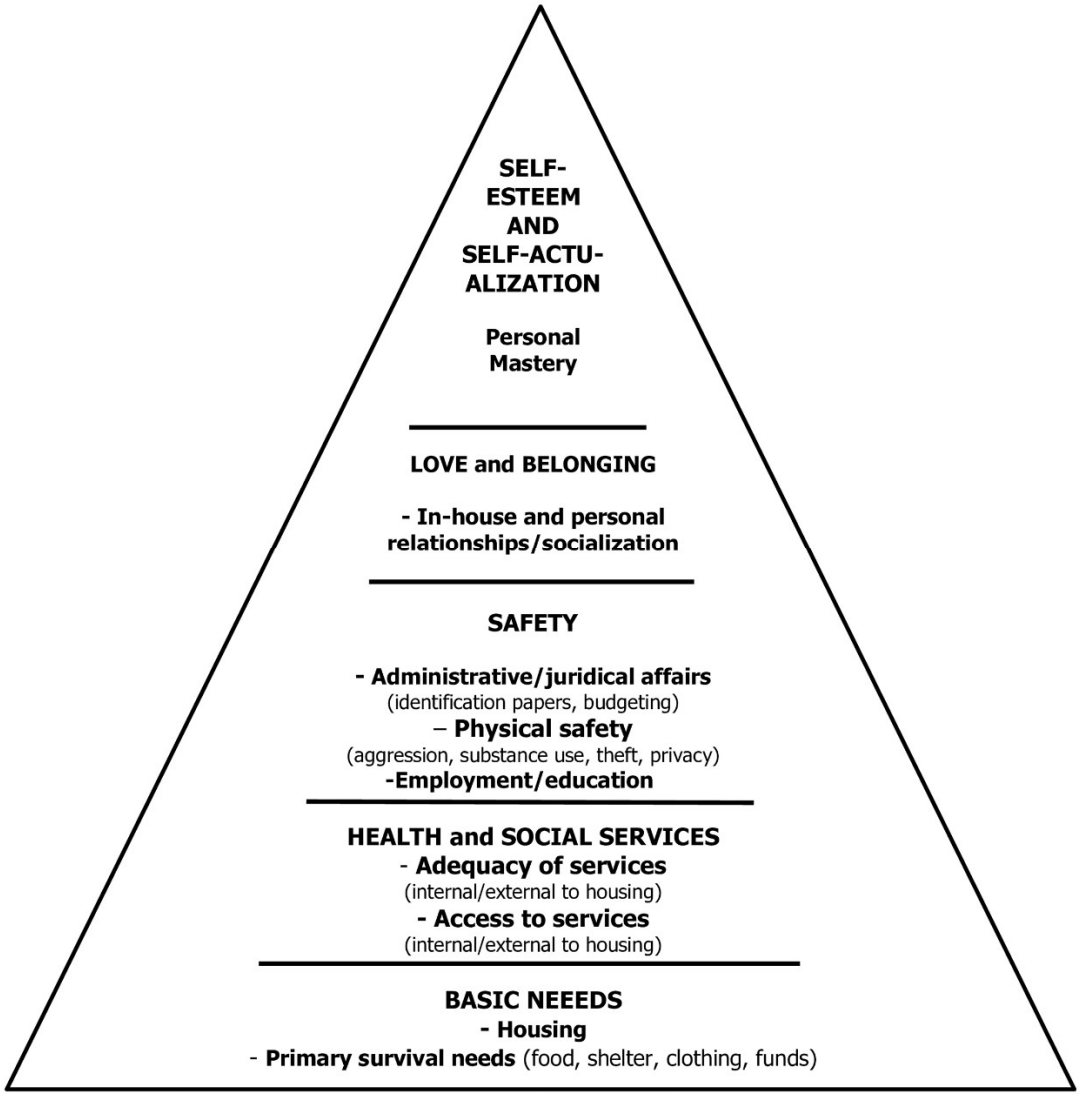
Diagram of the Number of Search Results for Three Databases



PubMed Filters: Last 5 years**,** English
CINAHL Filters: Last 5 years, English, Peer Reviewed
Quick Search Filters: Last 5 years, English, Peer Reviewed

