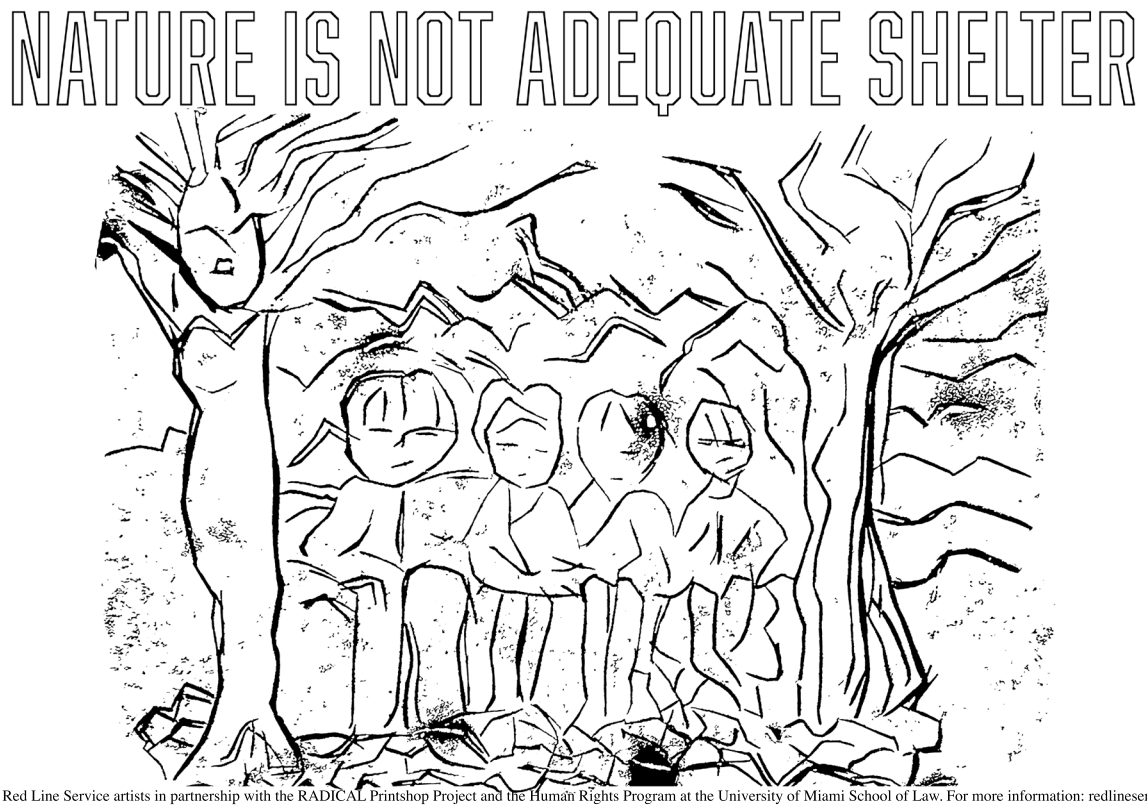
Illinois Department of Public Health

Illinois Homelessness Mortality and Morbidity Report 2017 - 2023



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Acknowledgments

Prepared by the following on behalf of the Illinois Department of Public Health:

University of Illinois Chicago
School of Public Health
Dana Madigan, DC, MPH, PhD
Jerrilyn Cambron, DC, MPH, PhD
Lee Friedman, PhD, MS

Design and Layout

University of Illinois Chicago
School of Design
College of Architecture, Design, and the Arts
Institute for Healthcare Delivery Design
Robert Zolna, MDes
Desi Lentz, BDes

Additional Contributions

University of Illinois Chicago
Institute for Healthcare Delivery and Design
Ann Kauth, Associate Director
Stephen B. Brown, MSW, LCSW

State Agency Contributors

Illinois Department of Public Health
Sameer Vohra, Director
Janice Phillips, Assistant Director
Dejan Jovanov, Chief Data and Informatics Officer
John Tharp, State Vital Statistician
Eugenia Olison, Senior Policy Advisor
Amanda Fogleman, Division Chief
Jennifer Epstein, Deputy Director
Leslie Wise, Opioid Epidemiologist
Megan Clark-Jimenez, Illinois Vital Records System Program Manager
Mohammed Shahidullah, PhD, MPH, DTM, Illinois State Demographer

Illinois Office to Prevent and End Homelessness
Christine Haley, Chief Homelessness Officer
Colleen Mahoney, Assistant Director
Kevin Roth, Data Analyst

Artwork and Illustration

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2 Preface

To be healthy, all people need affordable, accessible, and safe housing. Across Illinois, many households struggle to afford housing and are forced to make hard choices, such as paying rent or a mortgage instead of buying food or medicine (National Low Income Housing Coalition 2024). Families are forced to stay in housing situations that are unsafe or overcrowded. Many households struggle to access any housing, resulting in experiences of homelessness. Furthermore, these burdens are not equally distributed. For example, due to longstanding patterns of structural inequity, Black Illinoisans are eight times more likely to experience homelessness than White Illinoisans (Arenas 2024).

Health both affects and is affected by homelessness. Having a disability or otherwise struggling with health increases a family's risk of homelessness, and experiencing homelessness is detrimental to a household's physical and mental health (Fazel 2014). The reality is staggering. As this report documents, Illinoisans experiencing homelessness die almost 20 years earlier than their housed counterparts. But this reality is not inevitable. Targeted investments in housing have the potential to end homelessness across the state, and expansion of data-driven programs and policies, such as medical respite for people experiencing homelessness, harm reduction, and increased access to safe, accessible, low-barrier shelters, can mitigate the effect of homelessness on health.

Recognizing a need to better understand the state of health of people experiencing homelessness, the Illinois Department of Public Health (IDPH) and the University of Illinois Chicago School of Public Health partnered in October 2023 to produce this report, which draws on statewide death certificates and hospital records. The report will be repeated annually.

This work was shaped by the leadership and guidance of the Illinois Office to Prevent and End Homelessness (OPEH), a statewide office tasked with coordinating state strategies to prevent and end homelessness. The work of OPEH and its partner departments and agencies, including IDPH, is documented in "Home Illinois, Illinois' Plan to Prevent and End Homelessness." The plan is structured by a foundational goal and four pillars, one of which is closing the mortality gap between people experiencing homelessness and their housed neighbors.

IDPH and the University of Illinois Chicago dedicate this report to the identified 2,996 people experiencing homelessness who died in Illinois during the years 2017-2023. The goal of this effort is to better understand the health of people experiencing homelessness and lead to support of systemic changes that promote health equity for people experiencing homelessness and housing instability across the state.

3 Executive Summary

3.1 Context

Between 2017 and 2023, approximately 10,000 people in Illinois experienced "literal homelessness," which is tallied during an annual Point-in-Time count on a night in January. "Literal homelessness" is a term defined by the U.S. Department of Housing and Urban Development (HUD) to generally include people living in shelters, on the street, or in another place not meant for human habitation, such as a car or abandoned building. In addition, it is estimated that 108,850 to 233,712 people per year were living with others (family or friends) in unstable arrangements, commonly referred to as "doubled-up" (based on U.S. Census Bureau data for Illinois).

Research demonstrates that people experiencing homelessness are at an increased risk and severity of many acute and chronic health conditions. Many chronic age-related conditions affect people experiencing homelessness 10 to 20 years earlier than the general population, often resulting in premature death. Therefore, homelessness is a significant public health concern. Access to safe, affordable, and stable housing is a core social determinant of health. Public health has an important role to play in partnering to change the conditions that limit access to housing and supporting health-promoting systems for people experiencing homelessness. To get a better understanding of health needs, IDPH partnered with researchers at the University of Illinois Chicago School of Public Health to conduct a detailed analysis of the mortality and morbidity of people experiencing homelessness in Illinois. The statewide Office to Prevent and End Homelessness provided guidance and leadership to the project. Death certificates and hospital data, covering the years 2017 through 2023, were utilized in this report to describe the mortality and morbidity of people experiencing homelessness in Illinois.

3.2 Updates in This Report

To make the report more accessible for advocates and service providers, the report has been restructured by key health themes (demographic characteristics, geography, time-related events, health conditions and causes of death, and hospital-specific outcomes) rather than by data sources and methodology (death records and hospital discharge data). This decision was made because last year's report clearly showed that the demographic characteristics and health concerns of people experiencing homelessness were mirrored in both the death records and hospital data. The prior report demonstrated that the average age at the time of death was almost 20 years younger among people experiencing homelessness. The findings from the hospital data indicate that the health issues contributing to the death of people experiencing homelessness are pervasive years prior to death. If effective early interventions can be initiated, then this disparity can be reduced.

While much of the findings cover the issues addressed in last year's report, this report includes new elements developed with input from the community, including:

- all deaths and hospital visits of PEH during the year 2023;
- a more detailed description of children, teens, and youth experiencing homelessness;
- a more detailed description of hospital visits involving severe mental illness;
- risk of drug-related overdose and drug treatment provided;
- a more detailed analysis of non-fatal and fatal cold-related injuries;
- deaths occurring on public transportation;
- an evaluation of changes in contributing causes of death to attempt to explain trend in deaths observed over the past seven years.

3.3 Key Findings of People Experiencing Homelessness in Illinois, 2017-2023

3.3.1 DEMOGRAPHICS OF PEOPLE EXPERIENCING HOMELESSNESS

- A total of 2,996 deaths involving people experiencing homelessness (PEH) were identified in the Illinois statewide vital records. The average age at the time of death was almost 20 years younger than the general Illinois population (55.5 vs 74.2 years old).

- In addition to the nearly 3,000 deaths, a total of 1,824,004 hospital visits involving 75,145 people experiencing homelessness were identified in the Illinois statewide hospital records for 2017-2023, with 12.0% (219,234) of the visits coded with Z59 (the ICD-10 code for homelessness). While 75,145 people had homelessness coded during at least one hospital visit in this seven-year period, hospital staff did not code their housing status as homeless during the vast majority of their hospital visits.

- PEH seeking hospital-based medical care and those who died were predominantly middle-aged (mean age 45 years during hospital visits and 56 at time of death), male, non-Hispanic White, and non-Hispanic Black.

- 313 PEH decedents were identified as veterans on their death records. Additionally, 30 decedents had been employed in public sector jobs, of which seven were former police officers, two were paramedics, and one was a correctional officer.
- Consistent with prior research, PEH decedents in Illinois have signs of greater social isolation relative to the general population.

3.3.2 GEOGRAPHIC AND TEMPORAL PATTERNS

- The majority of deaths and hospital visits occurred within urban counties (94.8% and 86.6% respectively), with PEH living in greater Chicagoland (IDPH Westchester Region that includes Suburban Cook and the city of Chicago) having the highest representation. However, PEH deaths and hospital visits have been identified in every region of Illinois.
- Hospitals in rural counties had 171,541 hospital visits involving PEH. The characteristics and medical needs of PEH decedents and those seeking hospital care varied across IDPH and CoC regions. This illustrates the need to tailor interventions to the local level.
- Compared to the general Illinois population, PEH disproportionately died in outdoor or in other informal settings, such as abandoned buildings (19.6% vs. 0.6%), with 89 deaths occurring on public transportation, most of which occurred on trains or in train stations. There was a marked increase in the number of public transportation deaths in 2022 and 2023.
- The trend in deaths of PEH increased significantly from 2017 to January of 2022 but began to significantly decline since May 2022 ($p<0.001$), though overall PEH mortality is still above baseline levels from prior to the COVID pandemic. In addition, there was a surge in PEH deaths at the end of 2023, starting in November. It is unclear if the surge in deaths has persisted into 2024.

3.3.3 HEALTH ISSUES AND RELATED OUTCOMES

- Coinciding with the younger age of death, a lower proportion of PEH died from chronic health conditions associated with the aging process, such as diseases of the circulatory, respiratory, and nervous systems, or cancer. However, compared to the general population, PEH disproportionately died from drug-related overdoses (39.3% vs 4.9%), traumatic injuries (11.3% vs 5.6%), and excessive cold (3.7% vs 0.1%).
- The most common comorbidities noted for PEH hospital patients included hypertension, chronic pulmonary disease, substance use disorders, psychoses, and depression.
- There was almost three times the proportion of PEH murdered compared to the general population (3.1% vs 1.1%). Compared to all PEH deaths, PEH who were murdered were disproportionately 44 years or younger and non-Hispanic Black. There were 29,483 hospital visits to treat PEH for injuries caused by assaults.
- There were 56 suicides and 19,651 suicide attempts involving PEH over seven years. The proportion of deaths attributed to suicide is marginally higher than what was identified in the general population.
- Approximately 15-20% of visits, depending on type and coding, were injuries. The vast majority were classified as accidental injuries. In both death records and hospital visits, PEH disproportionately suffered unintentional injuries, such as falls and from transportation-related incidents in which PEH were primarily injured as pedestrian roadway users.
- 112 PEH had cold exposure identified as a contributing cause of death with an additional 6,930 cold injuries treated in the hospital setting. The findings demonstrate that a proportion of cold injuries occur at temperatures when many municipalities do not have expanded emergency shelter services for extreme cold weather (typically below 32°F).

3.3.4 HEALTHCARE UTILIZATION AND RELATED OUTCOMES

- There was a median of 14 hospital visits per person over these years. The pattern of utilization is characterized by long periods with few hospital visits, followed by brief intensive periods of high hospital utilization. During the years a person had at least one visit coded for homelessness, they had an average of 6.8 ED visits and 2.4 admissions. By comparison, during the years the same person had no visits coded for homelessness, they had an average of 1.6 ED visits and 0.4 admissions.
- People experiencing homelessness who were high utilizers of medical care in the hospital setting were disproportionately diagnosed with an array of serious cardiovascular, respiratory, neurologic, and renal disorders, as well as psychiatric and substance use conditions. Chronic conditions are exacerbated during periods of homelessness because of inadequate access to medical

care necessary to manage these chronic conditions.

- The majority of PEH were discharged to home or self-care. For PEH, this may be a discharge to a shelter or the streets, which may result in difficulty accessing continued care or treatment, as amenities available to adequately control chronic health conditions may not be available in these settings.

3.4 Recommendations

This report would not be possible without the use of data. Even with this data, we acknowledge that homelessness in Illinois is still undercounted due to disconnected data sources that fail to capture the full experience of individuals navigating multiple systems. This gap prevents us from fully understanding who is experiencing homelessness, why this occurs, and what resources are required to make homelessness rare, brief, and non-recurring.

Data is essential to understanding the complexities of homelessness and helps us get closer to identifying the true number of people who are experiencing it. Adopting a multi-agency, multi-sector approach to expand and integrate data sources supports the building of a comprehensive system that prioritizes improved data, while minimizing the need to increase data collection, which can be burdensome to the individuals included and the systems that support it.

Addressing homelessness through a public health lens requires strengthening data infrastructure and removing systematic barriers to care to advance health equity. By doing this, we can develop policies that prevent premature mortality, reduce negative health outcomes, and create pathways to housing stability. The recommendations below are essential steps. Accurate, up-to-date data shared in real time forms the foundation for well-informed and effective policy solutions.

- Work to enhance the identification and documentation of individuals experiencing homelessness within healthcare settings.
- Integrate broader data sources to enrich understanding of homelessness demographics and service utilization.
- Evaluate the feasibility of establishing a mortality review board for individuals experiencing homelessness.
- Conduct a statewide warming center access assessment.
- Explore opportunities to gather housing status at death.
- Develop and implement a provider engagement strategy.

3.5 Conclusions

The demographics of PEH decedents were similar to PEH patients treated in the hospital setting. This indicates that a similar group of PEH was identified in both the vital records and the hospital data. For those individuals identified as experiencing homelessness, data were unavailable regarding the duration or frequency of unstable housing. A proportion of the people included in this analysis likely experienced homelessness only for part of the seven years. However, research shows that there are persistent adverse health effects associated with episodic or short-term homelessness (Oppenheimer 2016). More importantly, early access to general health and psychiatric services, as well as housing programs, has been shown to be associated with reduced morbidity and mortality in people experiencing homelessness. Improved surveillance data of mortality and health care utilization patterns of PEH can inform policies that address unstable housing or homelessness, reemployment and healthy work, and the health care needs of PEH.

Building on existing research, this report documents severe health inequities between people experiencing homelessness in Illinois and other residents. This population experiences a high burden of mortality and morbidity, specifically related to life expectancy, the burden of chronic disease, accidental and violent injury victimization, substance use, and cold-related mortality. Through research into morbidity and mortality data, the goal was to shine a light on opportunities to improve systems of care for people experiencing homelessness in the state. It is important to understand that homelessness is not inevitable, but rather is driven by structural forces, such as housing costs and gaps in safety net programs. This report can aid in identifying avenues to improve the health of people experiencing homelessness, which should seek both to strengthen systems of care for PEH and to change the conditions that drive housing instability and homelessness. People experiencing homelessness are human beings first, and the numbers reported here reflect lived experience. Advocates and practitioners have long understood that homelessness is a public health issue, and housing is a health-promoting intervention.

3.6 How to Use this Report

The Illinois Homelessness Mortality and Morbidity Report is intended to be used by local health departments, Continuums of Care, housing service providers, medical professionals, community health organizations, legislators, and academic institutions to guide policymaking, planning, evaluation, data collection, research, and service delivery. The focus of the report is intentionally broad because people experiencing homelessness have diverse health and housing needs. While all of the content is important, we understand that individual stakeholders' needs and interests are often specific. This year, we have structured the report by key themes to make it easier for readers to navigate to key issues that are relevant to them.



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4 Background

4.1 Elevated Health Risks of People Experiencing Homelessness (PEH)

Those with unstable or a lack of housing are at an increased risk and severity of many health conditions. In comparison with the general population, PEH have a higher burden of infectious diseases, such as tuberculosis, hepatitis, and HIV (Fazel 2014). Additionally, chronic age-related conditions were common in this population as these conditions affect PEH 10 to 20 years earlier than the general population, and the median age of PEH was approximately 50 years old in the U.S. (Fazel 2014). Chronic health concerns include substance use disorders, mental illness, chronic obstructive pulmonary disease, diabetes, and cardiovascular disease (Madigan 2021). Unintentional injuries were also common, and PEH were likely to seek care for falls, cold-related injuries, burns, poisoning, assaults, and traumatic brain injury (Madigan 2021).

Healthcare utilization patterns of PEH lend insights into the programmatic and service needs of this population (Hwang 2014). Discharge to medical respite programs have demonstrated some success in limiting readmissions, but most patients were discharged to other settings (own care, nursing homes, etc.; Madigan 2021) that do not achieve similar results (Kertesz 2009). Interestingly, safety-net hospitals, which were more likely to serve PEH, employed fewer strategies to reduce readmissions (Figueroa 2017). While the Patient Protection and Affordable Care Act increased access to Medicaid coverage among PEH (Madigan 2021), studies show that this population has high hospital utilization rates despite this increased medical coverage, which may be due to broader situational circumstances (e.g., lack of housing, transportation, phones, financial resources), that limit access to alternative health care services (Lin 2015; Madigan 2021).

The first statewide Illinois Homelessness Mortality and Morbidity Report illustrated the high healthcare needs of PEH. There were 1,428,984 hospital visits involving 62,158 people who had ever experienced homelessness between 2017 and 2022, with a median of 14 hospital visits per person. To complicate matters further, medical staff often do not recognize or report homelessness in the medical records. In only 12.6% of their visits (179,413), PEH were recognized and coded as experiencing homelessness by the hospital medical staff at the time of the hospital visit. In addition, the data showed that hospital visits by PEH surged around periods of identified homelessness. During the years a person had at least one hospital visit coded for homelessness, PEH had an average of 7.0 ED visits and 2.5 hospital admissions. By comparison, individuals who had no hospital visits coded for homelessness had an average of 1.7 ED visits and 0.4 hospital admissions. These factors collectively led to substantial medical expenditures, the majority of which were financed through government resources. From 2017 to 2022, the total costs billed for PEH utilizing Illinois hospitals were $16,429,817,828.

4.2 Impact of Health Conditions on PEH and Society

A systematic review of the health of people experiencing homelessness in high-income countries noted that surveillance needs to occur regularly since the optimal public health strategies for this population can vary across time and region (Fazel 2014). In addition, those experiencing homelessness experience a higher burden of health concerns and often lack the supportive services needed for improving their health when routinely discharged to “home” or “self-care” (Fazel 2014). Without addressing the underlying healthcare needs, the success of transition programs decreases (Byrne 2023). Additionally, there is evidence that when hospitals and health care providers do not have strong partnerships with supportive housing and other systems that serve PEH, the unmet health needs were shifted to different social systems that were not designed to address them, such as the criminal legal system (Heun-Johnson 2018).

This report utilizes different data sources to describe the mortality and morbidity of PEH in Illinois. Individuals identified as experiencing homelessness in state-level data over a multi-year time frame were described to provide public health surveillance data on the health care utilization and mortality of this population. Improved surveillance data of health care utilization patterns and mortality of people experiencing homelessness will help shape health-promoting policies and systems for people experiencing homelessness (Hwang 2014).

5 Overview of Study Methodology

5.1 Difficulty in Defining and Counting Homelessness

It is estimated that there are 2.5 to 4.0 million people in the United States experiencing homelessness (PEH) annually, with approximately 500,000 experiencing literal homelessness as counted yearly on a night in January (Fazel 2014; US HUD 2024; Richard 2022; Meyer 2023). The estimates vary widely, primarily because of (1) the difficulty in identifying PEH, (2) homelessness can affect individuals intermittently over time, and (3) differences in the definitions used by different agencies, organizations, and researchers. Broadly, the definition of homelessness includes people who (Rossi 1989; Wasserman 2010):

- Live out of vehicles.
- Sleep in places not meant for human habitation (e.g., abandoned buildings, public transit).
- Live in encampments (public camping) in various urban and rural locations.
- Live in shelters.
- Live in transitional housing.
- Are at imminent risk of losing housing within 14 days with no subsequent residence identified and lack the resources to obtain permanent housing.
- Are fleeing a permanent residence due to domestic violence without a new permanent residence.
- Are "doubled-up" with family and friends.

The duration and frequency of homelessness and unstable housing varies widely. Some subgroups experience homelessness for long durations (homelessness lasting greater than one year or four episodes in the past two years), while some people experience homelessness intermittently (episodes that alternate with housing or institutional care), and others experience transitional or crisis homelessness (episodes lasting less than one year or two times or less) (Fazel 2014). Definitions of these categories of homelessness may vary, but this framework reflects the scope of duration and number of episodes of homelessness that may be experienced.

The narrowest definition of homelessness aims to count those experiencing "literal homelessness" (the term used by the U.S. Department of Housing and Urban Development or HUD); those who are living in (1) shelters, (2) in areas not meant for human habitation, or (3) those leaving an institution (including jails) after a stay of 90 days or less who were experiencing homelessness before entering the institution. However, as soon as a person exits an institution and subsequently enters a shelter or begins residing in a place not meant for human habitation, they meet the definition of literal homelessness, regardless of their place of residence before entering the institution. Illinois' most conservative estimate of people experiencing literal homelessness was based on the HUD Point-in-Time (PIT) counts (USHUD 2024). All Illinois Continuums of Care (CoC) participate in the annual count of sheltered and unsheltered people experiencing homelessness. The count was managed, planned, and executed by local CoCs and reported to HUD.

Between 2017-2023, in Illinois, there was an annual average of 10,170 people experiencing literal homelessness on a night in January each year (Table 1). Illinois PIT counts show that males, people 25 years or older, and Black or African American people were disproportionately represented in the PIT count. However, because the PIT count of sheltered and unsheltered people occurs on a single night of the year, it does not include (1) people experiencing homelessness at other points during the year, (2) unsheltered people who were missed during the night of the count, and (3) those doubling up with family and friends.

It is estimated that 80-90% of PEH each year are living with others (families or friends), often in overcrowded housing, due to the inability to afford a personal residence (these households are commonly referred to as "doubled-up"). Families with children or unaccompanied youth who are doubled-up (but not doubled-up households without children) are included in the U.S. Department of Education (DOE) McKinney-Vento definition of homelessness. Most of these households would not be counted in the PIT or Homeless Management Information System (HMIS; see Procedures and Methodology for a description of these data systems). However, these households do qualify for supportive services within the educational system. Methods developed by Richard et al (2022) were used to estimate the total number of doubled-up people in Illinois. Between 2017-2023, the average annual estimate of people who are doubled-up ranges between 108,850 to 233,712. The lower estimate includes individuals living in a household with income below 125% of the federal poverty level that met the inclusion criteria (Table 2; see Appendix C: Procedures and Methodology). The upper estimate includes individuals living in a household with income below 200% of the federal poverty level. The higher estimate using the higher income threshold of 200% corresponds with a cut-off used by many U.S. agencies.

There is an overlap between people who were counted in the Point-in-Time (PIT) counts, people receiving homeless services during a calendar year (captured in HMIS), and the doubled-up population estimates (Figure 1). For example, based on a report by the Chicago Coalition for the Homeless, 17.6% of the 31,333 people served in the Chicago CoC shelter system in 2022 reported being "doubled up" at some point during the same year (Paler-Ponce 2023). Furthermore, neither the PIT nor the doubled-up estimates capture all people accessing CoC homeless services during a calendar year. For example, in Chicago between 2016 and 2022, for each person counted on the PIT, there were an additional four to nine people accessing homeless services during the rest of a calendar year, and only 17%-32% of these individuals reported "doubling-up" during the calendar year (Paler-Ponce 2023; Chicago Coalition for the Homeless 2024). Statewide, an estimated 42,729 (2.3%) school-aged youth experienced homelessness in 2023, 86% of whom were doubled-up (ISBE, 2025).

Table 1:
Annual Point-In-Time Counts of People Experiencing Homelessness in Illinois (Literally Homeless), 2017-2023*

	2017		2018		2019		2020		2021*		2022		2023	
Total PEH	10,798		10,643		10,199		10,431		7,958		9,212		11,947	
Gender														
Female	4,391	40.7%	4,376	41.1%	4,241	41.6%	4,300	41.2%	3,373	42.4%	3,620	39.3%	4,584	38.4%
Male	6,372	59.0%	6,226	58.5%	5,914	58.0%	6,096	58.4%	4,370	54.9%	5,533	60.1%	7,266	60.8%
Other / Unspecified	35	0.3%	41	0.4%	44	0.4%	35	0.3%	31	0.4%	54	0.6%	97	0.8%
Age**														
Under 18 years	2,455	22.7%	2,505	23.5%	2,355	23.1%	2,212	21.2%	1,828	23.0%	1,902	20.6%	2,426	20.3%
18 to 24 years	1,106	10.2%	958	9.0%	926	9.1%	958	9.2%	804	10.1%	897	9.7%	1,347	11.3%
25 years and older	7,237	67.0%	7,180	67.5%	6,918	67.8%	7,261	69.6%	5,142	64.6%	6,413	69.6%	8,152	68.2%
Unspecified	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	22	0.2%
Ethnicity														
Hispanic or Latino	1,059	9.8%	1,175	11.0%	1,032	10.1%	1,129	10.8%	931	11.7%	1,078	11.7%	3,584	30.0%
Race/Ethnicity														
American Indian/ Alaska Native	68	0.6%	78	0.7%	67	0.7%	82	0.8%	64	0.8%	65	0.7%	143	1.2%
Asian	78	0.7%	80	0.8%	90	0.9%	96	0.9%	78	1.0%	69	0.7%	197	1.6%
Black or African American	6,375	59.0%	6,234	58.6%	6,218	61.0%	6,333	60.7%	4,657	58.5%	5,389	58.5%	5,583	46.7%
Native Hawaiian or Pacific Islander	20	0.2%	32	0.3%	21	0.2%	21	0.2%	24	0.3%	22	0.2%	62	0.5%
White (inc. Hispanic or Latino Ethnicity)	3,916	36.3%	3,854	36.2%	3,579	35.1%	3,671	35.2%	2,688	33.8%	3,344	36.3%	5,535	46.3%
Multiracial, Declined, or Other	341	3.2%	365	3.4%	224	2.2%	228	2.2%	263	3.3%	323	3.5%	427	3.6%

*The COVID-19 pandemic disrupted the PIT counts in a majority of CoC jurisdictions that resulted in a substantial undercount. It has been advised to generally disregard the accuracy of the 2021 numbers.

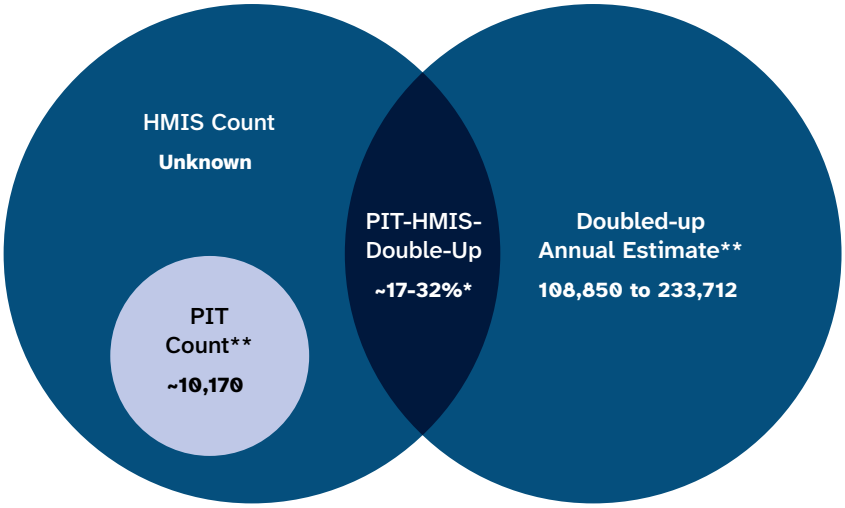
**Prior to 2023, the PIT counts only used the three age categories shown in the table. For continuity, we continue to use the three age categories in this table.

Table 2:
Estimates of People Living Doubled-Up* with Others for Economic Reasons in Illinois, 2017-2023

	2017	2018	2019	2020	2021	2022	2023
Annual Total Doubled	138,658	133,714	100,390	104,446	108,154	83,418	93,172
Gender							
Male	59,293	61,094	45,561	49,184	46,563	41,483	45,936
Female	79,365	72,620	54,829	55,262	61,591	41,935	47,236
Age							
Under 18 years	36,294	39,920	24,844	32,326	36,051	22,957	30,451
18 to 24 years	36,000	35,234	28,159	29,205	23,722	19,761	20,851
25 years and older	66,364	58,560	47,387	42,915	48,381	40,700	41,870
Ethnicity							
Hispanic or Latino	45,184	41,410	24,671	37,242	36,752	26,565	32,982
Race							
American Indian or Alaska Native	1,256	1,375	1,013	1,104	1,316	26	919
Asian	6,063	10,947	5,911	2,462	4,062	4,384	6,605
Black or African American	51,014	48,836	37,545	41,585	39,078	29,396	29,942
Native Hawaiian or Pacific Islander	61	0	0	89	149	381	123
White (including Hispanic or Latino Ethnicity)	56,803	52,625	45,911	24,811	26,853	23,463	24,516
Multiracial, Declined, or Other	23,461	19,931	10,010	34,395	36,696	25,768	31,067
Veteran	1,756	1,145	1,094	560	1,043	487	1,102

*Doubled-up homelessness estimates based on 125% poverty line cut-off, Richards et al (2022).

Figure 1:
Venn Diagram Showing the Estimated Annual Count of People Experiencing Homelessness in Illinois 2017-2023 - Intersection Between Point-In-Time, HMIS, and Doubled-Up Estimates



*The overlap between HMIS/PIT and Doubled-Up counts is based on the reported percent of people in Chicago HMIS data who were also doubled-up during a calendar year (Paler-Ponce, 2024; Chicago Coalition for the Homeless, 2024)

** The PIT estimate shown is the average PIT count for the years 2017-2023. The doubled up estimated range is shown. 108,850 is the average annual estimated doubled-up Illinois residents based on the 125% above the poverty line. 233,712 is the average annual estimated doubled-up Illinois residents based on the 200% above the poverty line.

***Note: Some additional individuals are not identified in any of the three data systems.

5.2 Identification of PEH Mortality in Death Records

A detailed description of the procedures and methodology used in this report is available in Appendix C. Illinois death certificates do not capture specific information on homelessness. For this reason, strategies developed by public health researchers in Minnesota, Boston, Los Angeles County, and San Francisco were used to identify deaths involving PEH (Fine 2023; Minnesota Department of Health 2023; LACDPH 2025; Cawley 2022).

For this report, all deaths that met the following criteria were included:

1. Any narrative fields on the death certificate containing a homelessness-related keyword/phrase (e.g. homeless, living in a tent). OR
2. Death certificates with an unknown residential address (e.g., "no fixed abode" and "no known residence"). OR
3. Death certificates with a street address that matched any of the state's emergency shelters (ES), transitional housing facilities (TH), safe havens (SH), and migrant shelters. OR
4. Death certificates with keywords that matched any of the project, facility, or agency names of the state's emergency shelters (ES), transitional housing facilities (TH), safe havens (SH), or migrant shelters (e.g., Hope Haven, Salvation Army).

A total of 2,996 deaths involving PEH were identified in Illinois death records covering the period of January 1, 2017, through December 31, 2023. Table 3 shows the number of deaths identified using the different strategies described above. The counts shown in the table were not independent. Cases could be identified in one or more stages, but duplicates were removed from the final dataset. The largest proportion of deaths involving PEH was identified because the death certificate either had no known residential address or had an address relating to a shelter or housing facility. In addition, there was an increase in the number of cases identified relative to the first state report covering the years 2017-2022 because some death certificates were updated, and the methodology continued to be refined. The main change was the inclusion of 19 additional housing facilities used in steps 3 and 4 that were not included in the screening criteria of the first state report.

Table 3:
Identification of People Experiencing Homelessness in Illinois Death Records by Each Query Stage, Statewide Illinois Death Records, 2017-2023

	Statewide (N=2,996)
Homeless Keywords[1]	314 (10.5%)
No Known Residential Address[2]	1284 (42.9%)
Shelter Street Address Match[3]	1464 (48.9%)
Shelter Name Keyword Match[4]	56 (1.9%)

* Counts of cases are not independent. Cases could be identified in one or more stages of querying records. The final counts used in the main analysis are deduplicated.

1. Homeless keywords - matching on keywords recommended by HUD and used in prior reports.
2. No address - matching on missing residential address only, other address fields were not queried.
3. Shelter street address match - Matches on shelter street address and city using SQL code, direct matching to all shelters and CoC service providers in Illinois. The shelter list was built from lists provided by HUD-HIC, OPEH, and local/state service providers.
4. Shelter name keywords - Matches on shelter name using SQL code, direct matching to all shelters and CoC service providers in Illinois. The shelter list was built from lists provided by HUD-HIC, OPEH, and local/state service providers.

For this analysis, a conservative approach was used when validating death records relating to potential PEH. Death records were omitted if the provided information on the death certificate was too vague and unclear to determine if the death involved a person experiencing homelessness. The following modifications to the inclusion criteria were made:

1. Many keywords recommended in the literature for identifying PEH were eliminated or modified because they primarily captured deaths of people dying in outdoor settings relating to drug-related overdoses, homicides, suicides, and motor vehicle crashes. However, the data relating to these cases were too vague and unclear to determine if the death involved PEH. Nearly all of the death certificates with these keywords had a residential address provided. While unable to verify PEH status, some of the excluded decedents may be PEH.
2. For death records with an unknown residential address, if a narrative field noted that the place of death or injury occurred at the decedent's home or in a nursing facility, then the death record was not classified as involving PEH. For some decedents without a residential address, the narrative fields indicated that the individual died at the "decedent's home." These cases may, in fact, involve PEH who were intermittently residing at a family or friend's residence (e.g., the parental residence of estranged children), people recently separated from a partner, or a person whose private residence was acquired by a nursing home to pay for residential costs.

3. Death certificates that matched shelter addresses were excluded if the facility had a dual use for general health care services as well as housing for PEH, unless these death certificates had a homelessness-related keyword in the narrative fields. Some hospitals and nursing homes provide housing to PEH. For most of the deaths occurring in these facilities, it was not possible to distinguish between the main healthcare patient population and PEH decedents.

A detailed description of the procedures and methodology used is available in Appendix C. Despite the conservative inclusion criteria, the rate of deaths per 100 PEH identified in this analysis was comparable to prior reports from other regions (Table 4). Studies from Boston and Minnesota identified the most cases but also linked death certificates with HMIS data, thus improving the accuracy of case identification in vital records.

Table 4:
Comparison of PEH Death Counts Reported by Other Departments of Public Health Using Point-In-Time Counts as Common Denominator

Location	Average Number of PEH Deaths per Year	Average Annual PIT Estimate	Rate per 100 PEH[1]	Data Source
Boston[2]	475	5712	8.32	Fine, 2023
Minnesota	399	7,521	5.31	MDPH State Report, 2017-2021
Los Angeles County	1,763	59,799	2.95	LADPH Report, 2017-2023
San Francisco	174	6,904	2.52	Cawley, 2022
Illinois	428	10,901	3.93	Illinois Vital Records, 2017-2023

1. Rates shown are crude rates based on average annual numbers. The rates will differ from the adjusted rates reported in these reports. This was done to align the methods for the calculation with the method used in Illinois.
2. Boston denominator data is based on reported numbers in the report, not PIT.

5.3 Identification of PEH Morbidity in Hospital Records

The morbidity and health concerns of PEH were assessed through their contact with the hospital system in Illinois. Studying the morbidity and health concerns of people experiencing homelessness clearly identifies an upstream point of contact within the health care and public health systems, offering a critical opportunity for early prevention, improved quality of life, and disruption of the unjust pattern of premature mortality identified in this population.

To assess morbidity, outpatient and inpatient hospital data were analyzed for the period of January 1, 2017, through December 31, 2023. The outpatient database includes all patients treated in emergency departments (EDs) or other hospital-based outpatient services (e.g., radiologic elective procedures) for less than 24 hours who were not admitted as inpatients to the hospital. These were referred to as ED visits throughout the report. The inpatient database includes all patients treated for 24 hours or more in Illinois hospitals for any medical reason. These were referred to as admissions throughout the report. Both datasets contain information on patient demographics (age, race, gender), clinical outcomes (diagnoses, hospital procedures, and discharge status), and economic outcomes (hospital charges and payer source).

Hospital visits involving PEH were identified in two stages:

- Stage 1: Hospital records with an ICD-10 (a diagnostic coding system used by all health care entities) code of Z59 (including Z59.00, Z59.01, Z59.02, and Z59.09), which was used to identify patients experiencing homelessness.
- Stage 2: After creating a unique list of patients with a Z59 code shown on any ED visit or admission between 2017 and 2023 (stage 1), the IDPH informatics team identified other hospital visits involving these individuals where a Z59 code was not listed. All hospital visits during the study period were included for these individuals, both before and after the Z59 code appeared.

In stage one, all records with an ICD-10 code of Z59 for “homelessness” were identified in accordance with previous studies using hospital data (International Classification of Diseases, Tenth Revision [ICD-10; Geneva, Switzerland: World Health Organization; 1992]; Madigan, 2020; Madigan, 2021). The ICD-10 Z59 code captures people with a lack of housing, including people living in permanent/temporary housing or a shelter, and explicitly identifies the following subgroups: nomad, nomadism (i.e., a new term for hobo), social migrant, tramp, transient, vagabond, vagabondage, and vagrancy (all were terms used in the ICD-10 code book).

However, research conducted by the UIC Office of the Vice Chancellor of Health Affairs and UI Health demonstrated that the majority of hospital visits involving homeless people do not have a corresponding Z59 code. To address these issues in stage two, the IDPH informatics team identified all other hospital visits involving any person who had a Z59 code shown on any ED visit or admission. All hospital visits for people who ever had a Z59 code used in their hospital records between 2017-2023, including visits without a

corresponding Z59 code, were captured in this dataset. However, individuals whose homelessness was never recorded by medical providers in the hospital setting were entirely missed in this analysis. These latter cases likely involved a disproportionate number of people who were homeless for brief periods for economic reasons in the absence of major mental health or legal risk factors (e.g., those "doubled-up" following recent eviction, foreclosure, separation, or loss of employment). In addition, the analysis between people who were homeless for the entire seven-year period and those who experienced intermittent or short-term homelessness was not able to be differentiated. A proportion of the people included in this analysis likely experienced homelessness only for a part of the seven years. Data from Illinois CoCs shows that of the total sheltered and unsheltered PEH, approximately 15-20%, return to homelessness within 24 months of placement in housing (USHUD 2024b). However, research consistently demonstrates that there are persistent adverse health effects associated with episodic, intermittent, or short-term homelessness. In addition, the demographics and health conditions identified among these patients are similar to those of previously published research. The UIC research team did not have access to personal identifiers.

Because this report focuses on cumulative hospital care utilization, total hospital visits were analyzed. Most PEH had multiple ED visits and hospital admissions between 2017-2023. Past research shows that PEH with mental health conditions have higher hospital care utilization that may skew the demographics, comorbidities, and reasons for hospital care when analyzing the data at the visit level alone. For this reason, data on unique people was summarized to better characterize patient demographics and comorbidities. In the primary analysis of hospital visits, data by visits in which the person was identified as experiencing homelessness was stratified by the presence of a Z59 code and visits in which they were not identified as experiencing homelessness through the Z59 code. In the latter hospital visits, these individuals may be experiencing homelessness at the time of the hospital visit or may have housing at the time of the hospital visit, reflecting intermittent housing instability. The hospital data does not provide detailed information on the history of housing instability at the time of the visit. The data by level of hospital care was further stratified by ED visits only vs admissions to the hospital. ED visits and admissions substantially differ by several factors, such as the reason for the hospital visit, severity of medical conditions, and health outcomes (Table 5).

Table 5: Data Stratification in Morbidity Analysis

Hospital Admissions (inpatient)		ED Visits (outpatient)	
Visit contains Z59 Homelessness Code	Visit does not contain Z59 Homelessness Code	Visit contains Z59 Homelessness Code	Visit does not contain Z59 Homelessness Code

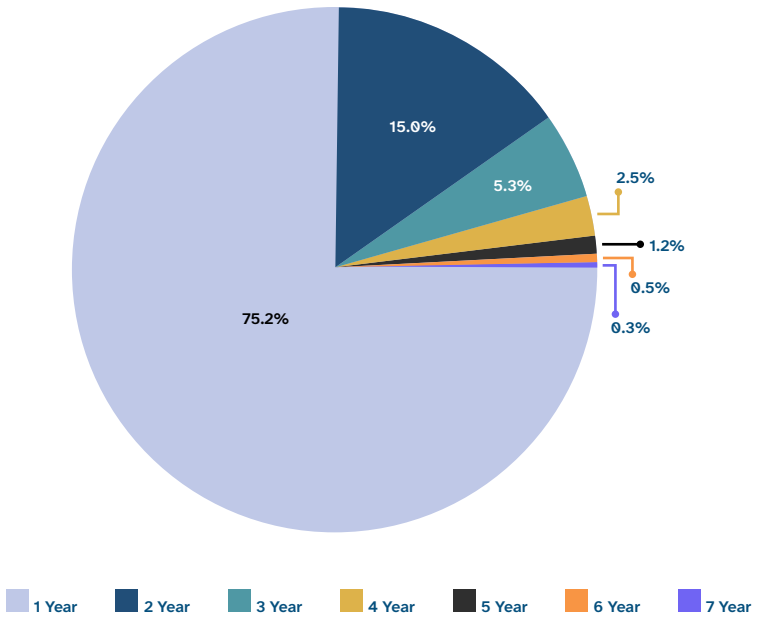
Note: Visits that do not contain the Z59 Homelessness Code were for patients who had the Z59 code marked at some time during another visit during the 2017-2023 time period.

5.4 Coding for Homelessness in the Hospital Setting

As shown in Figure 2, the majority of PEH patients had homelessness coded with Z59 at the hospital visit in one year (75.2%) or two years (15.0%) between 2017 and 2023. However, no code for homelessness was provided for their remaining visits, indicating that some individuals were not homeless over the entire seven-year period, and/or there was rampant under-coding of homelessness by hospital medical coders. Only 1,285 patients (1.7%) were assigned a Z59 code at a hospital visit during five or six of the seven years of study, and a mere 200 patients (0.3%) were identified by the Z59 code during each of the seven years.

The remaining statistical analyses were restricted to hospital patients who were identified with the Z59 code during at least five of the seven years between 2017 and 2023 (n=1,485 patients) because they were likely homeless for all or most of the study period, providing a more conservative estimate of PEH health conditions based on the actual frequency of Z59 coding by Illinois hospitals. Among persons who were likely experiencing unstable housing and were coded as Z59 during less than five of the seven years, the average proportion of visits coded as Z59 for homelessness was 17% for ED and 40% for admissions. This indicates that coding for homelessness may not have occurred during the majority of hospital visits, even among those who were likely homeless for long periods of time. If hospital staff were not coding for homelessness during the majority of PEH hospital visits, the morbidity measures in this report were underestimated. The low level of coding for homelessness on hospital records was consistent with preliminary findings reported by UI Health partners. These latter cases may also have involved people who were homeless for brief periods due to economic reasons in the absence of major mental health or legal risk factors (e.g., those "doubling-up" following recent eviction, foreclosure, or separation).

Figure 2:
Total Years a Patient had a Z59 Code Recorded on a Hospital Record



5.5 Creation of a Unique Patient Dataset from Hospital Records

An attempt to define individuals in the hospital dataset, rather than the total number of hospital visits, was completed to avoid overrepresentation caused by frequent users of the healthcare services. Some individuals, especially those with complex or chronic conditions, may have a considerable number of hospital visits. Looking at individuals rather than visit frequency helps uncover patterns of access, barriers to care, or disparities in outcomes that might be masked by visit-based data.