Figure A2

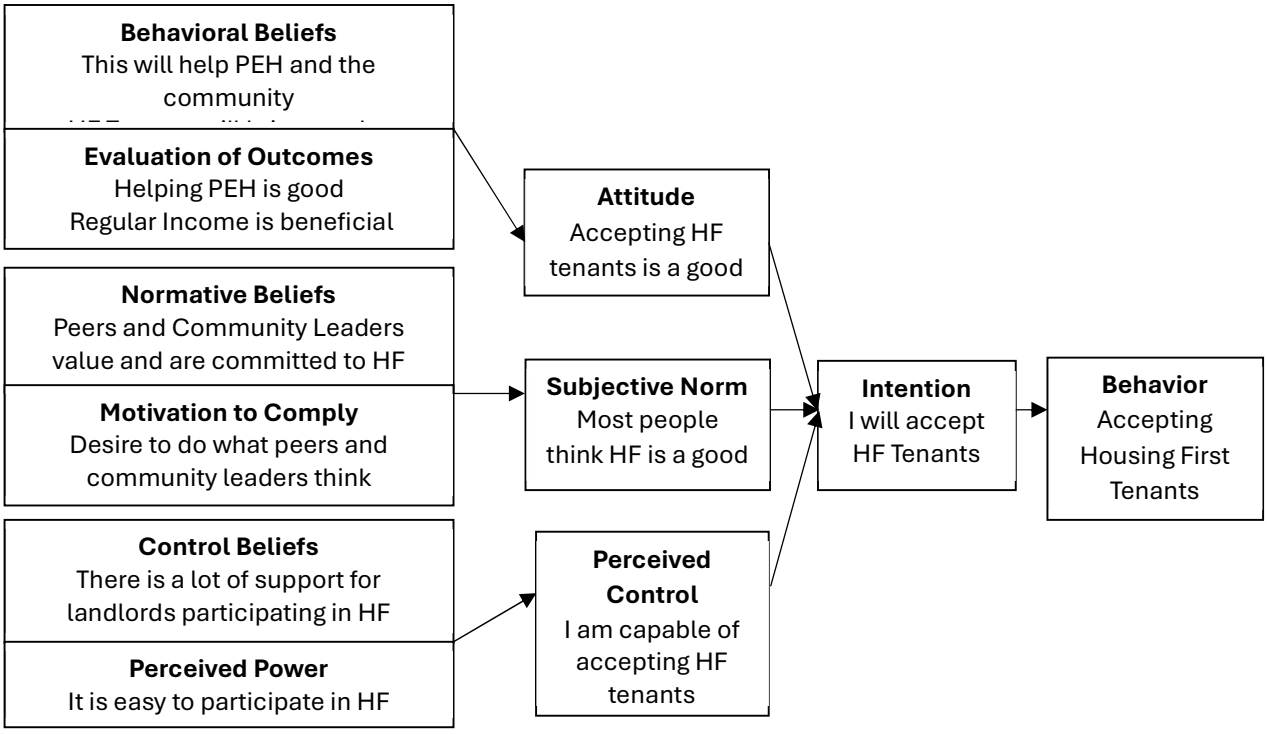
Adaptation of the Maslow hierarchy of needs to a homeless population



Note. From "Met and unmet needs of homeless individuals at different stages of housing reintegration: A mixed-method investigation," by M.-J. Fleury, G. Grenier, J. Sabetti, K. Bertrand, M. Clément, & S. Brochu, 2021, *PLoS ONE, 16*(1), e0245088. https://doi.org/10.1371/journal.pone.0245088 Copyright 2021 Fleury et al. CC by 4.0.