To determine the number of unique individuals experiencing homelessness within the hospital dataset, the data file was deduplicated using a numeric code created by the IDPH informatics team. Each individual had a unique numeric code. Records involving the same person were identified by the informatics team using first and last name, date of birth, and gender. For the analysis of the unique patient dataset, a single record was retained for each unique individual. If a person had been admitted to a hospital, the most recent hospital admission was utilized. If the person was never admitted to a hospital, then the most recent ED visit was utilized. Admission data was prioritized over ED visit data because comorbidities were better characterized during hospital admissions. As an example, in this study, inpatient visits had substantially more ICD-10 diagnostic codes listed than ED visits. On average, each admission had 11.7 ICD-10 codes (diagnoses) listed on the medical record compared to 4.2 on each ED visit's record.

6 Demographics of PEH

6.1 Illinois Totals

6.1.1 DEATHS

A total of 2,996 deaths involving PEH were identified in the Illinois statewide vital records for the years 2017-2023. Table 6 presents the demographics of deaths involving PEH and the general population. Compared to deaths in the general Illinois population, PEH were disproportionately male (77.2% vs 51.1%), and the average age at the time of death was almost 20 years younger (55.5 vs 74.2 years old). PEH were predominately between the ages of 25 and 64 years at the time of death (70.5% vs 23.0%). While Marion and Peoria public health regions had the largest proportion of PEH adults 65 years and older (38.9% and 33.3%, respectively), it was still substantially lower than the proportion of general population decedents 65 years and older (75.0%). Some subgroups differed substantially in the average age of death (see tables in Appendix B). The average age of death was substantially higher among veterans who were experiencing homelessness (average age of death, 65.8 years) and PEH living in rural counties (average age of death, 61.3 years). The gender distribution and mean age observed in Illinois PEH decedents are consistent with other mortality reports of PEH (Nielsen 2011; Cawley 2022; Fine 2023).

Among deaths involving PEH only, the reported educational attainment was as follows: 18.9% did not complete high school, 34.4% had a high school diploma or equivalent, 18.0% attended college, and 28.6% had an unknown level of education. The high level of missing data relating to educational attainment makes it challenging to analyze this important characteristic. However, PEH have a higher prevalence of adverse childhood experiences (ACEs) and psychiatric conditions, both of which were associated with difficulty in remaining in secondary education or continuing to vocational training programs or college (Breslau 2008; Lee 2009; Levitt 2009; Vila-Rodriguez 2013; Stewart-Tufescu 2022; Yeo 2024).

While non-Hispanic Whites comprise the largest proportion of PEH decedents (46.7%), the proportion of PEH who were non-Hispanic Black or African American was more than double the proportion observed in the general population decedents (40.0% vs. 16.9%). While the distribution of PEH decedents by gender and age was similar across all IDPH-defined public health regions, the racial and ethnic characteristics of PEH varied regionally. In more rural regions, the proportion of non-Hispanic White PEH ranged between 74.8% and 83.3%. These proportions diminished in more urban areas of Rockford, Suburban Cook County, and Chicago. In the city of Chicago, the majority of PEH decedents were non-Hispanic Black (52.0% of PEH within Chicago). The Westchester public health region also had the highest proportion of Hispanic or Latino PEH decedents, specifically in the west Chicago area (11.3% of all decedents were Hispanic or Latino) and in the city of Chicago (10.4%).

A detailed table of the demographics of deaths involving PEH by public health regions is available in Appendix B.

Table 7 presents the crude annual mortality rates for people experiencing homelessness and the Illinois general population for the years 2017-2023, stratified by race-ethnicity, age, and gender. Because quality data describing PEH by detailed age groups were absent (see chapter 5.1), Point-in-Time counts were used to calculate crude mortality rates for PEH instead of age-standardized rates. Over the seven-year period, the crude mortality rates of PEH were 4 to 6 times higher than the crude mortality rates observed in the general population of Illinois decedents.

It was not feasible to calculate age-standardized rates because the PIT counts lack detailed age categories through 2022. Calculation of age-standardized rates is a statistical strategy used to compare rates between groups with different age ranges. PEH were much younger than the general population decedents. The only age categories used in the PIT reports for the years 2017-2022 were less than 18 years, 18 to 24 years, and 25 years and older. Because age-standardized rates could not be calculated, comparing the rates between PEH subgroups and the general Illinois population should be done with caution. On average, PEH decedents die almost 20 years younger than the general Illinois population. Standardization of rates would “correct” for this difference in age of death. Furthermore, it was recognized that the PIT undercounts total PEH (see chapter 5.1). Using the PIT counts as the denominator of the mortality rate inflates the rates because so many PEH are not identified in the PIT. Overall, it is unclear how these opposing effects – not adjusting for the age of death and using the smaller denominator estimates from the PIT count -- impact the crude rates. However, a detailed analysis conducted by the Minnesota Department of Health in 2023, which used HMIS data and calculated age-standardized mortality rates, continued to show that adjusted mortality rates among PEH were 3.0 times higher than the general Minnesota population.

Table 6:
Demographics of People Dying Based on Illinois Death Records, 2017-2023 - People Experiencing Homelessness Compared to All Other Deaths Occurring in Illinois

	PEH Deaths Statewide (N=2,996)		All Other Deaths Statewide (N=796,007)	
Gender				
Male	2,313	77.2%	406,922	51.1%
Female	663	22.1%	389,081	48.9%
Unspecified	20	0.7%	4	0.0%
Mean Age at Death	55.5	SD=16.3	74.2	SD=18.0
0 to 2 yrs	44	1.5%	5,700	0.7%
3 to 5 yrs	2	0.1%	452	0.1%
6 to 12 yrs	0	0.0%	801	0.1%
13 to 17 yrs	3	0.1%	1,940	0.2%
18 to 24 yrs	38	1.3%	7,206	0.9%
25 to 34 yrs	224	7.5%	16,356	2.1%
35 to 44 yrs	370	12.3%	22,740	2.9%
45 to 54 yrs	578	19.3%	43,128	5.4%
55 to 64 yrs	941	31.4%	100,662	12.6%
65 to 74 yrs	474	15.8%	153,747	19.3%
75 and older	261	8.7%	443,245	55.7%
Unspecified	61	2.0%	30	0.0%
Race/Ethnicity				
White, non-Hispanic	1,400	46.7%	590,805	74.2%
Black or African American	1,199	40.0%	134,277	16.9%
Hispanic or Latino	265	8.8%	50,056	6.3%
Asian	38	1.3%	18,887	2.4%
American Indian/Alaska Native	11	0.4%	862	0.1%
Native Hawaiian or Pacific Islander	3	0.1%	312	0.0%
Other / Unspecified	80	2.7%	808	0.1%
Education				
8th Grade or Less	211	7.0%	70,854	8.9%
9th to 12th Grade	355	11.8%	65,077	8.2%
High School or GED	1,032	34.4%	362,568	45.5%
Associate Degree	96	3.2%	49,367	6.2%
College but No Degree	285	9.5%	100,511	12.6%
Bachelor's Degree	114	3.8%	84,606	10.6%
Master's Degree	27	0.9%	35,894	4.5%
Doctoral Degree	18	0.6%	12,909	1.6%
Unspecified	858	28.6%	14,221	1.8%

Table 7:
Crude Annual Mortality Rates for People Experiencing Homelessness and the Housed Illinois General Population by Year, 2017-2023

	Crude Annual Mortality Rates People Experiencing Homelessness*							Crude Annual Mortality Rates Housed General Illinois Population**						
	2017	2018	2019	2020	2021*	2022	2023	2017	2018	2019	2020	2021*	2022	2023
Total PEH	3.1	3.2	3.4	4.7	4.9	6.1	3.8	0.8	0.8	0.8	1.0	1.0	0.9	0.9
Gender														
Female	1.9	1.6	2.0	2.9	2.6	3.2	1.8	0.8	0.8	0.8	1.0	0.9	0.9	0.8
Male	4.0	4.2	4.4	5.9	6.5	7.8	5.0	0.8	0.9	0.9	1.1	1.0	1.0	0.9
Other / Unspecified	0.0	12.2	2.3	2.9	2.2	16.7	3.1	~	~	~	~	~	~	~
Age														
Under 18 years	0.2	0.3	0.1	0.7	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 to 24 years	0.5	0.3	0.8	0.5	0.9	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 years and older	4.4	4.4	4.8	6.4	6.7	8.4	5.3	1.2	1.2	1.2	1.4	1.4	1.3	1.2
Ethnicity														
Hispanic or Latino	2.6	2.0	3.5	4.8	3.8	3.2	1.3	0.2	0.3	0.3	0.4	0.4	0.3	0.3
Race/Ethnicity														
American Indian/Alaska Native	1.5	0.0	4.5	0.0	5.4	3.1	0.7	0.4	0.3	0.3	0.4	0.1	0.2	0.2
Asian	7.7	3.8	4.4	8.3	3.6	10.1	3.6	0.3	0.3	0.3	0.5	0.4	0.4	0.4
Black or African American	1.8	2.1	2.2	3.0	3.5	4.6	3.2	0.9	1.0	1.0	1.3	1.2	1.2	1.1
Native Hawaiian or Pacific Islander	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.8	1.0	1.3	1.2	0.6	0.5	0.5
White (inc. Hispanic or Latino Ethnicity)	4.7	4.2	4.5	5.8	6.3	7.5	3.8	0.9	0.9	0.9	1.0	1.1	1.1	1.1
Multiracial, Declined, or Other	2.1	3.8	2.2	9.2	1.8	5.6	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Race and ethnicity were kept independent of each other because the Point-In-Time Counts through 2022 do not provide counts of race stratified by ethnicity. It was also not feasible to calculate age-standardized rates because the PIT counts lacked detailed age categories through 2022. The only age categories used in the PIT reports for years 2017-2022 were <18 years, 18-24 years, and 25 and older.

* Crude annual mortality rates for PEH are based on HUD PIT counts for the denominator. Many CoC jurisdictions were unable to provide complete PIT counts in 2021 because of the COVID-19 pandemic. 2021 PIT counts were corrected using the average between the 2020 and 2022 counts.

** Crude annual mortality rates for the general Illinois population are based on US Census data for the denominator. However, the selection of race categories changed in 2021 that resulted in a substantial decline in counts for the category “White Alone” and substantial increases in counts of Illinois residents identifying as American Indian or Alaska Native and multiracial.

6.1.2 HOSPITAL VISITS

A total of 1,824,004 visits involving 75,145 people experiencing homelessness were identified in the Illinois statewide hospital records for 2017-2023, with 12.0% (219,234) of the visits coded with Z59. That is, while 75,145 people had homelessness coded during at least one hospital visit in this seven-year period, hospital staff did not code their housing status as homeless during the vast majority of their hospital visits (88.0% of visits not coded with a Z59 code). Table 8 presents the demographics of these visits involving PEH stratified by visit type (ED and admissions) and Z59 coding status. The demographics generally align with what was observed in the mortality data and other studies of hospital utilization of PEH (Madigan, 2021). Visits were predominantly by males (66.0% overall). Males also had a higher proportion of visits with a Z59 code for homelessness. PEH were predominantly between the ages of 25 and 64 at the time of hospital visit, regardless of visit type or coding. There were 26,450 visits by children under 18 years of age (1.5% of visits), 141,320 visits for youth aged 18-24 (1.0% of visits), and 126,924 visits by individuals 65-years-of-age and older (7.0% of visits).

PEH identified as non-Hispanic Whites (41.7% of visits) and Black/African Americans (44.1% of visits) accounted for more than 80% of the hospital visits; however, the proportion varied by visit type and coding status, with non-Hispanic Whites accounting for 43.0% (versus 38.2%) of admissions coded with Z59 and Black/African Americans accounting for 51.5% (versus 35.7%) of ED visits coded with Z59.

Most visits were by Illinois residents (96.0% overall). Medicaid was the most common form of insurance coverage (61.0%), followed by Medicare (19.7%). Nearly 10% of visits were identified as self-pay (i.e., uninsured), and the proportion of self-pay visits was higher in ED visits, particularly if coded with Z59. While the Patient Protection and Affordable Care Act substantially increased access to Medicaid coverage among PEH in Illinois (Madigan 2021), a large proportion of visits continue not to be covered by insurance. The lack of insurance coverage disproportionately involves non-Illinois residents (25.1% of their visits were self-pay, compared to 7.7% of visits for Illinois residents self-pay).

The rate at which Black or African American Illinoisans experience homelessness, as well as rates of hospital visits by Black or African American PEH found in this study, are vastly disproportionate to their share of the Illinois population (Arenas, 2024). Black/African American Illinoisans are approximately 14% of the total state population but make up 58% of those experiencing literal homelessness (Arenas 2024; IL OPEH 2023a). In Illinois, Black residents are almost eight times more likely to be homeless than White residents (Arenas 2024). The staggering disparity aggravates pervasive racial health inequities and outcomes (Arenas 2024). Addressing racial inequities in rates of homelessness and housing is a crucial component of closing racial inequities in health outcomes and life expectancy (Arenas 2024).



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Table 8:
General Characteristics of People Experiencing Homelessness Treated in Illinois Hospitals by Visit, 2017-2023

	Admissions Coded with Z59 (N=102,447)		Other Admissions (N=322,029)		ED Visits Coded with Z59 (N=116,787)		Other ED Visits (N=1,282,741)		Total (N=1,824,004)	
Gender										
Male	75,688	73.9%	218,572	67.9%	85,410	73.1%	824,560	64.3%	1,204,230	66.0%
Female	26,740	26.1%	103,419	32.1%	31,364	26.9%	458,071	35.7%	619,594	34.0%
Unspecified	19	0.0%	12	0.0%	13	0.0%	22	0.0%	66	0.0%
Age										
Under 3 years old	243	0.2%	456	0.1%	337	0.3%	2,053	0.2%	3,089	0.2%
3 to 5 years	64	0.1%	117	0.0%	237	0.2%	1,134	0.1%	1,552	0.1%
6 to 12 years	206	0.2%	739	0.2%	323	0.3%	2,855	0.2%	4,123	0.2%
13 to 17 years	316	0.3%	4,106	1.3%	325	0.3%	12,939	1.0%	17,686	1.0%
18 to 24 years	7,535	7.4%	25,042	7.8%	6,436	5.5%	102,307	8.0%	141,320	7.7%
25 to 34 years	22,301	21.8%	66,079	20.5%	21,608	18.5%	266,047	20.7%	376,035	20.6%
35 to 44 years	21,834	21.3%	64,047	19.9%	25,014	21.4%	260,788	20.3%	371,683	20.4%
45 to 54 years	22,776	22.2%	70,852	22.0%	26,209	22.4%	281,712	22.0%	401,549	22.0%
55 to 64 years	20,350	19.9%	66,642	20.7%	27,184	23.3%	265,867	20.7%	380,043	20.8%
65 to 74 years	5,872	5.7%	20,094	6.2%	7,819	6.7%	73,979	5.8%	107,764	5.9%
75 years and older	950	0.9%	3,855	1.2%	1,295	1.1%	13,060	1.0%	19,160	1.1%
Under 18 years old	829	0.8%	5,418	1.7%	1,222	1.0%	18,981	1.5%	26,450	1.5%
Mean Age	44.5	14.2	44.7	14.7	46.1	14.4	44.4	14.5	44.6	14.5
Race/Ethnicity										
Black/African American	39,111	38.2%	141,301	43.9%	60,099	51.5%	563,815	44.0%	804,326	44.1%
White, non-Hispanic	44,024	43.0%	127,960	39.7%	41,720	35.7%	547,057	42.6%	760,761	41.7%
Hispanic/Latino	7,469	7.3%	23,608	7.3%	8,161	7.0%	92,260	7.2%	131,498	7.2%
Native Hawaiian/Pacific Islander	1,502	1.5%	4,241	1.3%	276	0.2%	4,288	0.3%	10,307	0.6%
Asian	533	0.5%	1,553	0.5%	614	0.5%	4,913	0.4%	7,613	0.4%
American Indian/Alaska Native	191	0.2%	598	0.2%	201	0.2%	2,253	0.2%	3,243	0.2%
Multiple	599	0.6%	1,743	0.5%	757	0.6%	7,656	0.6%	10,755	0.6%
Other	8,489	8.3%	19,648	6.1%	4,608	3.9%	57,198	4.5%	89,943	4.9%
Declined	529	0.5%	1,377	0.4%	351	0.3%	3,301	0.3%	5,558	0.3%
Payer type										
Medicaid	65,274	63.7%	187,527	58.2%	68,106	58.3%	792,606	61.8%	1,113,513	61.0%
Medicare	19,381	18.9%	76,271	23.7%	21,960	18.8%	241,368	18.8%	358,980	19.7%
Commercial Insurance	7,937	7.7%	28,706	8.9%	7,173	6.1%	95,780	7.5%	139,596	7.7%
HMO	1,120	1.1%	4,378	1.4%	948	0.8%	15,773	1.2%	22,219	1.2%
Self-Administered (Company)	61	0.1%	198	0.1%	58	0.0%	1,269	0.1%	1,586	0.1%
Self-Pay	6,563	6.4%	18,047	5.6%	16,189	13.9%	112,027	8.7%	152,826	8.4%
Other	2,111	2.1%	6,902	2.1%	2,353	2.0%	23,918	1.9%	35,284	1.9%
Illinois Resident	94,134	91.9%	312,042	96.9%	105,358	90.2%	1,239,146	96.6%	1,750,680	96.0%

Table 9 presents the crude annual hospital utilization rates (all visits combined) per 100 PEH for 2017-2023 stratified by race-ethnicity, age, and gender. Because of the absence of quality data enumerating PEH, PIT counts were used to calculate these rates. Similarly to the data presented on mortality, these rates were not standardized ("corrected" for differences in the age distribution of these populations) and should be interpreted cautiously. Other strategies to obtain more comprehensive denominator data are being explored. In addition to the challenges with the denominator data for these rates, there are concerns regarding the comprehensiveness of the numerator (i.e., total hospital visits). It is unknown who gets identified and coded with a Z59 code when visiting a hospital, or how coding for homelessness has changed over time.

Table 9:
Crude Annual Hospital Utilization Rates for People Experiencing Homelessness by Year, 2017-2023

	2017	2018	2019	2020	2021*	2022	2023
Total PEH	2,367.4	2,585.7	2,736.4	2,443.3	2,529.8	2,707.0	2,187.9
Gender							
Female	2,035.4	2,169.7	2,285.7	1,948.4	2,087.4	2,304.8	1,929.8
Male	2,609.2	2,894.8	3,078.9	2,806.2	2,851.2	2,998.5	2,379.6
Other / Unspecified	5.7	53.7	136.4	42.9	44.9	63.0	27.8
Age							
Under 18 years	237.6	190.7	184.3	129.3	136.7	131.0	137.4
18 to 24 years	2,215.2	2,495.6	2,333.6	2,033.0	2,014.7	1,876.1	1,211.0
25 years and older	3,113.2	3,433.3	3,659.1	3,202.4	3,319.7	3,587.2	2,965.4
Ethnicity							
Hispanic or Latino	1,669.6	1,580.8	1,815.5	1,550.5	1,697.3	1,787.2	586.1
Race/Ethnicity							
American Indian/Alaska Native	752.9	541.0	719.4	589.0	590.5	616.9	355.9
Asian	1,173.1	1,206.3	1,242.2	1,139.6	1,452.1	1,729.0	573.6
Black or African American	1,685.6	1,920.9	1,993.0	1,813.5	1,855.5	2,078.4	2,106.3
Native Hawaiian or Pacific Islander	8,560.0	5,787.5	7,985.7	7,352.4	7,214.0	5,795.5	1,122.6
White (inc. Hispanic or Latino Ethnicity)	2,841.1	3,001.4	3,247.8	2,817.4	2,957.1	3,106.7	1,925.1
Multiracial, Declined, or Other	4,721.4	4,920.8	7,548.2	7,002.6	5,111.8	3,511.1	3,254.6

Note: Race and ethnicity were kept independent of each other because the Point-In-Time Counts through 2022 do not provide counts of race stratified by ethnicity. It was also not feasible to calculate age-standardized rates because the PIT counts lacked detailed age categories through 2022. The only age categories used in the PIT reports for years 2017-2022 were <18 years, 18-24 years, and 25 and older.

* Crude annual hospital utilization rates for PEH using HUD PIT counts for the denominator. Many CoCs were unable to provide complete PIT counts in 2021 because of the COVID-19 pandemic. 2021 PIT counts were corrected using the average between the 2020 and 2022 counts.

6.1.3 INDIVIDUALS SEEKING HOSPITAL SERVICES

Nearly all PEH (93.6%) in the hospital dataset visited an Illinois hospital more than once between 2017 and 2023. The 1.8 million Illinois hospital visits involved 75,145 unique people with a median of 14 hospital visits per person over the seven years (2017-2023; 75th percentile, 29 visits). Table 10 shows the demographic characteristics of individuals experiencing homelessness based on the most recent hospital admission, and if the person was never admitted to a hospital, then the most recent ED visit. Similar to the general morbidity analysis of all hospital visits, the unique PEH patient population was disproportionately male (67.4%) with an average age of 44.8 years (based on the most recent visit) and were disproportionately non-Hispanic White (43.6%) or non-Hispanic Black (37.7%). The demographics of PEH patients treated in the hospital setting were also similar to the demographics of PEH decedents (Table 10; also see demographics section presenting mortality data in this report, chapter 6.1.1). This indicates that a similar group of PEH were identified using the methodology to identify cases in the hospital data and vital records. While there was substantial overlap in demographic distributions in the mortality data, visit-level hospital data, and person-level hospital data, the age of patients seeking medical care in the hospital setting was substantially younger than those who died. Specifically, the mean age at the time of a person's last hospital visit was approximately 10 years younger than the average age of death among PEH. Only 29.8% of people experiencing homelessness were 55 years or older at the time of their last hospital visit, compared to 59.8% among those who died. Given limitations with the data, it is unclear if the decline in the proportion of older people experiencing homelessness was the result of (1) a greater tendency of medical professionals to not inquire about housing status in older adults and miss these cases, (2) improved access to housing and medical services in older adults including medical respite programs, or (3) a higher degree of avoidance of medical providers by people experiencing homelessness as they age.

Table 10:
Demographics of People Experiencing Homelessness in Illinois, 2017-2023 - Unique People Who Sought Care in an Illinois Hospital Compared to All PEH Deaths Occurring in Illinois

	Unique Patients Reporting Homelessness (N=75,145)		Decedents who were Homeless at Time of Death (N=2,996)	
Gender				
Male	50657	67.4%	2313	77.2%
Female	24460	32.6%	663	22.1%
Unspecified	28	0.0%	20	0.7%
Mean Age (standard deviation)	44.8 (sd=16.0)		55.0 (sd=15.8)	
Under 3 years old	566	0.8%	28	0.9%
3 to 5 yrs	254	0.3%	9	0.3%
6 to 12 yrs	490	0.7%	2	0.1%
13 to 17 yrs	627	0.8%	4	0.1%
18 to 24 yrs	5787	7.7%	40	1.3%
25 to 34 yrs	15461	20.6%	225	7.5%
35 to 44 yrs	15006	20.0%	372	12.4%
45 to 54 yrs	14556	19.4%	578	19.3%
55 to 64 yrs	15236	20.3%	944	31.5%
65 to 74 yrs	5743	7.6%	473	15.8%
75 yrs and older	1419	1.9%	321	10.7%
Race/Ethnicity				
American Indian/Alaska Native	144	0.2%	11	0.4%
Asian	475	0.6%	38	1.3%
Hispanic or Latino	6687	8.9%	265	8.8%
Native Hawaiian or Pacific Islander	765	1.0%	3	0.1%
Non-Hispanic Black	28300	37.7%	1199	40.0%
Non-Hispanic White	32784	43.6%	1400	46.7%
Other / Unspecified	5990	8.0%	80	2.7%



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The average person in the study had 24 total combined ED visits and admissions over the seven years (median of 14). However, the average of total hospital visits can be misleading regarding hospital care utilization. In any given year, the median number of ED visits or hospital admissions per individual was zero. This discrepancy between the median number of visits in individual years and the average across the seven-year totals (i.e., cumulative median visits of 14) is explained by two key drivers. First, at the individual level, the pattern of utilization was characterized by long periods with few hospital visits followed by brief intensive periods of high hospital utilization. Second, a fraction of PEH patients were frequent utilizers of hospital care. Only 0.3% of the 75,145 PEH had at least one hospital ED visit or admission annually between 2017-2023.

It appears that surges in hospital utilization were related to when a person was experiencing homelessness. Figure 2 showed that 75.2% of PEH had a Z59 code only for one year, indicating that a proportion of the patient population may not be homeless for the entire seven-year period and/ or rampant under-coding of homelessness by hospital medical coders occurs. Furthermore, during the years a person had at least one visit coded for homelessness, they had an average of 6.8 ED visits and 2.4 admissions. By comparison, during the years that the same person had no visits coded for homelessness, they had an average of 1.6 ED visits and 0.4 admissions (see Figures 3A and 3B). While this assumes that a person was experiencing homelessness only during years they had a respective Z59 code, the change in hospital utilization is substantial and consistent with prior research that showed that hospital utilization increased during periods of homelessness. Homelessness impacts health through numerous social, economic, behavioral, and nutritional risk factors associated with earlier onset and poor management of chronic health conditions (Salem 2014), including broader situational circumstances (e.g., lack of housing, transportation, phones, financial resources) that limit access to alternative health care services (Lin 2015; Madigan 2021). Furthermore, PEH experienced numerous physical hazards that increased the risk of traumatic injury, as well as environmental and social factors that exacerbated underlying medical conditions.

Figure 3A and 3B:
Mean Emergency Department Visits and Hospital Admissions
During Years a Person Had at Least One Visit Coded for Homelessness (Light Blue)
Compared to Years the Same Person Had No Visits Coded for Homelessness (Dark Blue)

Figure 3A: Mean Emergency Department Visits

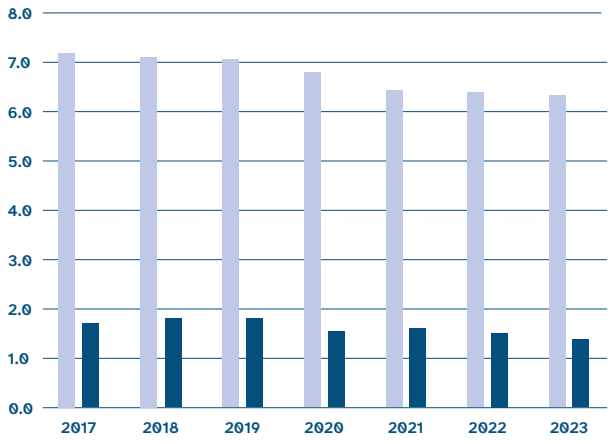
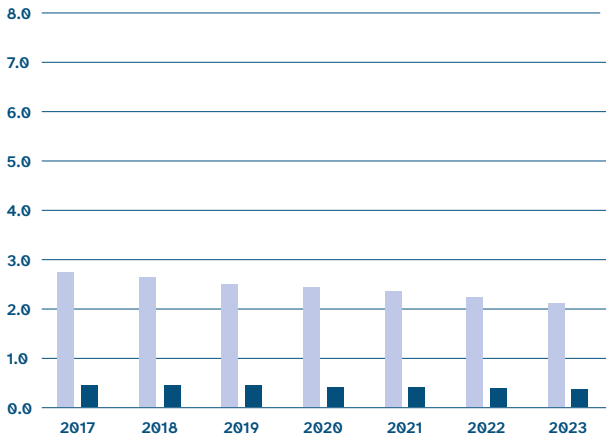


Figure 3B: Mean Hospital Admissions



At least One Hospital Visit Coded for Homelessness (Z59): Likely Homeless During Year

No Hospital Visits Coded for Homelessness (Z59): Possibly not Homeless During Year

Additionally, a fraction of PEH were high utilizers of medical care in the hospital setting; 25% of individual PEH had 29 or more visits over the seven years and one person had 1,470 hospital visits. These individuals visited Illinois hospitals 1,207,835 times during the seven years (66.3% of total hospital visits) and were disproportionately female, between the ages of 45-64 years, non-Hispanic Black, living in Chicago, and had multiple severe comorbidities (see Table 11).

Table 11:
Demographic Characteristics Stratified by Number of Total ED Visits and Admissions Among People Experiencing Homelessness Treated in Illinois Hospitals Based on Analysis of Unique Patients, 2017-2023

	1 to 5 visits (Lower Quartile)	6 to 14 visits (Second Quartile)	15 to 28 visits (Third Quartile)	29 to 75 visits (Upper Quartile, exc. Extreme outliers)	76 or more visits (Extreme outliers)
Gender					
Male	70.5%	70.3%	65.4%	62.2%	67.7%
Female	29.4%	29.6%	34.5%	37.8%	32.3%
Unspecified	0.1%	0.0%	0.0%	0.0%	0.0%
Mean Age (sd)	42.4 (sd=18.1)	44.3 (sd=16.0)	45.6 (sd=15.2)	46.4 (sd=14.4)	47.9 (sd=13.6)
Under 3 years old	2.2%	0.6%	0.2%	0.0%	0.0%
3 to 5 yrs	1.1%	0.2%	0.1%	0.0%	0.0%
6 to 12 yrs	1.6%	0.7%	0.2%	0.1%	0.0%
13 to 17 yrs	1.3%	1.0%	0.7%	0.4%	0.1%
18 to 24 yrs	9.4%	8.7%	7.2%	6.0%	3.3%
25 to 34 yrs	20.9%	21.0%	21.0%	19.8%	17.9%
35 to 44 yrs	19.7%	19.6%	20.0%	20.4%	21.6%
45 to 54 yrs	17.9%	18.9%	19.3%	21.0%	22.2%
55 to 64 yrs	16.5%	19.8%	21.5%	22.6%	25.2%
65 to 74 yrs	6.9%	7.4%	7.9%	8.3%	8.7%
75 yrs and older	2.4%	2.0%	1.9%	1.3%	1.1%
Under 18 years old	6.2%	2.6%	1.2%	0.6%	0.1%
Race/Ethnicity					
Non-Hispanic Black	32.3%	36.7%	39.1%	40.8%	48.7%
Non-Hispanic White	41.5%	45.3%	44.8%	44.2%	37.2%
Hispanic or Latino	14.2%	8.1%	6.8%	6.7%	6.9%
Native Hawaiian or Pacific Islander	1.0%	1.2%	0.9%	1.0%	0.8%
Asian	0.9%	0.8%	0.5%	0.4%	0.4%
American Indian/Alaska Native	0.2%	0.2%	0.2%	0.1%	0.3%
Multiple	0.4%	0.5%	0.6%	0.8%	0.9%
Other	8.5%	6.5%	6.2%	5.3%	4.3%
Declined	1.0%	0.8%	0.8%	0.8%	0.6%
Payer type					
Medicaid	44.7%	62.0%	64.3%	63.2%	62.9%
Medicare	12.0%	16.7%	19.5%	23.9%	24.9%
Self-Pay	28.5%	8.8%	6.4%	5.7%	6.2%
Commercial Insurance	8.2%	8.4%	6.9%	4.9%	4.3%
HMO	1.4%	1.5%	1.3%	1.0%	0.6%
Self-Administered (Company)	0.1%	0.1%	0.1%	0.0%	0.0%
Other	5.2%	2.5%	1.6%	1.2%	1.1%
Illinois Resident	79.6%	93.1%	96.4%	97.2%	96.0%
Median number of Hospital visits during 2017-2023*	2 (IQR: 1, 4)	10 (IQR: 7, 12)	20 (IQR:17, 24)	41 (IQR:34, 52)	106 (IQR:87, 146)

*IQR –Interquartile Range; the first number is the 25th percentile value, the second number is the 75th percentile value

There also appeared to be differences in the proportion coded for homelessness by race-ethnicity, gender, and age. Table 12 presents homelessness for ED visits, and Table 13 presents homelessness for admissions. A greater proportion of non-Hispanic Black patients were coded for homelessness in ED visits, but a greater proportion of non-Hispanic White patients were coded for homelessness among those admitted to a hospital. In 2023, there was a marked increase in the proportion of Hispanic or Latino patients coded for homelessness, which likely related to the increase in the migrant population in the Greater Chicago Metropolitan area during this period. In addition, males were more likely to be coded for homelessness in both ED visits and admissions. When evaluating coding by age group, in the ED setting, coding was substantially higher for children under the age of 13 years, with a marked increase in coding of young children occurring in 2023 relative to prior years.

Table 12:
Percent of ED Visits per Year Involving People Experiencing Homelessness Coded with an ICD-10 Code for Homelessness Stratified by Race-Ethnicity, Gender, and Age

	2017	2018	2019	2020	2021	2022	2023
Total ED Visits	6.3%	7.1%	7.7%	8.8%	8.1%	9.6%	10.8%
Race-Ethnicity							
Hispanic or Latino	5.9%	6.3%	6.5%	7.7%	7.3%	8.9%	12.7%
Non-Hispanic Black	7.1%	7.9%	8.9%	9.9%	9.0%	11.0%	11.9%
Non-Hispanic White	5.5%	6.3%	6.4%	7.5%	7.0%	8.2%	9.4%
Gender							
Female	4.8%	5.5%	6.3%	6.8%	5.9%	7.1%	8.4%
Male	7.2%	8.1%	8.5%	9.8%	9.2%	10.9%	12.1%
Age in Years							
Under 3 years old	8.8%	8.8%	7.4%	10.2%	11.0%	14.1%	25.9%
3 to 5 yrs	9.4%	10.2%	7.0%	11.4%	8.3%	16.3%	39.4%
6 to 12 yrs	8.2%	7.7%	6.1%	8.2%	4.7%	9.4%	27.6%
13 to 17 yrs	4.7%	3.3%	3.5%	4.8%	4.2%	6.9%	9.5%
18 to 24 yrs	4.0%	4.4%	4.3%	5.3%	5.9%	7.6%	9.7%
25 to 34 yrs	5.1%	6.3%	6.8%	8.2%	8.0%	8.5%	10.1%
35 to 44 yrs	5.8%	7.2%	7.4%	8.5%	8.4%	10.2%	11.4%
45 to 54 yrs	6.9%	7.5%	8.1%	9.1%	8.0%	9.8%	10.5%
55 to 64 yrs	7.1%	7.6%	8.6%	9.8%	8.5%	9.9%	11.1%
65 to 74 yrs	8.0%	8.2%	9.3%	10.0%	8.2%	10.4%	10.5%
75 yrs and older	7.0%	6.8%	8.9%	10.0%	9.9%	10.2%	9.0%

Table 13:
Percent of Hospital Admissions per Year Involving People Experiencing Homelessness Coded with an ICD-10 Code for Homelessness Stratified by Race-Ethnicity, Gender, and Age

	2017	2018	2019	2020	2021	2022	2023
ED Visits	20.6%	22.8%	23.0%	24.8%	23.3%	25.0%	29.5%
Race-Ethnicity							
Hispanic or Latino	21.5%	23.0%	21.8%	24.2%	22.6%	23.3%	32.4%
Non-Hispanic Black	18.4%	20.9%	21.1%	22.8%	21.6%	22.6%	26.7%
Non-Hispanic White	22.0%	24.2%	24.5%	26.3%	24.6%	27.2%	30.8%
Gender							
Female	17.7%	19.5%	20.0%	20.5%	19.0%	21.4%	25.7%
Male	21.9%	24.3%	24.4%	26.6%	25.2%	26.6%	31.2%
Age in Years							
Under 3 years old	26.7%	25.8%	36.2%	30.4%	25.6%	38.7%	52.7%
3 to 5 yrs	17.4%	35.0%	35.0%	20.0%	13.3%	10.0%	76.4%
6 to 12 yrs	33.7%	16.5%	35.6%	15.2%	13.1%	17.1%	32.0%
13 to 17 yrs	16.5%	17.2%	19.5%	11.7%	10.9%	12.6%	23.5%
18 to 24 yrs	18.3%	20.3%	21.1%	23.5%	22.9%	25.5%	31.5%
25 to 34 yrs	20.5%	22.8%	24.0%	25.8%	24.1%	27.0%	31.7%
35 to 44 yrs	20.6%	23.4%	23.7%	26.0%	24.9%	26.9%	32.6%
45 to 54 yrs	21.8%	23.3%	23.2%	24.5%	24.4%	25.5%	30.1%
55 to 64 yrs	19.9%	22.6%	22.6%	24.4%	22.4%	23.4%	26.2%
65 to 74 yrs	20.8%	22.2%	21.7%	23.3%	18.9%	20.6%	22.9%
75 yrs and older	20.8%	21.9%	20.2%	20.7%	20.6%	17.4%	18.5%

6.2 Children, Teens, and Youth (Ages 0-24)

6.2.1 DEATHS

Forty-six children experiencing homelessness under the age of 6 years died -- 33 died during the first week after delivery, 11 died between the ages of 1 week and 2 years (there were no deaths of infants between the ages of 4 and 12 months), and two died between the ages of 3 to 5 years. Almost all childhood deaths occurred in a hospital setting. Two deaths of children occurred in transitional housing facilities and three at unknown locations or outdoors.

Research demonstrates that homelessness during pregnancy is associated with preterm birth, low birth weight, and delivery complications (Sandel 2018; DiTosto 2021; St Martin 2021). These adverse birth outcomes were related to poor prenatal care because of the difficulty in accessing services, a high prevalence of comorbidities in mothers experiencing homelessness, and engaging in risky behaviors (DiTosto 2021; St Martin 2021). Of the perinatal deaths identified in this study (deaths occurring within the first seven days after birth), 23 died on the day of delivery, and 10 died between 2 and 7 days after delivery (the World Health Organization refers to the day of birth as day zero; in this report the day of birth was referred to as day one). When evaluating the cause of perinatal deaths, 12 infants were born extremely premature (23 to 27 weeks), four were born premature (28 to 36 weeks), and 17 had a gestational age of 37 weeks or more at birth.

Of the 17 perinatal deaths involving infants with a gestational age of 37 weeks or more at birth, the following contributing causes of death were provided: intra-uterine complications, such as ruptures, placental separation, or hemorrhage (n=9); congenital malformations (n=3); complications following an injury to the mother (n=2); cocaine-related exposure (n=1); and one from an injury sustained in a motor vehicle crash. Two deaths did not provide sufficient information regarding the cause of death. Most of the perinatal deaths involved infants who were male (54.5%), non-Hispanic Black or non-Hispanic White (33.3% and 27.3%, respectively), and were born in Cook County (72.7% in Chicago and 15.2% in Suburban Cook County).

Of the eight children who died between the ages of 1 week and 4 months, six died during sleep from suspected sudden unexpected infant death (SUID). However, a confirmation of sudden infant death syndrome (SIDS) was not provided on the death certificates. Of the five early childhood deaths involving children 1 to 5 years of age, two were determined to be homicides, two died from sepsis, and one died from encephalopathy related to a congenital malformation of the brain. We did not identify any deaths involving children between the ages of 6 and 12 years.

Between 2017-2023, there were three PEH decedents between the ages of 13 and 17 years old and 38 youths between the ages of 18 and 24 years old. Compared to PEH decedents 25 years and older, youth PEH decedents were disproportionately female (29.3% vs 22.0%), Hispanic or Latino (17.1% vs 9.0%), born in the U.S. (90.2% vs 83.9%), and specifically born in Illinois (73.2% vs 49.8%). Youth PEH decedents disproportionately died in the Westchester- West Chicago DPH region compared to their adult counterparts (26.8% vs 10.1%), as well as in emergency shelters (12.2% vs 2.9%). For nearly all of the youth PEH decedents, a family member was the key informant, in particular a parent or stepparent (73.2%). Compared to adult PEH decedents, youth PEH decedents were substantially more likely to die from suicide (7.3% vs 1.9%), homicide (22.0% vs 2.7%), and opioid-related overdoses (53.7% vs 28.8%). A greater proportion of youth decedents tested positive for 2 or more drugs associated with substance use disorders (36.6% vs 26.4%). Relative to adult PEH decedents, youth with poly-drug exposures disproportionately tested positive for fentanyl (43.9% vs 24.9%), heroin (24.4% vs 9.6%), amphetamines (14.6% vs 2.4%), and benzodiazepines (7.3% vs 2.9%).

6.2.2 HOSPITALIZATIONS (EXCLUDING PREGNANT PEOPLE)

There were 25,788 hospital visits for children under 18 and 129,066 for youth aged 18-24, excluding pregnant people who are described below. The ratio of admissions to ED visits was similar across groups, but youth and adults were more likely to be coded for homelessness at the time of their visit (7.9% of visits in children, 10.2% in youth, and 12.3% in adults). Compared to visits among non-pregnant adults, children and youth were disproportionately female (52.4% and 44.4%, respectively, vs 31.5%). Visits among children were disproportionately for Hispanic or Latino (13.7% vs 7.0%), and youth were most often non-Hispanic White (43.3%). There was a smaller proportion of visits identified as self-pay (6.4% vs 8.4%) in children, potentially due to a slightly higher proportion being Illinois residents (98.4% vs 95.9%). The opposite was observed in youth, with 9.6% of visits being self-pay and 96.4% identified as Illinois residents. Visits for children and youth were identified in every region of the state and were disproportionately in rural areas (15.8% of visits for children, 13.1% for youth, and 9.0% for non-pregnant adults). There were 305 newborn admissions.

Mental disorders were the most common primary diagnosis for children (27.9%) and youth (29.8%), surpassing what is seen amongst adults (18.2%), and may reflect the absence of age-related chronic conditions as only 5.1% of visits for children and 11.9% of visits for youth had 3 or more comorbidities, compared to 25.6% in the non-pregnant adult population. In young children, diseases of the respiratory system and infectious diseases are common. Substance use disorders and intoxication at the time of visit were also less common (11.2% SUD and 1.4% intoxication for visits of children; 41.8% and 5.1% in youth visits; 52.5% and 12.1% in non-pregnant adults).

6.3 Pregnant People (Morbidity only)

There were 34,668 visits for pregnant people. Pregnant people were identified in age categories spanning 13-64 years old, most commonly (50.8%) aged 25-34 years old, followed by 18–24-year-olds (35.4%). The ratio of admissions to ED visits was similar to the overall distribution, but homelessness was only coded in 7.5% of visits. Racial disparities were more pronounced amongst visits for pregnant people, with almost half being for Black or African Americans. Pregnant people, like children, were less likely to be designated as self-pay (5.8% of visits) and more likely to be Illinois residents (98.3%). Visits for pregnant women were identified in every region of the state and were disproportionately in rural areas (11.1% of visits vs 9.0% in other adults).

Over 80% of visits for pregnant people had a primary diagnosis related to pregnancy complications. Pregnant people were far less likely to have primary diagnoses or comorbidities related to mental disorders and substance abuse, and only 5.5% had three or more comorbidities. Only 1.1% of visits for pregnant people involved intoxication, and 25.4% were identified as having a substance use disorder.

6.4 Veteran Status (Mortality only)

Between 2017-2023, there were 313 PEH who were identified as veterans on their death records. Compared to general population decedents, there was a lower proportion of PEH known to be veterans based on Illinois death records (10.4% vs 18.1% in the general population decedents). The Peoria Public Health Region had the highest proportion of PEH veteran decedents (17.5%), with all the remaining DPH regions having a similar proportion of PEH veteran decedents. However, research indicates that veterans were at increased risk of homelessness (Fargo 2012; Tsai 2016; Naifeh 2023), and data from the Veteran's Administration and U.S. Census show that the proportion of the population who were veterans was substantially higher in persons 65 years and older. Taking into account that the average age of death among PEH was almost 20 years younger than the general Illinois population, the younger age of PEH decedents likely explains the apparent lower proportion of veterans who were homeless relative to the decedents in the general population. Table 14 presents the proportion of living veterans among the general Illinois population, PEH veteran decedents, and veteran decedents in the general population. After stratifying by age, the percent of PEH decedents reported to be veterans was proportional to or exceeds the proportion observed among living Illinois residents.

Table 14:
Veteran Status Based on Illinois Death Records, 2017-2023 - People Experiencing Homelessness Compared to All Other Deaths Occurring in Illinois

Age Group	Percent of Living Illinois Population Who Are Veterans (2023)*	Percent of All PEH Deaths Who Were Veterans	Percent of All Other Illinois Deaths Who Were Veterans
18 to 34 years	1.4%	2.3%	2.4%
35 to 54 years	3.5%	3.3%	4.8%
55 to 64 years	4.8%	13.2%	8.3%
65 to 74 years	6.8%	19.8%	17.3%
75 years and over	15.7%	22.2%	23.7%

* US Census estimates of Illinois residents who are veterans in 2023, ACS Table S2101

Compared to PEH non-veteran decedents, PEH veterans died at an older age (proportion 55 years and older: 69.6% vs 46.9%) and were nearly all male (98.7% vs 74.7%) but had very similar racial-ethnic composition. PEH veteran decedents disproportionately died in transitional housing, nursing homes, or hospice facilities (39.3% vs 22.7%), but far fewer died outdoors compared to non-veteran PEH decedents (10.2% vs 20.7%). Compared to non-veteran PEH decedents, PEH veterans were less likely to die from homicide (1.3% vs 3.3%), excessive cold (1.9% vs 4.0%), and drug-related overdoses (26.2% vs 41.0%), but corresponding with the older age, veterans disproportionately died from illnesses such as cancer (14.4% vs 6.3%), COPD (9.3% vs 3.9%), diseases of the circulatory system (49.8% vs 33.2%). Veteran status was unavailable in the hospital data.

6.5. Marital Status (Mortality only)

Research demonstrates that people experiencing homelessness have low social support and higher reported loneliness (Cummings 2022). Intimate relationships and social support networks reduce the incidence and severity of adverse health outcomes, in particular, psychiatric conditions and substance use (Holt-Lunstad 2010; Harandi 2017; Cummings 2022; Hu 2023).