Figure A3

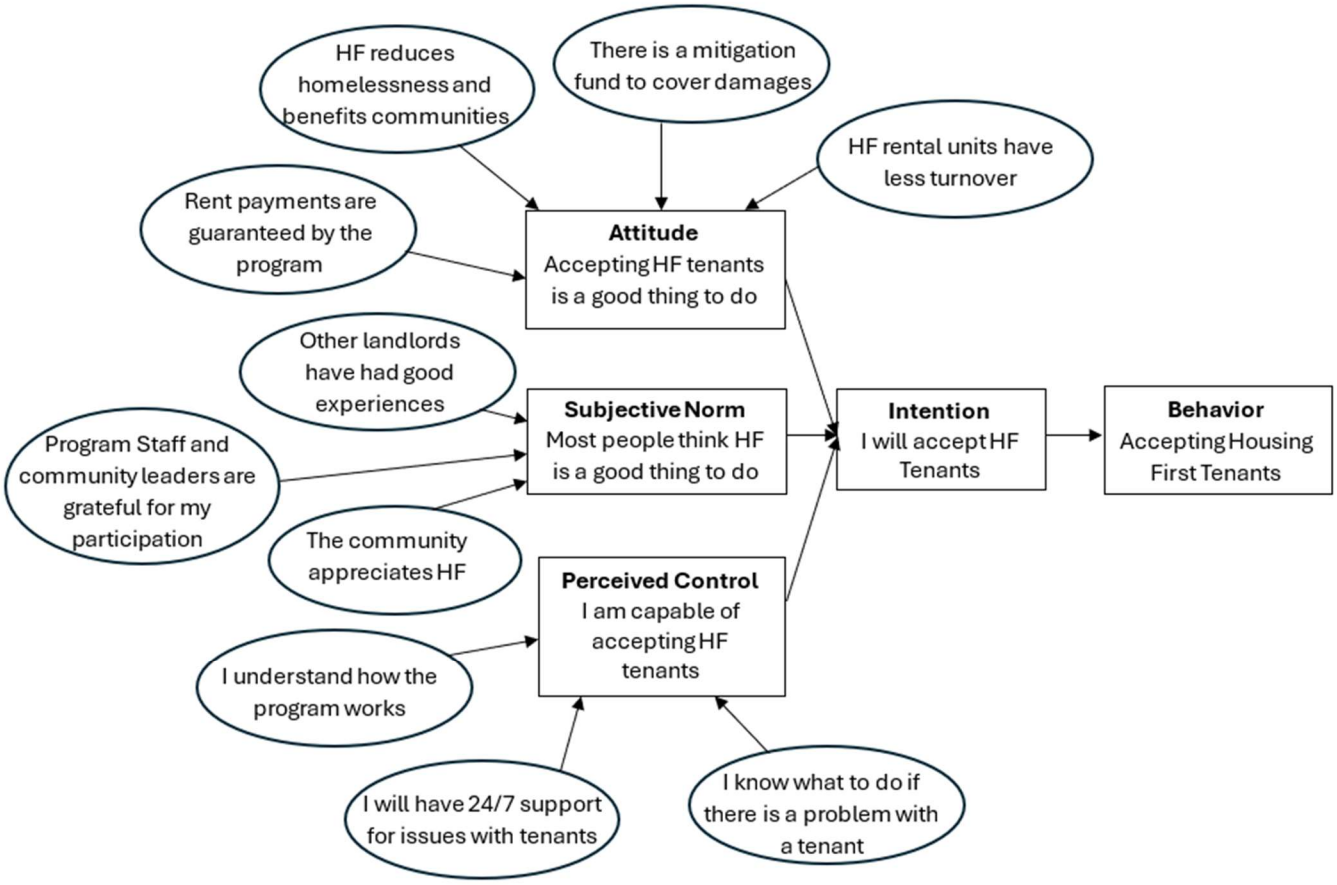
The Theory of Planned Behavior Applied to Landlord Engagement Communication



Note. Adapted from "Chapter 4 The theory of reasoned action and the theory of planned behavior," by D. E. Montaño, & D. Kaspryzyk, 2002, In K. Glanz, B. K. Rimer, & F. M. Lewis (Eds.), *Health behavior and health education theory research and practice* (3rd ed.) (pp. 67-95). Jossey-Bass. Copyright 2002.

Figure A4

Messaging Applied to Specific Constructs of the Theory of Planned Behavior



Note. Adapted from "Chapter 4 The theory of reasoned action and the theory of planned behavior," by D. E. Montaño, & D. Kaspryzyk, 2002, In K. Glanz, B. K. Rimer, & F. M. Lewis (Eds.), *Health behavior and health education theory research and practice* (3rd ed.) (pp. 67-95). Jossey-Bass. Copyright 2002.