Table 15 presents the reported marital status and key informant relationship to the decedent. Among PEH who died in the current analysis, there were 2.7 times more who had never married compared to decedents in the general population (44.7% vs 16.4%). However, the marital status of PEH decedents varied widely. In the Marion region, 25.0% were married at the time of death, compared to 6.8% of all PEH decedents. Across the rural regions of Illinois, a far greater proportion of PEH decedents were divorced or separated at the time of death compared to the general population decedents (ranging between 28.1% and 38.3%; see Appendix B for more details). When stratified by race-ethnicity, the proportion who were never married was substantially higher among both non-Hispanic Black (52.0%) and Hispanic or Latino PEH (63.4%) compared to non-Hispanic White PEH (36.7%), but non-Hispanic White PEH were

more likely to be divorced or separated (non-Hispanic Black, 13.8%; Hispanic or Latino, 12.1%; non-Hispanic White, 27.7%). In addition, PEH who were veterans were more likely to be divorced or separated at the time of death compared to non-veteran PEH (32.6% vs 18.6%).

Only 65.3% of the PEH decedents had a family member who was the key informant for providing personal information about the decedent to the individual completing the death certificate, as compared to 94.0% of decedents in the general population. The proportion of key informants who were family members of the PEH decedent varied across the state. Outside of Cook County, an average of 84.2% of PEH had a family member provide information to the responsible party completing the death certificate. In contrast, in Suburban Cook County only 68.1% of key informants were family members, and in Chicago only 55.9%. Corresponding with prior research, both marital status and the relationship of the key informant to the decedent indicate that PEH decedents have greater social isolation relative to the general population; PEH residing in Cook County appear to be the most socially isolated. However, in the absence of detailed data on the personal social networks of PEH decedents, it was unclear if this relates to lifelong progressive social isolation, the result of recent estrangement from family and friends, or difficulty in contacting family members or friends of recently deceased PEH because of an absence of articles of identification. Marital status was unavailable in the hospital data.

Table 15:
Marital Status and Relationship of Informant to People Dying Based on Illinois Death Records, 2017-2023 - People Experiencing Homelessness Compared to All Other Deaths Occurring in Illinois

	PEH Deaths Statewide (N=2,996)		All Other Deaths Statewide (N=796,007)	
Marital Status				
Never Married	1,338	44.7%	130,752	16.4%
Married or Civil Union	204	6.8%	271,118	34.1%
Divorced or Separated	600	20.0%	128,121	16.1%
Widowed	177	5.9%	260,942	32.8%
Unknown	677	22.6%	5,074	0.6%
Relationship of Informant to Decedent*				
Family Member	1,955	65.3%	748,614	94.0%
Child or Stepchild	587	19.6%	365,852	46.0%
Sibling	626	20.9%	68,846	8.6%
Parent or Stepparent	476	15.9%	53,463	6.7%
Spouse or Partner	137	4.6%	228,711	28.7%
Niece or Nephew	52	1.7%	18,646	2.3%
Grandchild	8	0.3%	6,848	0.9%
Other Relative	69	2.3%	6,248	0.8%
Medical Records	547	18.3%	3,351	0.4%
Intake, Facility or Health Care Staff	298	9.9%	3,306	0.4%
Coroner, Medical Examiner or Funeral Director	94	3.1%	1,640	0.2%
Power of Attorney	30	1.0%	20,340	2.6%
Friend	28	0.9%	5,538	0.7%
Guardian	18	0.6%	3,346	0.4%
Religious Representative	7	0.2%	136	0.0%
Other public official	7	0.2%	156	0.0%
Unknown	12	0.4%	9,580	1.2%

*Per death certificate guidelines, the informant should be “someone who truly knows the answers to the relevant questions about the decedent and will provide truthful and accurate information.”

6.5.1 WIDOW STATUS (MORTALITY ONLY)

There were 177 PEH decedents whose marital status was widowed at the time of death, 52.5% of which were female (n=93). By comparison, only 22.1% of all PEH decedents were female. A total of 14.1% of all PEH female decedents were widows, as compared to 3.6% of all PEH male decedents who were widowers. Compared to all non-widowed PEH decedents, female widows were primarily non-Hispanic White (59.1%) with a mean age of 73.0 years and disproportionately born outside the United States, primarily in Europe or the Caribbean (14.0% foreign-born). Almost all PEH female widows had a family member who was the key informant on the death certificate (91.4%), which was similar to the general population of all non-PEH decedents (94.0%) but substantially higher than the proportion among non-widowed PEH decedents (63.9%). In addition, only 12.9% tested positive for a drug associated with substance use disorders and nearly all died from chronic health conditions, particularly diseases of the circulatory and respiratory systems, cancers, or infections. Compared to all PEH decedents, female widows disproportionately died in the Rockford, Metro East (East St. Louis), and Marion (southern Illinois) regions (22.6% PEH widows vs 8.7% of all other PEH decedents; 21 of the 93 widows died in these three regions). Only 11.8% died in a nursing home or long-term care facility at the time of death.

6.6 Place of Birth (Mortality only)

When place of birth was evaluated, a greater percentage of people experiencing homelessness had unknown places of birth compared to the general population (9.3% vs. 1.8%). Despite a greater degree of missing information, which likely relates to an absence of identifying materials and key informants, the data indicated that PEH may have greater geographic mobility than the general Illinois population. As compared to the general population decedents, fewer PEH were known to be born in Illinois (49.8% vs 62.1%), but only slightly fewer PEH were born outside of the U.S. (7.6% vs 9.8%). Table 16 presents the place of birth of both PEH and general Illinois population decedents.

Compared to U.S. born PEH decedents, the 227 foreign-born PEH decedents were disproportionately Hispanic or Latino (46.3% vs 5.8%) and Asian (10.1% vs 0.4%) and more likely to be married or in a civil union at the time of death (14.5% vs 6.5%). There were a disproportionate number of foreign-born PEH decedents who had only completed primary education (26.4% vs 6.0%) or completed a bachelor's or higher college degree (12.8% vs 5.1%) relative to U.S. born PEH decedents. Foreign-born PEH decedents, compared to all other PEH decedents, were more likely to die from cold-related injuries (6.2% vs 3.1%), infectious diseases (11.9% vs 6.2%), diseases of blood-forming organs (4.4% vs 1.2%), and stroke (4.0% vs 2.7%). In contrast, a lower proportion of foreign-born PEH decedents tested positive for opioids (15.0% vs 30.4%), stimulants (7.0% vs 18.2%), or sedative-hypnotics (3.1% vs 5.8%), but a greater proportion compared to all other PEH tested positive for alcohol at the time of death (27.3% vs 13.7%) and for alcohol-related liver disease (4.0% vs 1.6%).

With the rapid increase of migrants in Illinois beginning in 2022, many migrants experienced unstable housing. There was concern that migrants would experience elevated mortality from infection, cold exposure, and violence. While there was an increase in deaths in 2022 among foreign-born PEH to 43 deaths relative to the average annual number of deaths during the prior five years (31 deaths per year), the number of deaths declined to 28 in 2023. From the death records, it was unclear if the influx of migrants was associated with increased mortality, at least among those experiencing homelessness.

Table 16:
Place of Birth of Decedents Based on Illinois Death Records, 2017-2023 -
People Experiencing Homelessness Compared to All Other Deaths Occurring in Illinois

Birth County/Region	PEH Deaths Statewide (N=2,996)		All Other Deaths Statewide (N=796,007)	
Africa	11	0.4%	769	0.1%
Asia	7	0.6%	7,911	1.0%
Canada	6	0.2%	1,361	0.2%
Caribbean	9	0.3%	1,569	0.2%
Central America	26	0.9%	3,038	0.4%
China	3	0.1%	2,528	0.3%
Europe	29	1.0%	19,440	2.4%
Mexico	78	2.6%	23,374	2.9%
Middle East	9	0.3%	1,935	0.2%
Oceania	1	0.0%	0	0.0%
Poland	23	0.8%	8,720	1.1%
Russia	5	0.2%	953	0.1%
South America	7	0.2%	1,367	0.2%
South Asia	3	0.1%	5,091	0.6%
United States (only top 10 states/territories shown)	2,489	83.1%	704,005	88.4%
Illinois	1,492	49.8%	494,108	62.1%
Mississippi	73	2.4%	27,097	3.4%
Indiana	38	1.3%	14,045	1.8%
Missouri	33	1.1%	19,315	2.4%
Wisconsin	30	1.0%	12,577	1.6%
Michigan	29	1.0%	9,183	1.2%
Puerto Rico	26	0.9%	5,460	0.7%
Tennessee	26	0.9%	8,552	1.1%
Arkansas	25	0.8%	10,146	1.3%
Ohio	22	0.7%	7,453	0.9%
Unknown County/Region	280	9.3%	13,946	1.8%

* Only the ten states or US territories with the highest number of decedents are shown.

6.7 Occupation (Mortality only)

The persons completing the death certificates were trained to collect information about the decedent's usual occupation -- the job the decedent worked at most of their lives. The CDC NIOSH Industry and Occupation Computerized Coding System (NIOCCS) data tool was used to code the occupation information provided on the death certificate into Standard Occupational Classification Codes (SOC). However, a large proportion of the death certificates were not coded by NIOCCS (38.5% of PEH decedent's occupations were uncoded). By comparison, among all other deaths statewide, 97.7% of occupation fields had a valid occupation listed. For this reason, the uncoded occupations among PEH decedents were coded and analyzed manually. Despite this limitation, the data provides some insights into the occupational histories of PEH (Table 17).

Thirty PEH decedents had been employed in public sector jobs, of which seven were former police officers, two were paramedics, and one was a correctional officer.

The most commonly reported primary occupations of PEH were transportation and material moving jobs (15.5%; n=332 out of 465 were general laborers within this occupational category), construction and extraction jobs (7.8%; n=156 out of 233 were general laborers), and food preparation and serving related jobs (3.5%; n=58 out of 106 were cooks).

When manually analyzing the original job titles on the death certificate, the vast majority of PEH were employed in general labor jobs rather than skilled trade jobs. This coincides with research showing that many of the same individual-level risk factors that contribute to housing instability or homelessness often serve as barriers to obtaining and maintaining employment. Many of these risk factors were more prevalent among PEH, such as poverty; difficulty remaining in school, including vocational programs; a history of incarceration; severe mental illness; gaps in employment or housing histories; poor credit ratings; lack of personal/professional networks; and a lack of a permanent address and contact information (Burke 2013; Zlotnick 2002; Shier 2012; van der Geest 2014).

Table 17:
Occupations Reported on Illinois Death Records, 2017-2023 - People Experiencing Homelessness Compared to All Other Deaths Occurring in Illinois

Occupation (Based on SOC[1] Coding)	PEH Deaths Statewide (N=2,996)		All Other Deaths Statewide (N=796,007)	
Architecture and Engineering	14	0.5%	10,124	1.3%
Arts, Design, Entertainment, Sports, and Media	29	1.0%	5,156	0.6%
Building and Grounds Cleaning and Maintenance	56	1.9%	16,588	2.1%
Business and Financial Operations	20	0.7%	10,561	1.3%
Community and Social Service	19	0.6%	5,860	0.7%
Computer and Mathematical	8	0.3%	2,322	0.3%
Construction and Extraction	233	7.8%	34,723	4.4%
Education, Training, and Library	34	1.1%	30,542	3.8%
Farming, Fishing, and Forestry	4	0.1%	983	0.1%
Food Preparation and Serving Related	106	3.5%	16,904	2.1%
Healthcare Practitioners and Technical	34	1.1%	20,433	2.6%
Healthcare Support	32	1.1%	10,682	1.3%
Installation, Maintenance, and Repair	47	1.6%	13,232	1.7%
Legal	11	0.4%	4,479	0.6%
Life, Physical, and Social Science	4	0.1%	1,214	0.2%
Management	41	1.4%	38,072	4.8%
Office and Administrative Support	76	2.5%	52,446	6.6%
Personal Care and Service	18	0.6%	6,076	0.8%
Production	81	2.7%	42,861	5.4%
Protective Services	37	1.2%	7,646	1.0%
Sales and Related	82	2.7%	36,485	4.6%
Transportation and Material Moving	465	15.5%	80,373	10.1%
Did not work - Disabled	82	2.7%	11,976	1.5%
Did not work - Homemaker	128	4.3%	109,724	13.8%
Did not work - Never Worked	182	6.1%	13,599	1.7%
Uncoded insufficient information	1,153	38.5%	212,946	26.8%

1 SOC, Standard Occupational Classification

7 Geographic Distribution of PEH

7.1 Illinois Totals

7.1.1 DEATHS

Tables 18 and 19 show the distribution of PEH decedents by IDPH regions and Continuum of Care programs. Consistent with PEH research, nearly all the decedents died in urban counties (n=2,840; 94.8% of all PEH decedents). Of PEH decedents, 83.6% died in the IDPH Westchester Region, which covers the greater Chicago metropolitan area. By comparison, only 59.9% of the general population decedents died within the Westchester Region. The majority of PEH deaths occurred in the city of Chicago (58.4%).

Based on PIT counts, an estimated 4 of every 100 PEH in Illinois die each year, which was nearly identical to prior published research from Massachusetts (Roncarati 2018). The average crude annual mortality rates per 100 PEH were highest in the following continuum of care programs/regions: West Central Illinois, Will County, Suburban Cook County, and Chicago (see Table 18). However, PIT counts were recognized to substantially undercount people affected by housing instability, including those experiencing literal homelessness as defined by HUD. Therefore, this mortality rate was likely inflated because so many people experiencing homelessness (the denominator of the rate) were not identified in the PIT.

Table 18:
Distribution of Identified Deaths and Crude Annual Mortality Rates for People Experiencing Homelessness by Continuum of Care (CoC) Regions, 2017-2023*

Continuum of Care Program	CoC Number	Average PIT Count Sheltered and Unsheltered	PEH Deaths Statewide (N=2,996)	Crude Annual Mortality Rate per 100 PEH based on PIT	All Other Deaths Statewide (N=796,007)
McHenry County	IL-500	142	13 (0.4%)	1.31	13,397 (1.7%)
Northern Illinois Homeless	IL-501	409	104 (3.5%)	3.63	32,269 (4.1%)
Lake County	IL-502	325	60 (2.0%)	2.64	32,236 (4.0%)
Urbana-Champaign	IL-503	163	32 (1.1%)	2.81	13,165 (1.7%)
Madison County	IL-504	121	27 (0.9%)	3.18	19,328 (2.4%)
Will County	IL-506	290	82 (2.7%)	4.04	38,814 (4.9%)
Home For All	IL-507	347	54 (1.8%)	2.22	34,202 (4.3%)
Homeless Action Council	IL-508	259	33 (1.1%)	1.82	28,350 (3.6%)
Chicago	IL-510	5,585	1,751 (58.4%)	4.48	135,871 (17.1%)
Suburban Cook County	IL-511	935	452 (15.1%)	6.91	169,691 (21.3%)
Central Illinois	IL-512	358	62 (2.1%)	2.48	35,339 (4.4%)
Heartland	IL-513	275	32 (1.1%)	1.66	18,700 (2.3%)
DuPage County	IL-514	430	62 (2.1%)	2.06	51,717 (6.5%)
South Central	IL-515	124	18 (0.6%)	2.07	27,984 (3.5%)
Decatur	IL-516	126	15 (0.5%)	1.70	9,383 (1.2%)
Kane County	IL-517	402	69 (2.3%)	2.45	25,509 (3.2%)
Northwestern	IL-518	233	61 (2.0%)	3.74	49,973 (6.3%)
West Central Illinois	IL-519	90	33 (1.1%)	5.23	20,929 (2.6%)
Southern Illinois	IL-520	287	36 (1.2%)	1.79	39,150 (4.9%)
Total	~	10,901	2,996	3.93	796,007

* Average PIT counts only include years with full counts of both sheltered and unsheltered PEH. The total statewide average annual count in this table reflects the adjusted counts so it is higher than the true unadjusted average count of 10,170.

Table 19:
Distribution of Identified Deaths of People Experiencing Homelessness by Illinois Department of Public Health Regions and Continuum of Care Regions - Statewide Illinois Death Records, 2017-2023

								Westchester		
Continuum of Care	**CoC Number**	**Average PIT Count***	**Rockford Region (N=128)**	**Peoria Region (N=120)**	**Metro East Region (N=108)**	**Marion Region (N=36)**	**Champaign Region (N=99)**	**West Chicago Region (N=302)**	**Suburban Cook (N=452)**	**Chicago (N=1,751)**
McHenry County	IL-500	142	~	~	~	~	~	13	~	~
Northern Illinois Homeless	IL-501	409	104	~	~	~	~	~	~	~
Lake County	IL-502	325	~	~	~	~	~	60	~	~
Urbana-Champaign	IL-503	163	~	~	~	~	32	~	~	~
Madison County	IL-504	121	~	~	27	~	~	~	~	~
Will	IL-506	290	~	~	~	~	~	82	~	~
Home For All	IL-507	347	~	54	~	~	~	~	~	~
Homeless Action Council	IL-508	259	~	~	33	~	~	~	~	~
Chicago	IL-510	5585	~	~	~	~	~	~	~	1,751
Suburban Cook County	IL-511	935	~	~	~	~	~	~	452	~
Central Illinois	IL-512	358	~	5	~	~	41	16	~	~
Heartland	IL-513	275	~	~	32	~	~	~	~	~
DuPage	IL-514	430	~	~	~	~	~	62	~	~
South Central	IL-515	124	~	~	4	3	11	~	~	~
Decatur	IL-516	126	~	~	~	~	15	~	~	~
Kane County	IL-517	402	~	~	~	~	~	69	~	~
Northwestern	IL-518	233	24	37	~	~	~	~	~	~
West Central Illinois	IL-519	90	~	24	9	~	~	~	~	~
Southern Illinois	IL-520	287	~	~	3	33	~	~	~	~
Total Deaths of People Experiencing Homelessness	~	~	128 (4.3%)	120 (4.0%)	108 (3.6%)	36 (1.2%)	99 (3.3%)	302 (10.1%)	452 (15.1%)	1,751 (58.4%)
All Other Deaths Statewide	~	~	51,920 (6.5%)	84,225 (10.6%)	88,224 (11.1%)	39,590 (5.0%)	55,149 (6.9%)	171,337 (21.5%)	169,691 (21.3%)	135,871 (17.1%)

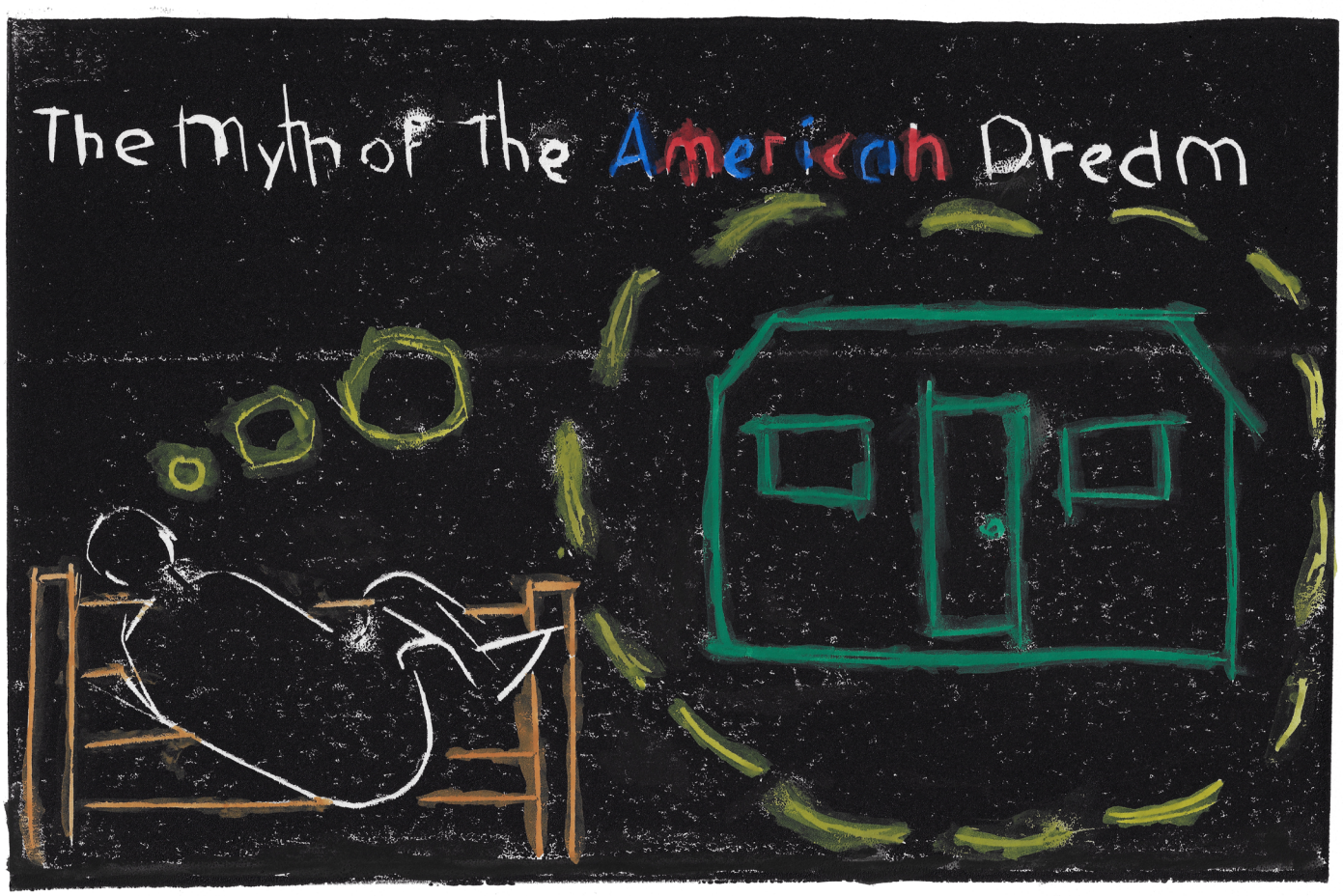
*Average counts 2017-2023 based only using years where complete sheltered and unsheltered counts were conducted. Particularly at the beginning of the COVID pandemic full counts were not feasible.

7.1.2 LOCATION OF HOMELESSNESS (MORTALITY ONLY)

Among PEH who died in Illinois, there was some evidence that PEH decedents have a higher degree of geographic mobility as compared to the general population (defined as dying in the same state as they were born), as well as more missing information on their death certificates. The latter likely reflects an absence of key informants related to the decedent and missing articles of identification on the decedent at the time of death (McGivern 2017). Of the PEH decedents, 83.2% were Illinois residents, 1.0% were residents of neighboring states, 0.5% were residents of another U.S. state or territory, 0.2% were residents of a foreign country, and 15.1% had no known place of residency. By comparison, 98.1% of decedents in the general population had Illinois residency, 1.2% were residents of neighboring states, and 0.7% were residents of another U.S. state or territory.

7.1.3 HOSPITAL VISITS

Table 20 presents the geographical distribution of PEH in the hospital data by IDPH region, CoC jurisdictions, and counties classified as urban or rural. These different regions were used by health care service providers, departments of public health, and homelessness service providers. The Greater Chicagoland Region (inc. IDPH Region 6 Westchester, Suburban Cook and Chicago CoCs, and EMS regions 7-11) represents a large majority of visits for PEH and the majority of visits occurred within urban counties in Illinois (86.9%), which corresponds to the patterns observed in the mortality data. However, PEH visits were identified in every region, even when stratifying by visit type and coding status.



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Table 20:
Spatial Distribution of People Experiencing Homelessness Treated in Illinois Hospitals by Visit, 2017-2023

	Admissions Coded with Z59 (N=102,447)		Other Admissions (N=322,029)		ED Visits Coded with Z59 (N=116,787)		Other ED Visits (N=1,282,741)		Total (N=1,824,004)	
IDPH Region										
Rockford Region	3,063	3.0%	11,400	3.5%	2,797	2.4%	56,167	4.4%	73,427	4.0%
Peoria Region	5,513	5.4%	17,967	5.6%	4,642	4.0%	90,570	7.1%	118,692	6.5%
Metro East Region	8,678	8.5%	18,536	5.8%	9,219	7.9%	114,339	8.9%	150,772	8.3%
Marion Region	2,741	2.7%	7,979	2.5%	2,557	2.2%	50,896	4.0%	64,173	3.5%
Champaign Region	4,530	4.4%	14,226	4.4%	5,220	4.5%	81,501	6.4%	105,477	5.8%
Westchester Region-Chicago	40,135	39.2%	139,381	43.3%	53,320	45.7%	494,755	38.6%	727,591	39.9%
Westchester Region-Suburban Cook County	13,980	13.6%	52,288	16.2%	15,213	13.0%	164,435	12.8%	245,916	13.5%
Westchester Region-West Chicago	15,494	15.1%	50,265	15.6%	12,390	10.6%	186,483	14.5%	264,632	14.5%
Out of state/unknown	8,313	8.1%	9,987	3.1%	11,429	9.8%	43,595	3.4%	73,324	4.0%
CoC Jurisdiction										
Central Illinois CoC	2,534	2.5%	9,209	2.9%	2,756	2.4%	50,735	4.0%	65,234	3.6%
Chicago CoC	40,135	39.2%	139,381	43.3%	53,320	45.7%	494,755	38.6%	727,591	39.9%
Decatur CoC	796	0.8%	2,390	0.7%	528	0.5%	14,064	1.1%	17,778	1.0%
DuPage County CoC	3,635	3.5%	11,915	3.7%	3,491	3.0%	40,209	3.1%	59,250	3.2%
Heartland CoC	2,229	2.2%	5,448	1.7%	4,097	3.5%	38,891	3.0%	50,665	2.8%
Home For All CoC	2,886	2.8%	8,904	2.8%	2,738	2.3%	43,838	3.4%	58,366	3.2%
Homeless Action Council CoC	2,254	2.2%	4,987	1.5%	2,294	2.0%	26,163	2.0%	35,698	2.0%
Kane County CoC	2,857	2.8%	8,378	2.6%	2,610	2.2%	39,198	3.1%	53,043	2.9%
Lake County CoC	3,220	3.1%	9,775	3.0%	2,059	1.8%	35,570	2.8%	50,624	2.8%
Madison County CoC	3,153	3.1%	5,035	1.6%	1,934	1.7%	27,470	2.1%	37,592	2.1%
McHenry County CoC	1,472	1.4%	4,493	1.4%	669	0.6%	16,780	1.3%	23,414	1.3%
Northern Illinois Homeless CoC	2,444	2.4%	8,739	2.7%	2,241	1.9%	42,816	3.3%	56,240	3.1%
Northwestern CoC	1,990	1.9%	7,971	2.5%	2,021	1.7%	42,843	3.3%	54,825	3.0%
South Central CoC	1,626	1.6%	4,746	1.5%	1,268	1.1%	29,177	2.3%	36,817	2.0%
Southern Illinois CoC	2,726	2.7%	7,915	2.5%	2,584	2.2%	49,870	3.9%	63,095	3.5%
Suburban Cook County CoC	13,980	13.6%	52,288	16.2%	15,213	13.0%	164,435	12.8%	245,916	13.5%
Urbana-Champaign CoC	1,356	1.3%	4,288	1.3%	2,103	1.8%	23,672	1.8%	31,419	1.7%
West Central Illinois CoC	1,309	1.3%	3,676	1.1%	458	0.4%	16,423	1.3%	21,866	1.2%
Will County CoC	3,532	3.4%	12,504	3.9%	2,974	2.5%	42,237	3.3%	61,247	3.4%
out of state/unknown	8,313	8.1%	9,987	3.1%	11,429	9.8%	43,595	3.4%	73,324	4.0%
Urbanicity										
Rural Counties	6,880	6.7%	22,609	7.0%	6,208	5.3%	135,844	10.6%	171,541	9.4%
Urban Counties	87,254	85.2%	289,433	89.9%	99,150	84.9%	1,103,302	86.0%	1,579,139	86.6%
Out of state/unknown	8,313	8.1%	9,987	3.1%	11,429	9.8%	43,595	3.4%	73,324	4.0%

7.2 Rural vs Urban Counties

There were 156 PEH (5.2% of all PEH decedents) who died in rural counties where supportive services can be difficult to access because of large coverage areas and fewer service providers. For this report, counties with a population of less than 60,000 were defined as rural (Illinois Primary Health Care Association definition). Rural counties were identified based on population totals reported in the 2020 U.S. Census. All rural PEH decedents died in the following seven continuum of care regions (out of 19 statewide CoC programs): Northwestern CoC, South Central CoC, Southern Illinois CoC, West Central Illinois CoC, Will CoC, Northern Illinois Homeless CoC, and Central Illinois CoC.

Despite the low number of rural PEH decedents in this analysis, rural PEH differed substantially from urban PEH in terms of demographics, indicators of social support, and contributing causes of death. Rural PEH compared to urban PEH decedents were disproportionately non-Hispanic White (84.6% vs. 44.6%), female (34.0% vs 21.5%), older (61.3 vs 55.2 years, mean age at death) with two-fold more 75 years and older at time of death (20.5% vs 10.2%). Compared to urban PEH, a greater proportion of rural PEH decedents did not graduate from high school (26.9% vs 18.5%) and were veterans (16.0% vs 10.1%). Also, a greater proportion of rural PEH decedents were born in the United States (92.3% vs 82.6%) and in Illinois (61.5% vs 49.2%). While deaths of urban PEH were relatively evenly distributed across the year, with a slight increase in December, rural PEH decedents disproportionately died during the warmer summer months of June, July, and August (34.0% vs 23.1%).

Rural PEH also had indicators of greater social support. Rural PEH decedents were disproportionately more likely to be married or previously married (divorced, separated, and widowed) than urban PEH (66.7% vs. 30.9%). Compared to urban PEH, rural PEH decedents were also more likely to have a family member who was the key informant for providing personal information to the individual completing the death certificate (87.2% vs. 64.0%).

When evaluating the contributing causes of death, rural PEH disproportionately died from the following chronic health conditions (vs urban PEH): cancer (11.5% vs 6.9%), diabetes (14.7% vs 5.2%), acute myocardial infarction and cardiac arrest (14.1% vs 5.6%), congestive heart failure (10.3% vs 3.3%), and chronic obstructive pulmonary disease (COPD; 13.5% vs 3.9%). Rural PEH were also more likely to suffer a traumatic injury before death (17.9% vs 9.9%), particularly from suicide (5.1% vs 1.7%) and homicide (4.5% vs 3.0%). However, when compared to urban PEH, rural PEH were less likely to die from cold-related exposure (1.3% vs 3.9%) or drug-related overdoses (20.5% vs 40.3%). Specifically, rural PEH decedents were less likely to test positive for fentanyl (8.3% vs. 25.4%), heroin (0.6% vs 9.9%), cocaine (1.3% vs 15.5%), or any sedative-hypnotic (0.6% vs 5.7%). Despite the lower proportion of rural PEH dying from drug-related overdoses, more than three times tested positive for amphetamines compared to urban PEH (7.1% vs 2.2%).

Similarly, the characteristics of hospital visits were different for rural versus urban patients. Rural hospital visits were less likely to be admissions (17.2% vs 23.9%) or coded for homelessness (7.6% vs 11.8%). Visits were also more likely to be for females (42.6% vs 33.4%), younger, non-Hispanic White (82.6% vs 36.9%), and less likely to be self-pay (4.8% vs 8.0%). Health conditions did not vary greatly, but rural visits were less likely to have intoxication identified (7.1% vs 11.5%).

7.3 Place of Death: Facility, Residence, Other Location

Table 21 shows the place of death and disposition method of PEH decedents. PEH decedents primarily died in (1) a hospital (42.2%); (2) an emergency shelter, temporary residence, or transitional housing (including a hotel or motel; 24.7%); or (3) the outdoors and other informal settings (any outdoor setting, vehicle, public buildings, abandoned buildings; 19.6%). By comparison, only 0.1% of statewide general population decedents died in a hotel, motel, or temporary residence, and 0.6% died outdoors or in other informal settings. In Metro East and Marion public health regions, 25.0% and 27.8% of PEH died outdoors, respectively. The city of Chicago had the largest proportion of deaths at a temporary residence and transitional housing facility (22.9%), and the Westchester West Chicago Public Health Region had the largest proportion of PEH deaths in a hotel or motel (8.6%). Compared to the general population, PEH decedents were disproportionately cremated (79.1% vs 54.2%).

7.3.1 DEATHS OCCURRING ON PUBLIC TRANSPORTATION

During the years 2017 to 2023, there were a total of 616 decedents who died while using public transportation (bus, train, or airplane) or at a public transportation facility (platform, stop, station, depot, or airport). These decedents do not include individuals who died in train/bus yards and on train tracks (suicides, falls, struck by trains while crossing). Of the 616 deaths, 89 (14.5%) of the decedents were identified as people experiencing homelessness.

Among the 89 public transportation-related deaths involving people experiencing homelessness, most of the deaths occurred on trains or in train stations: 5 died at an airport; 5 died on a bus; 13 died at a bus stop, depot, or station; 32 died on a train; 32 died at a train stop, station or on the platform; and an additional two died at an unspecified location involving train transport. There was a marked increase in the proportion of public transportation deaths in 2022 and 2023, which made up 48.3% of all the public transportation deaths involving PEH decedents since 2017 (n=43 out of 89 died in 2022

There has been a large increase in deaths on public transportation involving PEH during the most recent two years (2022-2023). PEH who died on public transportation primarily died on trains or in train stations (74.2%), and disproportionately died during the colder months, appear to have substantially less social support, and predominately died from drug-related overdoses involving exposures to multiple drugs.

and 2023). Nearly all of the public transportation-related deaths involving PEH occurred during the colder months of October through April (79.8%; n=71).

Compared to PEH deaths occurring at all other locations, public transportation-related deaths disproportionately involved males (89.9% vs 76.8%), persons 25 to 64 years old (88.8% vs 70.0%; with no deaths involving persons 0-24 years old), and PEH who identify as Black or African Americans (58.4% vs 39.5%). Additionally, public transportation-related decedents were substantially less likely to have a family member who was a key informant for completion of the death certificate (37.1% vs 66.1%).

Table 21:
Place of Death and Disposition Method of People Dying Based on Illinois Death Records, 2017-2023 - People Experiencing Homelessness Compared to All Other Deaths Occurring in Illinois

	PEH Deaths Statewide (N=2,996)		All Other Deaths Statewide (N=796,007)	
Place of Death (as recorded on death certificate)				
Decedent's Home	0	0.0%	257,431	32.3%
Emergency Shelter	77	2.6%	-	0.0%
Hospice Facility	83	2.8%	35,599	4.5%
Hospital	1,264	42.2%	299,196	37.6%
Hotel or Motel	80	2.7%	880	0.1%
Nursing Home or Long-Term Care Facility	88	2.9%	160,382	20.1%
Park, Forest, Wooded Area, Field, Riverbank, Yard	108	3.6%	609	0.1%
Parking Lot, Alley, Sidewalk, Street, Vacant Lot, Bridge, Abandoned Building, Railroad, Train Station, Bus Stop, Airport	375	12.5%	4,047	0.5%
Public Building inc. park district, church, police station, restaurant, library, school, business	33	1.1%	121	0.0%
Residence Unknown	65	2.2%	1,358	0.2%
Residence of Family or Friend	106	3.5%	4,535	0.6%
Scene - Unspecified	53	1.8%	1,436	0.2%
Temporary Residence and Transitional Housing	570	19.0%	0	0.0%
Vehicle	21	0.7%	366	0.0%
Unknown	73	2.4%	30,047	3.8%
Disposition Method				
Burial	580	19.4%	340,799	42.8%
Cremation	2,369	79.1%	431,066	54.2%
Donation	37	1.2%	9,038	1.1%
Entombment	7	0.2%	14,990	1.9%
Other	3	0.1%	114	0.0%

Three-quarters of the public transportation-related deaths involved a drug-related overdose as a contributing cause of death (public transportation vs all other PEH deaths: 77.5% vs 38.1%) and disproportionately involved poly-drug exposures of two or more substances (65.2% vs 24.4%). These drug-related overdoses disproportionately involved (compared to all other deaths involving persons experiencing homelessness) alcohol (36.0% vs 14.9%), fentanyl analogs or precursors (62.9% vs 23.3%), methadone (5.6% vs 1.4%), cocaine (29.2% vs 14.3%), and benzodiazepines (4.5% vs 2.8%), with more than double having concurrent exposures to drugs known to increase risk of respiratory depression when taken in combination with an opioid (40.4% vs 18.7%). Among the public transportation-related deaths, there was also a greater proportion with excessive cold or heat identified as a contributing cause of death compared to all other deaths involving persons experiencing homelessness (6.7% vs 3.8%).

8 Time Trend of PEH Deaths and Hospital Visits

8.1 Deaths

Figure 4 shows the monthly trend in deaths between January 2017 and December 2023 for PEH only (solid line) and the entire Illinois population (dashed line). The monthly trend in deaths of PEH increased significantly by 1.1% per month from 2017 to January of 2022, independent of the deaths occurring during the three COVID-19 waves. However, the trend in PEH mortality has been significantly declining by 1.4% per month since May 2022 ($p<0.001$), though overall PEH mortality was still above baseline levels from prior to the COVID pandemic. In addition, there was a surge in PEH deaths at the end of 2023, starting in November. It is unclear if the surge in deaths has persisted into 2024. By comparison, the trend in the general population of decedents has increased 0.1% per month ($p=0.019$) between 2017-2023 after adjusting for the three COVID-19 waves. When stratifying by public health region, there were significant increases in the monthly trend in deaths of PEH through 2023 in Peoria DPH region, Suburban Cook County, and Chicago.

Table 22 presents the distribution of the PEH decedents' date of death by year, month, and day of week. When evaluating the seasonal pattern of PEH deaths, the proportion of deaths involving PEH were slightly elevated in December. The weekday pattern indicates that deaths involving PEH statewide were highest on Mondays, but when stratified by region, there were distinct patterns. In the Rockford region, deaths were highest on Mondays. In Peoria and Metro East, the proportion of deaths was highest on Thursdays. There was insufficient data in the death records to explain the weekday patterns.

Figure 4:
Trend in Deaths Among People Experiencing Homelessness and Total Housed State Population in Illinois, 2017-2023

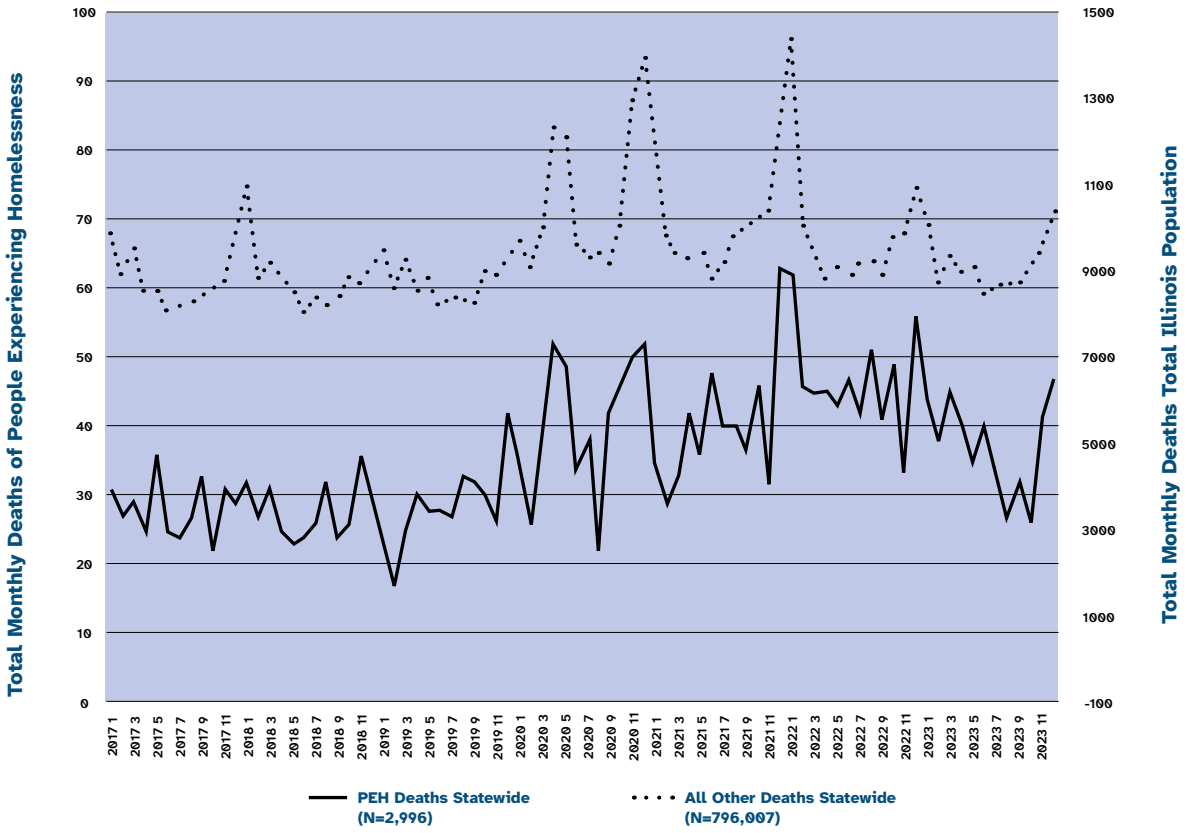


Table 22:
Trends in Deaths by Year, Month, and Weekday Based on Illinois Death Records, 2017-2023 - People Experiencing Homelessness Compared to All Other Deaths Occurring in Illinois

	PEH Deaths Statewide (N=2,996)		All Other Deaths Statewide (N=796,007)	
Year of Death				
2017	339	11.3%	106,307	13.4%
2018	336	11.2%	106,556	13.4%
2019	343	11.4%	105,486	13.3%
2020	488	16.3%	128,269	16.1%
2021	481	16.1%	120,496	15.1%
2022	560	18.7%	118,917	14.9%
2023	449	15.0%	109,976	13.8%
Month of Death				
January	264	8.8%	76,581	9.6%
February	210	7.0%	64,157	8.1%
March	249	8.3%	66,422	8.3%
April	260	8.7%	65,700	8.3%
May	250	8.3%	65,932	8.3%
June	246	8.2%	60,435	7.6%
July	230	7.7%	61,464	7.7%
August	232	7.7%	62,157	7.8%
September	241	8.0%	62,224	7.8%
October	245	8.2%	65,914	8.3%
November	250	8.3%	69,092	8.7%
December	319	10.6%	75,929	9.5%
Weekday of Death				
Monday	480	16.0%	114,781	14.4%
Tuesday	392	13.1%	113,151	14.2%
Wednesday	427	14.3%	112,745	14.2%
Thursday	433	14.5%	112,770	14.2%
Friday	441	14.7%	114,840	14.4%
Saturday	428	14.3%	114,301	14.4%
Sunday	395	13.2%	113,419	14.2%

8.1.1 POSSIBLE FACTORS LEADING TO SHIFTS IN MORTALITY

The time series analysis indicates two distinct periods relating to the trend in PEH deaths. PEH deaths were significantly increasing through 2021. Then, in early 2022, the number of deaths began to decline. In the absence of quality data on the number of at-risk people who were literally homeless, intermittently homeless, and doubled up, it was difficult to identify the key causal factors that were associated with the changes in mortality rates over the past seven years. However, in the absence of appropriate data on the population at-risk, we were able to evaluate changes in case mix of PEH decedents over these time periods.

The demographic characteristics, temporal-spatial distribution, and contributing causes of death of PEH decedents were very similar across the seven years. Spatially, different regions of Illinois had different levels of services available for PEH. However, there was very little difference in terms of the CoC or DPH region that people were dying before and after 2022. Comparing 2022 forward versus the five years prior, a minor decrease in the proportion of PEH decedents who were female (19.8% vs 23.3%), Hispanic or Latino (8.0% vs 9.3%), or foreign born (7.0% vs 7.9%) was seen, but there were minimal increases in PEH decedents identified as Black or African American (42.1% vs 39.0%). We did not observe any substantial differences in other demographic characteristics such as marital status, veteran status, education level, occupation, or relationship of key informant. We also did not observe a substantial change in contributing causes of death since the start of 2022, except for an increase in drug-related overdoses (43.2% vs 37.6%). While the proportion of deaths involving fentanyl analogs increased substantially since the beginning of 2022 (29.4% vs 22.0%), there was a marked shift in the type of fentanyl analogs identified. There was a near doubling of PEH decedents testing positive for

4-ANPP in 2022/2023 compared to prior years (18.6% vs 10.8%; 4-Anilino-N-phenethylpiperidine or Despropionyl fentanyl; Precursor). Simultaneously, there was a continued decline in PEH decedents testing positive for heroin (5.2% vs 11.6%) and benzodiazepines (1.2% vs 3.7%), but an increase in cocaine (18.7% vs 12.8%).

8.2 Hospital Visits

Table 23 presents the temporal distribution of hospital visits by year, month, and day of week for PEH. In contrast to the mortality data, there were no clear time trends. Seasonally, the proportion of hospitalizations with admissions peaks in August, while ED visits peak in cold weather months (November-January) for those coded for homelessness at the time of visit. These seasonal patterns may reflect weather and increased environmental stressors; however, there was insufficient data to fully explain these patterns. When looking at hospitalizations of PEH by day of the week, all visit types were more predominant during the weekdays, which was similar to general population hospital patterns.

Table 23:
Temporal Distribution of People Experiencing Homelessness Treated in Illinois Hospitals by Visit, 2017-2023

	Admissions Coded with Z59 (N=102,447)		Other Admissions (N=322,029)		ED Visits Coded with Z59 (N=116,787)		Other ED Visits (N=1,282,741)		Total (N=1,824,004)	
Year										
2017	12,130	11.8%	46,940	14.6%	12,452	10.7%	184,114	14.4%	255,636	14.0%
2018	14,413	14.1%	48,735	15.1%	15,150	13.0%	196,897	15.3%	275,195	15.1%
2019	14,668	14.3%	49,119	15.3%	16,639	14.2%	198,658	15.5%	279,084	15.3%
2020	14,963	14.6%	45,305	14.1%	17,173	14.7%	177,424	13.8%	254,865	14.0%
2021	13,680	13.4%	45,092	14.0%	15,346	13.1%	174,347	13.6%	248,465	13.6%
2022	14,472	14.1%	43,461	13.5%	18,327	15.7%	173,111	13.5%	249,371	13.7%
2023	18,121	17.7%	43,377	13.5%	21,700	18.6%	178,190	13.9%	261,388	14.3%
Month										
January	8,356	8.2%	26,924	8.4%	10,516	9.0%	105,071	8.2%	150,867	8.3%
February	7,422	7.2%	24,726	7.7%	9,619	8.2%	96,956	7.6%	138,723	7.6%
March	8,022	7.8%	27,509	8.5%	10,245	8.8%	108,761	8.5%	154,537	8.5%
April	7,948	7.8%	26,232	8.1%	9,619	8.2%	104,784	8.2%	148,583	8.1%
May	8,326	8.1%	27,533	8.5%	9,222	7.9%	110,554	8.6%	155,635	8.5%
June	8,425	8.2%	27,113	8.4%	8,797	7.5%	107,932	8.4%	152,267	8.3%
July	9,073	8.9%	28,121	8.7%	9,151	7.8%	113,008	8.8%	159,353	8.7%
August	9,476	9.2%	28,465	8.8%	9,197	7.9%	112,663	8.8%	159,801	8.8%
September	8,719	8.5%	26,725	8.3%	8,624	7.4%	107,837	8.4%	151,905	8.3%
October	9,033	8.8%	27,244	8.5%	10,254	8.8%	109,444	8.5%	155,975	8.6%
November	8,821	8.6%	25,415	7.9%	10,657	9.1%	102,856	8.0%	147,749	8.1%
December	8,826	8.6%	26,022	8.1%	10,886	9.3%	102,875	8.0%	148,609	8.1%
Day										
Sunday	4,290	4.2%	19,437	6.0%	15,377	13.2%	150,135	11.7%	189,239	10.4%
Monday	19,140	18.7%	57,754	17.9%	16,504	14.1%	190,729	14.9%	284,127	15.6%
Tuesday	18,510	18.1%	55,580	17.3%	17,103	14.6%	198,188	15.5%	289,381	15.9%
Wednesday	17,560	17.1%	52,260	16.2%	16,870	14.4%	197,296	15.4%	283,986	15.6%
Thursday	16,655	16.3%	51,129	15.9%	17,203	14.7%	195,452	15.2%	280,439	15.4%
Friday	19,481	19.0%	58,908	18.3%	17,434	14.9%	192,181	15.0%	288,004	15.8%
Saturday	6,811	6.6%	26,961	8.4%	16,296	14.0%	158,760	12.4%	208,828	11.4%

9 Conditions/Diagnoses in PEH

9.1 Causes of Death

Many decedents have more than one contributing cause of death listed on the death certificate. In this report, all contributing causes of death listed for each decedent were analyzed in accordance with Centers for Disease Control and Prevention (CDC) recommendations (multiple causes of death; Nashelsky 2003; McGivern 2017). Coinciding with PEH decedents being approximately 20 years younger on average at the time of death than the general population, a lower proportion of PEH died from chronic health conditions associated with the aging process, such as diseases of the circulatory, respiratory, and nervous systems; or cancer. However, PEH disproportionately died from drug-related overdoses (39.3% vs 4.9%), traumatic injury (11.3% vs 5.6%), excessive cold (3.7% vs 0.1%), alcohol cirrhosis (1.7% vs 0.8%), suicide (1.9% vs 1.3%), and homicide (3.1% vs 1.1%). Table 24 presents the contributing causes of death for both PEH and all statewide decedents.

The most common causes of traumatic injury among PEH decedents were homicides (n=93; 3.1%), transportation-related incidents in which PEH were primarily injured as pedestrian roadway users (n=63 pedestrian-related incidents, out of 86 transportation-related deaths; includes only persons suffering traumatic injuries related to being struck by, falling out of a vehicle/train), suicides (n=56; 1.9%), falls (n=39; 1.3%), and drowning (n=36; 1.2%). Only eight of the decedents who drowned tested positive for a drug associated with substance use disorders and the intent could not be determined in over half of the drownings (n=20; 55.6%). The remainder of the drowning-related deaths were determined to be accidental. There were also three electrical-related deaths, all of which involved contact with the electrified rail on Chicago Transit Authority tracks. A total of 24 PEH also died from exposure to gases, fumes, and vapors, of whom 10 died from carbon monoxide poisoning.

The distribution of contributing causes of death among PEH varied across public health regions. A detailed table of regional variations is available in Appendix B.

In the current analysis, age-standardized mortality rates were unable to be calculated because of the lack of adequate estimates of PEH in Illinois by discrete age groups. However, research shows that PEH have substantially higher overall standardized mortality rates than the general population (Nielsen 2011; Aldridge 2018; Roncarati 2018), and aging-related frailty and other health conditions appear approximately 20 years earlier than in the general population (Salem 2014; Brown 2017; Stenius-Ayoade 2017). Corresponding with past research, in the current study, the average age of death among PEH was almost 20 years younger than in the general population. Major risk factors associated with premature death included substance use and other comorbid psychiatric conditions that were more prevalent among PEH (Levitt 2009; Roy 2010; Nielsen 2011; Vila-Rodriguez 2013), and a myriad of social, economic, and nutritional risk factors associated with earlier onset and poor management of chronic health conditions (Salem 2014).

Therefore, the lower proportion of PEH with chronic illnesses as a contributing factor of death relative to the general population should be viewed with caution. When accounting for the earlier age of onset of these conditions, the risk of death from chronic illnesses was likely higher among Illinois PEH, as demonstrated in prior studies that have data on the age distribution of all PEH (Stenius-Ayoade 2017; Roncarati 2018). The distribution of contributing causes of death in Illinois PEH was similar to those reported in many other studies evaluating PEH (Stenius-Ayoade 2017; Roncarati 2018; Cawley 2022; Fine 2023; Minnesota Department of Health 2023).

Access to general health and psychiatric services, as well as housing programs, was strongly associated with reduced morbidity and mortality in PEH (Nyamathi 2000; Roy 2010; Nielsen 2011; Roncarati 2020; Richards 2022). In this way, increased access to both housing and health care that meets the needs of people experiencing homelessness is an important public health intervention. The drivers of homelessness were structural.

Table 24:
Contributing Causes of Death Based on Illinois Death Records, 2017-2023 - People Experiencing Homelessness Compared to All Other Deaths Occurring in Illinois

	PEH Deaths Statewide (N=2,996)		All Other Deaths Statewide (N=796,007)	
Infectious diseases	196	6.5%	66,278	8.3%
HIV Positive	29	1.0%	1,241	0.2%
Septicemia	144	4.8%	54,904	6.9%
Hepatitis	13	0.4%	1,932	0.2%
Cancer	213	7.1%	177,940	22.4%
Head and Neck	15	0.5%	5,088	0.6%
Colon	18	0.6%	12,926	1.6%
Pancreas	10	0.3%	13,497	1.7%
Bronchus, Lung	53	1.8%	40,962	5.1%
Congenital malformations, deformations and abnormalities	8	0.3%	3,520	0.4%
Disease blood forming organs	47	1.6%	24,570	3.1%
Endocrine, metabolic, and nutritional diseases	295	9.8%	116,729	14.7%
Diabetes	172	5.7%	69,404	8.7%
Nutritional Deficiencies	20	0.7%	13,620	1.7%
Fluid and Electrolyte Disorders	29	1.0%	9,909	1.2%
Disease of circulatory system	1,048	35.0%	402,816	50.6%
Hypertension	385	12.9%	120,887	15.2%
Acute Myocardial Infarction and Cardiac Arrest	181	6.0%	97,844	12.3%
Congestive Heart Failure	110	3.7%	103,183	13.0%
Atherosclerotic heart disease	251	8.4%	86,814	10.9%
Cerebral Occlusion, Stenosis, Hemorrhage, Stroke	78	2.6%	46,160	5.8%
Diseases of nervous system	96	3.2%	85,722	10.8%
Parkinson's Disease	11	0.4%	14,417	1.8%
Epilepsy	18	0.6%	6,551	0.8%
Diseases of the digestive system	183	6.1%	51,673	6.5%
Liver Diseases, Alcohol-Related	50	1.7%	6,196	0.8%
Liver Cirrhosis (Alcohol not specifically attributed)	35	1.2%	10,366	1.3%
Diseases of the genitourinary system	119	4.0%	71,587	9.0%
Chronic Renal Failure	50	1.7%	32,283	4.1%
Diseases of the respiratory system	421	14.1%	196,367	24.7%
Chronic Obstructive Pulmonary Disease	133	4.4%	71,397	9.0%
Respiratory Failure	182	6.1%	90,314	11.3%
Diseases of the skin and subcutaneous tissue	16	0.5%	6,229	0.8%
Diseases of the musculoskeletal system and connective tissue	24	0.8%	12,724	1.6%
Injury and poisoning	1,354	45.2%	79,393	10.0%
Drug Overdose	1,177	39.3%	38,690	4.9%
Traumatic Injury	338	11.3%	44,661	5.6%
Excessive Heat	3	0.1%	123	0.0%
Excessive Cold	112	3.7%	856	0.1%
Work-Related Death (Injured at work)	1	0.0%	927	0.1%
Suicide	56	1.9%	10,149	1.3%
Homicide (Assault)	93	3.1%	8,551	1.1%
Mental behavioral disorders	779	26.0%	154,943	19.5%
Alcohol Use Disorder	237	7.9%	9,906	1.2%
Opioid Use Disorder	79	2.6%	1,663	0.2%
Cocaine Use Disorder	59	2.0%	1,368	0.2%
Other Substance Use Disorder (inc. polysubstance use disorder)	472	15.8%	79,951	10.0%
Dementia, Delirium, Senility	28	0.9%	64,142	8.1%
Psychoses and Affective Disorders	17	0.6%	4,217	0.5%
Certain conditions originating in the perinatal period	29	1.0%	3,485	0.4%
Carbon monoxide (ICD-10 T58)	10	0.3%	686	0.1%

9.2 Diagnoses and Comorbidities Based on Hospital Utilization

When evaluating the hospital data, primary diagnoses related to each visit and documented comorbidities strongly correlate with the contributing causes of death documented on the death certificates. Table 25 shows the primary diagnoses for hospital visits, and Table 26 describes the number and types of comorbidities present during hospital visits by PEH using the Elixhauser Comorbidity Index. For admissions, mental disorders were the most common primary diagnosis, and symptoms (non-specific to certain diseases or disorders) were the most common reason for ED visits. Other common primary diagnoses include those related to musculoskeletal and connective tissue disorders and drug or alcohol abuse. Of note, 2,431 visits were flagged as being related to an individual's work and 5,889 were for victims of a crime.

Table 25:
Primary Diagnosis for People Experiencing Homelessness Treated in Illinois Hospitals by Visit, 2017-2023

	Admissions Coded with Z59 (N=102,447)		Other Admissions (N=322,029)		ED Visits Coded with Z59 (N=116,787)		Other ED Visits (N=1,282,741)		Total (N=1,824,004)	
Mental Disorders	58,277	56.9%	150,423	46.7%	16,298	14.0%	118,150	9.2%	343,148	18.8%
Substance Use Disorder	9,628	9.4%	35,634	11.1%	15,262	13.1%	156,173	12.2%	216,697	11.9%
Musculoskeletal and Connective Tissue Conditions	1,494	1.5%	4,675	1.5%	13,406	11.5%	129,348	10.1%	148,923	8.2%
Disorders of the Respiratory System	3,685	3.6%	14,446	4.5%	4,527	3.9%	64,938	5.1%	87,596	4.8%
Disorders of the Circulatory System	5,504	5.4%	21,470	6.7%	2,602	2.2%	29,900	2.3%	59,476	3.3%
Poisoning from Medications	1,908	1.9%	7,086	2.2%	1,543	1.3%	29,232	2.3%	39,769	2.2%
Diseases of the Skin	2,473	2.4%	5,171	1.6%	3,016	2.6%	29,545	2.3%	40,205	2.2%
Digestive Disorders	1,087	1.1%	6,711	2.1%	1,351	1.2%	31,053	2.4%	40,202	2.2%
Traumatic Injury										
Superficial Contusion/Injury	45	0.0%	192	0.1%	2,073	1.8%	30,205	2.4%	32,515	1.8%
Fracture	1,051	1.0%	3,101	1.0%	1,274	1.1%	24,966	1.9%	30,392	1.7%
Open Wound	191	0.2%	544	0.2%	1,155	1.0%	24,244	1.9%	26,134	1.4%
Sprain or Strain	11	0.0%	38	0.0%	529	0.5%	16,212	1.3%	16,790	0.9%
Traumatic Brain Injury	430	0.4%	1,556	0.5%	181	0.2%	3,144	0.2%	5,311	0.3%
Burns	100	0.1%	214	0.1%	118	0.1%	1,760	0.1%	2,192	0.1%
Foreign Body Injury	43	0.0%	311	0.1%	33	0.0%	1,763	0.1%	2,150	0.1%
Dislocation	21	0.0%	57	0.0%	39	0.0%	1,900	0.1%	2,017	0.1%
Internal Injury of the Torso (including spine)	178	0.2%	673	0.2%	15	0.0%	299	0.0%	1,165	0.1%
Air Pressure Injury	18	0.0%	33	0.0%	127	0.1%	396	0.0%	574	0.0%
Crush Injury	4	0.0%	7	0.0%	7	0.0%	206	0.0%	224	0.0%
Amputation or Avulsion	7	0.0%	22	0.0%	4	0.0%	123	0.0%	156	0.0%
Unspecified Injury	37	0.0%	75	0.0%	320	0.3%	6,711	0.5%	7,143	0.4%
Infectious Disease	3,346	3.3%	11,132	3.5%	1,727	1.5%	15,798	1.2%	32,003	1.8%
Diabetes	2,035	2.0%	8,088	2.5%	1,493	1.3%	15,653	1.2%	27,269	1.5%
Pregnancy and Perinatal-Related										
Pregnancy Complications	1,349	1.3%	6,072	1.9%	920	0.8%	19,701	1.5%	28,042	1.5%
Pregnancy with Abortive Outcome	18	0.0%	79	0.0%	29	0.0%	899	0.1%	1,025	0.1%
Congenital Anomalies	18	0.0%	93	0.0%	8	0.0%	722	0.1%	841	0.0%
Encounter for Delivery	8	0.0%	71	0.0%	1	0.0%	6	0.0%	86	0.0%
Perinatal Conditions	8	0.0%	15	0.0%	5	0.0%	73	0.0%	101	0.0%
Other Disorders of the Central Nervous System	975	1.0%	4,249	1.3%	1,031	0.9%	17,276	1.3%	23,531	1.3%
Disorders of the Oral Cavity	34	0.0%	193	0.1%	525	0.4%	16,051	1.3%	16,803	0.9%

Liver Conditions	1,025	1.0%	6,578	2.0%	253	0.2%	8,505	0.7%	16,361	0.9%
Anemias	367	0.4%	4,556	1.4%	253	0.2%	10,451	0.8%	15,627	0.9%
Disorders of the Eye and Ear	78	0.1%	207	0.1%	612	0.5%	14,586	1.1%	15,483	0.8%
Hereditary Degenerative Diseases of the Central Nervous System	173	0.2%	687	0.2%	1,195	1.0%	11,778	0.9%	13,833	0.8%
Other Urinary Tract Conditions	224	0.2%	1,041	0.3%	598	0.5%	12,472	1.0%	14,335	0.8%
Disorders of Female Organs	57	0.1%	308	0.1%	284	0.2%	12,795	1.0%	13,444	0.7%
Kidney Disorders	854	0.8%	3,600	1.1%	288	0.2%	7,353	0.6%	12,095	0.7%
Other Metabolic Disorders	627	0.6%	3,197	1.0%	645	0.6%	6,212	0.5%	10,681	0.6%
Blood Vessel Disorders	35	0.0%	97	0.0%	552	0.5%	9,370	0.7%	10,054	0.6%
Malignant Neoplasms	564	0.6%	1,777	0.6%	110	0.1%	7,313	0.6%	9,764	0.5%
Disorders of Male Genital Organs	73	0.1%	317	0.1%	157	0.1%	4,362	0.3%	4,909	0.3%
Cold Related Injury	452	0.4%	238	0.1%	1,184	1.0%	1,577	0.1%	3,451	0.2%
Blood Disorders	62	0.1%	317	0.1%	39	0.0%	2,886	0.2%	3,304	0.2%
Diseases of the Peripheral Nervous System	54	0.1%	294	0.1%	155	0.1%	2,555	0.2%	3,058	0.2%
Poisoning from Other Substances (non-drug agents)	142	0.1%	457	0.1%	99	0.1%	1,716	0.1%	2,414	0.1%
Inflammatory Diseases of the Central Nervous System	51	0.0%	195	0.1%	205	0.2%	1,410	0.1%	1,861	0.1%
Thyroid Disorder	48	0.0%	111	0.0%	25	0.0%	1,439	0.1%	1,623	0.1%
Other Environmental/Asphyxiation/ Deprivation	8	0.0%	34	0.0%	586	0.5%	723	0.1%	1,351	0.1%
Other Endocrine Disorders	67	0.1%	249	0.1%	7	0.0%	362	0.0%	685	0.0%
Coagulation Disorders	38	0.0%	204	0.1%	13	0.0%	314	0.0%	569	0.0%
White Blood Cell Disorders	14	0.0%	95	0.0%	21	0.0%	327	0.0%	457	0.0%
Nutritional Deficiency	56	0.1%	108	0.0%	26	0.0%	125	0.0%	315	0.0%
Other Blood Disorders	9	0.0%	35	0.0%	1	0.0%	80	0.0%	125	0.0%
Contact with Hazardous Body Fluids	0	0.0%	0	0.0%	7	0.0%	47	0.0%	54	0.0%
Symptoms	1,141	1.1%	5,254	1.6%	24,457	20.9%	260,018	20.3%	290,870	15.9%
Abnormal Findings	113	0.1%	350	0.1%	190	0.2%	8,239	0.6%	8,892	0.5%
Other/Uncoded	2,132	2.1%	9,292	2.9%	15,206	13.0%	109,279	8.5%	135,909	7.5%

Table 26:
Common Comorbidities Based on the Elixhauser Comorbidity Index Identified in People Experiencing Homelessness Treated in Illinois Hospitals by Visit, 2017-2023

	Admissions Coded with Z59 (N=102,447)		Other Admissions (N=322,029)		ED Visits Coded with Z59 (N=116,787)		Other ED Visits (N=1,282,741)		Total (N=1,824,004)	
Mean Number of Comorbidities (sd)	3.3	1.8	3.5	2.0	1.3	1.4	1.0	1.2	1.6	1.8
Number of Patients with 3+ Comorbidities	65,842	64.3%	209,045	64.9%	18,847	16.1%	143,289	11.2%	437,023	24.0%
Type of Comorbidity										
Congestive Heart Failure	7,455	7.3%	33,637	10.4%	3,373	2.9%	33,591	2.6%	78,056	4.3%
Cardiac Arrhythmia	10,934	10.7%	36,074	11.2%	4,722	4.0%	42,028	3.3%	93,758	5.1%
Valvular Disease	1,713	1.7%	6,687	2.1%	497	0.4%	4,915	0.4%	13,812	0.8%
Pulmonary Circulation Disorders	1,780	1.7%	7,478	2.3%	340	0.3%	2,696	0.2%	12,294	0.7%
Peripheral Vascular Disorders	2,037	2.0%	8,512	2.6%	742	0.6%	8,962	0.7%	20,253	1.1%
Hypertension Uncomplicated	28,002	27.3%	94,298	29.3%	20,929	17.9%	200,279	15.6%	343,508	18.8%
Hypertension Complicated	8,287	8.1%	40,429	12.6%	4,037	3.5%	38,086	3.0%	90,839	5.0%
Paralysis	740	0.7%	4,035	1.3%	278	0.2%	2,144	0.2%	7,197	0.4%
Other Neurological Disorders	10,873	10.6%	42,257	13.1%	4,718	4.0%	52,888	4.1%	110,736	6.1%
Chronic Pulmonary Disease	23,223	22.7%	85,927	26.7%	13,347	11.4%	143,356	11.2%	265,853	14.6%
Diabetes Uncomplicated	7,921	7.7%	31,055	9.6%	7,709	6.6%	75,233	5.9%	121,918	6.7%
Diabetes Complicated	7,355	7.2%	32,356	10.0%	3,623	3.1%	37,514	2.9%	80,848	4.4%
Hypothyroidism	3,759	3.7%	16,839	5.2%	1,168	1.0%	13,847	1.1%	35,613	2.0%
Renal Failure	5,206	5.1%	27,342	8.5%	2,186	1.9%	24,974	1.9%	59,708	3.3%
Liver Disease	6,721	6.6%	23,906	7.4%	1,689	1.4%	19,160	1.5%	51,476	2.8%
Peptic Ulcer Disease Excluding Bleeding	647	0.6%	3,481	1.1%	124	0.1%	1,325	0.1%	5,577	0.3%
AIDS/HIV	1,616	1.6%	4,336	1.3%	1,033	0.9%	6,147	0.5%	13,132	0.7%
Lymphoma	182	0.2%	763	0.2%	59	0.1%	978	0.1%	1,982	0.1%
Metastatic Cancer	571	0.6%	2,359	0.7%	93	0.1%	1,951	0.2%	4,974	0.3%
Solid Tumor without Metastasis	1,256	1.2%	5,004	1.6%	324	0.3%	9,550	0.7%	16,134	0.9%
Rheumatoid Arthritis/Collagen	891	0.9%	3,886	1.2%	469	0.4%	6,586	0.5%	11,832	0.6%
Coagulopathy	4,087	4.0%	15,956	5.0%	643	0.6%	5,113	0.4%	25,799	1.4%
Obesity	10,707	10.5%	45,657	14.2%	2,204	1.9%	22,170	1.7%	80,738	4.4%
Weight Loss	4,795	4.7%	14,135	4.4%	597	0.5%	3,139	0.2%	22,666	1.2%
Fluid and Electrolyte Disorders	20,669	20.2%	76,678	23.8%	4,712	4.0%	34,529	2.7%	136,588	7.5%
Blood Loss Anemia	299	0.3%	1,145	0.4%	40	0.0%	461	0.0%	1,945	0.1%
Deficiency Anemia	5,024	4.9%	14,100	4.4%	1,004	0.9%	4,468	0.3%	24,596	1.3%
Alcohol Abuse	30,597	29.9%	83,301	25.9%	18,884	16.2%	168,480	13.1%	301,262	16.5%
Drug Abuse	55,441	54.1%	138,905	43.1%	19,181	16.4%	132,828	10.4%	346,355	19.0%
Psychoses	38,095	37.2%	111,934	34.8%	18,549	15.9%	106,424	8.3%	275,002	15.1%
Depression	41,457	40.5%	104,946	32.6%	14,085	12.1%	97,068	7.6%	257,556	14.1%

The top six categories of comorbidities were the same across all visit types, although their prevalence and ranking shifted depending on the visit type. These top six categories align strongly with the primary diagnoses and include diagnoses related to drug use, hypertension, alcohol use, psychoses, chronic pulmonary disease, and depression. Patients admitted to the hospital had a higher mean number of comorbidities identified per visit, and the percentage of visits involving patients with three or more comorbidities per visit was also considerably higher in admissions (64.3% of admissions compared to 16.1% of ED visits with a Z59 code; 64.9% of admissions compared to 11.2% of ED visits without a Z59 code). Admissions were also much more likely to have a higher prevalence of nearly every comorbidity group, including those representing severe conditions. This is consistent with previous reporting on PEH (Lombardi 2020; Madigan 2021; Rollings 2022). It is also likely due to several factors, such as having better health histories and coding for admitted patients compared to outpatient or emergency department patients and more severe conditions requiring additional health care treatment and resources.

Substance use disorders consistently appear as a top primary diagnosis, comorbidity, and cause of injury. A detailed breakdown of the substances identified is provided in Table 27. More than half of the visits note that patients suffered from substance use disorders (50.6%), and 11.3% were coded for intoxication at the time of the hospital visit from a variety of substances. The most common agents cited were nicotine, alcohol, stimulants, and opioids.

Table 27:
Detailed Substance Use Disorder Information for People Experiencing Homelessness Treated in Illinois Hospitals by Visit, 2017-2023

	Admissions Coded with Z59 (N=102,447)		Other Admissions (N=322,029)		ED Visits Coded with Z59 (N=116,787)		Other ED Visits (N=1,282,741)		Total (N=1,824,004)	
Any Substance Use Disorder (SUD) Diagnosis	83,054	81.1%	234,220	72.7%	61,412	52.6%	544,844	42.5%	923,530	50.6%
SUD-Cannabinoids	24,869	24.3%	58,119	18.0%	4,810	4.1%	28,671	2.2%	116,469	6.4%
SUD-Alcohol	30,299	29.6%	81,717	25.4%	18,757	16.1%	165,206	12.9%	295,979	16.2%
SUD-Hallucinogens/MDMA/PCP	1,838	1.8%	3,958	1.2%	486	0.4%	4,938	0.4%	11,220	0.6%
SUD-Inhalants/Gases/Solvents	97	0.1%	329	0.1%	24	0.0%	360	0.0%	810	0.0%
SUD-Opioids	18,567	18.1%	51,919	16.1%	6,957	6.0%	65,928	5.1%	143,371	7.9%
SUD-Sedatives/Hypnotics/Anxiolytics	3,904	3.8%	10,917	3.4%	699	0.6%	5,481	0.4%	21,001	1.2%
SUD-Stimulants	31,637	30.9%	69,039	21.4%	8,489	7.3%	44,790	3.5%	153,955	8.4%
SUD-Polysubstance Abuse	5,747	5.6%	14,252	4.4%	4,385	3.8%	32,756	2.6%	57,140	3.1%
Any Intoxication at Time of Hospital Visit	10,981	10.7%	32,964	10.2%	13,677	11.7%	147,781	11.5%	205,403	11.3%
Intoxicated-Cannabinoids	376	0.4%	2,053	0.6%	123	0.1%	1,072	0.1%	3,624	0.2%
Intoxicated-Alcohol	7,072	6.9%	20,015	6.2%	11,514	9.9%	115,182	9.0%	153,783	8.4%
Intoxicated-Hallucinogen/MDMA/PCP	129	0.1%	476	0.1%	82	0.1%	1,243	0.1%	1,930	0.1%
Intoxicated-Inhalants/Volatile Solvents	5	0.0%	3	0.0%	0	0.0%	22	0.0%	30	0.0%
Intoxicated-Opioids	1,774	1.7%	5,402	1.7%	1,382	1.2%	25,665	2.0%	34,223	1.9%
Intoxicated-Sedatives/Hypnotic/Anxiolytics	1,157	1.1%	3,896	1.2%	291	0.2%	2,505	0.2%	7,849	0.4%
Intoxicated-Stimulants	1,329	1.3%	4,753	1.5%	446	0.4%	3,381	0.3%	9,909	0.5%
Intoxication-Cocaine	1,050	1.0%	4,010	1.2%	291	0.2%	1,930	0.2%	7,281	0.4%
Nicotine	56,649	55.3%	154,679	48.0%	42,500	36.4%	357,745	27.9%	611,573	33.5%

People experiencing homelessness were poisoned by a variety of pharmaceutical and non-pharmaceutical agents, including agents associated with substance use disorders. Table 28 presents a detailed overview of the substances involved in poisoning cases. There were 82,831 visits (5.8%) involving poisoning. The most common agents included psychotropic drugs not otherwise classified, diuretics/ other drugs not otherwise classified, and antiepileptic/sedative/hypnotics. There were no poisonings from noxious seafood, mycotoxins in food, strychnine, carbon disulfide, nitroglycerin, or other nitrics.

Table 28:
Detailed Poisoning from Pharmaceutical and Non-Pharmaceutical Agents* for People Experiencing Homelessness Treated in Illinois Hospitals by Visit, 2017-2023

	Admissions Coded with Z59 (N=102,447)		Other Admissions (N=322,029)		ED Visits Coded with Z59 (N=116,787)		Other ED Visits (N=1,282,741)		Total (N=1,824,004)	
Pharmaceutical Agents										
Psychotropic Drugs Not Otherwise Classified	3,481	3.4%	8,268	2.6%	449	0.4%	3,694	0.3%	15,892	0.9%
Diuretics/Other Drugs Not Otherwise Classified	1,385	1.4%	3,799	1.2%	418	0.4%	4,086	0.3%	9,688	0.5%
Antiepileptic/Sedative/Hypnotic	1,266	1.2%	4,293	1.3%	324	0.3%	2,825	0.2%	8,708	0.5%
Hormones, including Synthetics	894	0.9%	3,079	1.0%	168	0.1%	841	0.1%	4,982	0.3%
Systemic Hematological Agents	462	0.5%	2,057	0.6%	89	0.1%	706	0.1%	3,314	0.2%
Analgesics/Antipyretic/Rheum	383	0.4%	1,305	0.4%	83	0.1%	794	0.1%	2,565	0.1%
Cardiovascular System Drugs	405	0.4%	1,186	0.4%	103	0.1%	649	0.1%	2,343	0.1%
Autonomic Nervous System Drugs	248	0.2%	824	0.3%	32	0.0%	346	0.0%	1,450	0.1%
Muscle/Respiratory Drugs	165	0.2%	517	0.2%	73	0.1%	506	0.0%	1,261	0.1%
Antibiotics	244	0.2%	707	0.2%	24	0.0%	260	0.0%	1,235	0.1%
Anti-infectives/Antiparasitic	133	0.1%	250	0.1%	15	0.0%	81	0.0%	479	0.0%
Gastrointestinal System Drugs	40	0.0%	197	0.1%	8	0.0%	97	0.0%	342	0.0%
Skin/Eye/Ear/Mouth Drugs	30	0.0%	87	0.0%	10	0.0%	111	0.0%	238	0.0%
Anesthetics/Therapeutic Gases	30	0.0%	101	0.0%	4	0.0%	48	0.0%	183	0.0%
Non-Pharmaceutical Agents										
Venomous Animals/Plants	38	0.0%	61	0.0%	24	0.0%	592	0.0%	715	0.0%
Other Gases/Fumes/Vapors	36	0.0%	89	0.0%	22	0.0%	316	0.0%	463	0.0%
Corrosive Substances	22	0.0%	88	0.0%	13	0.0%	147	0.0%	270	0.0%
Carbon Monoxide	18	0.0%	60	0.0%	12	0.0%	109	0.0%	199	0.0%
Metals	20	0.0%	93	0.0%	4	0.0%	68	0.0%	185	0.0%
Organic Solvents	22	0.0%	28	0.0%	3	0.0%	43	0.0%	96	0.0%
Pesticides	19	0.0%	24	0.0%	6	0.0%	31	0.0%	80	0.0%
Noxious Food (not seafood)	6	0.0%	11	0.0%	4	0.0%	51	0.0%	72	0.0%
Soaps/Detergents	1	0.0%	16	0.0%	1	0.0%	36	0.0%	54	0.0%
Paints/Dyes	0	0.0%	0	0.0%	0	0.0%	5	0.0%	5	0.0%
Aliphatic/Aromatic Hydrocarbons	1	0.0%	0	0.0%	1	0.0%	2	0.0%	4	0.0%
Cyanides	0	0.0%	1	0.0%	0	0.0%	3	0.0%	4	0.0%
Other Inorganic Substances	1	0.0%	0	0.0%	0	0.0%	2	0.0%	3	0.0%
Benzene Derivatives	0	0.0%	1	0.0%	0	0.0%	0	0.0%	1	0.0%
Unspecified Other Substances	83	0.1%	310	0.1%	48	0.0%	675	0.1%	1,116	0.1%

*Cases of poisoning shown in the table do not include drug-related overdoses associated with substance use disorders.

The high level of hospital care utilization was not limited to people with psychiatric and substance use disorders (see Table 29). PEH who were high utilizers of medical care in the hospital setting were disproportionately diagnosed with an array of serious cardiovascular, respiratory, neurologic, and renal disorders (see Table 29; based on the Elixhauser Comorbidity Index). In contrast, PEH who were uninsured (self-pay) and those who were not residents of Illinois had far fewer total hospital visits over the seven-year period. These data support the hypothesis that hospital utilization increases during periods of unstable housing, particularly among those with chronic health conditions.

Table 29:
Major Comorbidities* Stratified by Number of Total ED Visits and Admissions Among People Experiencing Homelessness Treated in Illinois Hospitals, 2017-2023

	1 to 5 visits (Lower Quartile)	6 to 14 visits (Second Quartile)	15 to 28 visits (Third Quartile)	29 to 75 visits (Upper Quartile, exc. Extreme outliers)	76 or more visits (Extreme outliers)
Mean Number of Comorbidities	2.0 (sd=1.8)	2.7 (sd=2.0)	3.1 (sd=2.1)	3.6 (sd=2.1)	3.9 (sd=2.1)
Percent with 3+ Comorbidities	33.0%	47.5%	56.9%	65.7%	73.1%
Type of Comorbidity					
Congestive Heart Failure	3.6%	6.4%	9.0%	10.8%	11.5%
Cardiac Arrhythmia	7.5%	10.1%	11.9%	13.2%	13.7%
Valvular Heart Disease	1.0%	1.5%	1.9%	2.3%	1.9%
Pulmonary Circulation Disorders	1.3%	1.9%	2.3%	2.5%	2.5%
Peripheral Vascular Disorders	1.1%	2.0%	2.5%	2.8%	3.3%
Hypertension Uncomplicated	16.4%	21.6%	25.6%	28.9%	34.0%
Hypertension Complicated	3.9%	7.3%	10.4%	12.9%	14.1%
Paralysis	0.6%	0.9%	1.1%	1.2%	1.2%
Other Neurological Disorders	6.8%	9.4%	11.9%	16.1%	20.6%
Chronic Pulmonary Disease	10.7%	15.9%	22.4%	28.3%	34.7%
Diabetes Uncomplicated	4.7%	6.1%	7.0%	9.0%	11.0%
Diabetes Complicated	4.0%	5.7%	7.6%	9.9%	11.2%
Hypothyroidism	2.0%	3.1%	4.2%	5.5%	5.6%
Renal Failure	2.6%	4.9%	6.6%	8.9%	9.0%
Liver Disease	4.4%	5.5%	6.8%	8.1%	9.4%
Peptic Ulcer Disease excluding bleeding	0.3%	0.5%	0.6%	0.9%	0.9%
AIDS/HIV	0.7%	0.9%	1.3%	1.2%	1.3%
Lymphoma	0.1%	0.2%	0.3%	0.3%	0.1%
Metastatic Cancer	0.7%	1.2%	1.4%	1.4%	0.7%
Solid Tumor without Metastasis	1.0%	1.9%	2.6%	2.6%	1.7%
Rheumatoid Arthritis/collagen	0.5%	0.8%	0.9%	1.6%	1.2%
Coagulopathy	3.4%	4.3%	4.9%	5.7%	6.1%
Obesity	5.8%	9.4%	11.7%	14.4%	15.9%
Weight Loss	3.9%	5.3%	5.8%	6.0%	5.8%
Fluid and Electrolyte Disorders	15.9%	20.6%	23.6%	26.2%	26.8%
Blood Loss Anemia	0.2%	0.3%	0.3%	0.3%	0.3%
Deficiency Anemia	3.0%	3.8%	4.1%	4.9%	6.0%
Alcohol Abuse	20.1%	22.7%	23.2%	25.4%	29.3%
Drug Abuse	29.3%	39.0%	42.7%	42.2%	41.9%
Psychoses	19.5%	23.6%	26.5%	30.5%	37.3%
Depression	23.9%	30.1%	31.8%	32.0%	31.4%

*Comorbidities are based on the Elixhauser Comorbidity Index

9.3 Drug-Related Overdoses and Deaths

The pharmaceutical agents identified on the death certificates were analyzed. However, not all decedents had an autopsy, and the type of toxicological screening available varied widely by jurisdiction, which impacted the level of detail reported on death certificates. Over the seven years, 39.3% (n=1,177) of PEH and 4.9% (n=38,690) of the general population decedents tested positive for drugs associated with substance use disorders. This was consistent with research showing that the prevalence of substance use disorders and risk of drug-related overdose were elevated among PEH (Nyamathi 2000; Levitt 2009; Roy 2010; Nielsen 2011; Vila-Rodriguez 2013; Bennett 2019). Of those testing positive for drugs associated with substance use disorders, 16.6% of PEH tested positive for three or more substances as compared to only 1.2% of the general population decedents. Table 30 enumerates polydrug exposures in decedents.

Table 30:
Number of Drugs Associated with Substance Use Disorders Noted in Toxicology Screening on Illinois Death Records, 2017-2023 - People Experiencing Homelessness Compared to All Other Deaths Occurring in Illinois

Number of Drugs Associated with Substance Use Disorders Noted in Toxicology Screen	PEH Deaths Statewide (N=2,996)		All Other Deaths Statewide (N=796,007)	
None	1,819	60.7%	757,317	95.1%
1	410	13.7%	22,575	2.8%
2	270	9.0%	6,694	0.8%
3	237	7.9%	4,901	0.6%
4 or more	260	8.7%	4,520	0.6%

Table 31 presents the distribution of substances identified through toxicological screening of decedents. Among PEH, the most common agents identified on the toxicology screens were fentanyl analogs, alcohol, cocaine, and heroin. Of those testing positive for any opioid (n=842), 312 (37.1%) also tested positive for at least one other agent known to increase the risk of respiratory depression or sedation when taken in combination with an opioid. By comparison with the general population, of those testing positive for any opioid (n=18,806), 35.5% (n=6,668) also tested positive for at least one other agent known to increase the risk of respiratory depression or general sedation. There were 341 PEH decedents who tested positive to drugs associated with substance use disorders but did not test positive for any opioid. These decedents primarily tested positive for alcohol (n=261) or cocaine (n=78). Compared to PEH decedents who tested negative to any drugs, these PEH decedents who primarily had exposures to alcohol or cocaine, but no opioids, disproportionately died from liver disease (17.6% vs 6.6%), excessive cold (10.0% vs 2.5%) and were disproportionately male (87.4% vs 75.0%), non-Hispanic Whites (55.7% vs 46.3%), Hispanics or Latinos (15.0% vs 6.8%), and born outside of the U.S. (14.4% vs 7.9%).

Table 31:
Positive Toxicology Screening for Drugs Associated with Substance Use Disorders Based on Illinois Death Records, 2017-2023 - People Experiencing Homelessness Compared to All Other Deaths Occurring in Illinois

	PEH Deaths Statewide (N=2,996)		All Other Deaths Statewide (N=796,007)	
Drugs associated with substance use disorders*	1,177	39.3%	38,690	4.9%
Alcohol	464	15.5%	20,752	2.6%
Opioids	842	28.1%	18,806	2.4%
Fentanyl Analogs and Precursors	734	24.5%	15,096	1.9%
Heroin	283	9.4%	6,129	0.8%
Methadone	45	1.5%	1,191	0.1%
Unspecified Opioids	123	4.1%	4,359	0.5%
Stimulants	499	16.7%	11,273	1.4%
Amphetamine	74	2.5%	3,023	0.4%
Cocaine	443	14.8%	8,552	1.1%
Methylphenidate	0	0.0%	12	0.0%
Other Stimulants	6	0.2%	396	0.0%
Sedative-Hypnotics and Anxiolytics	162	5.4%	4,921	0.6%
Barbiturates	7	0.2%	125	0.0%
Benzodiazepines	85	2.8%	3,655	0.5%
Other (including Gabapentin and Xylazine)	85	2.8%	1,830	0.2%
Cannabinoids	2	0.1%	165	0.0%
Other Hallucinogens (including Ketamine, PCP, LSD, MDA, MDMA)	14	0.5%	673	0.1%
Inhalants and Other Volatile Solvents	14	0.5%	14	0.0%
Muscle Relaxants and Related Drugs	5	0.2%	394	0.0%
Other Polysubstance Use	1	0.0%	8	0.0%

Compared to PEH decedents testing negative to drugs associated with substance use disorders, PEH testing positive for drugs associated with substance use disorders died at a younger age (mean age: 47.3 vs 59.8 years), and PEH testing positive for opioids disproportionately died between the ages of 18 and 44 years (71.3% vs 25.4%). In addition, decedents testing positive for any drug associated with substance use disorders were more likely to die outdoors (25.7% vs 15.7%), in an emergency shelter, hotel, or motel (10.2% vs 2.6%); or in a residence of a family member or friend (6.6% vs 1.5%).

There were 57 PEH who tested positive for xylazine and 721 people testing positive for xylazine in the general population of decedents. The proportion of drug-related overdoses involving xylazine steadily increased from 2017 when there were no PEH decedents testing positive for xylazine to 9.6% of all drug-related PEH deaths in 2023. None of the decedents tested positive for xylazine alone. All of the PEH decedents testing positive for xylazine also tested positive for fentanyl. In addition, 93% of these individuals tested positive for at least one additional substance in combination with xylazine and fentanyl.

A detailed table of the reported toxicology findings by IDPH regions is available in Appendix B.

The increase in the number of deaths involving PEH prior to 2022 has been driven in part by an increase in the number of drug-related overdose deaths. Over the seven years, PEH drug-related overdose deaths increased by 1.0% per month ($p<0.001$). In contrast, all PEH deaths not involving drug-related overdoses increased by 0.4% per month ($p<0.001$) between 2017 and 2023, after controlling for the COVID-19 pandemic. This was driven by a precipitous increase in fentanyl-related overdoses that were more potent than other opioids, such as heroin (fentanyl-involved deaths increased by 1.6% per month; $p<0.001$; see Figure 5) although the proportion of PEH decedents with fentanyl as a contributing cause of death has plateaued in 2023. Figure 6 shows the decline in drug-related overdoses between 2017-2023 involving heroin out of all opioid-involved deaths. Both figures 5 and 6 illustrate the shift from lesser potent to more potent opioids between 2017 and 2023.

Figure 5:
Percent of People Experiencing Homelessness with Fentanyl Identified as a Contributing Cause of Death Based on Illinois Death Records, 2017-2023

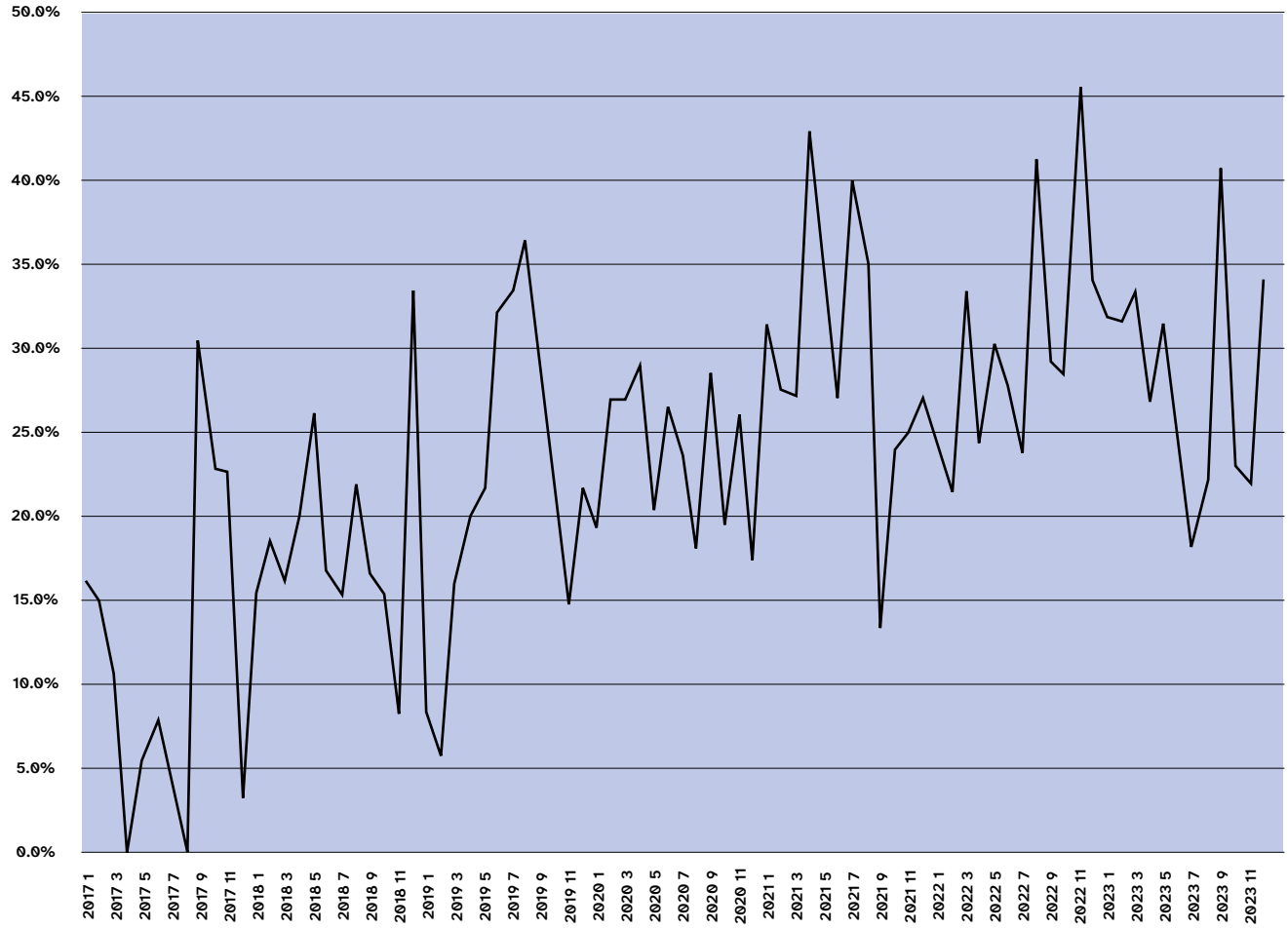
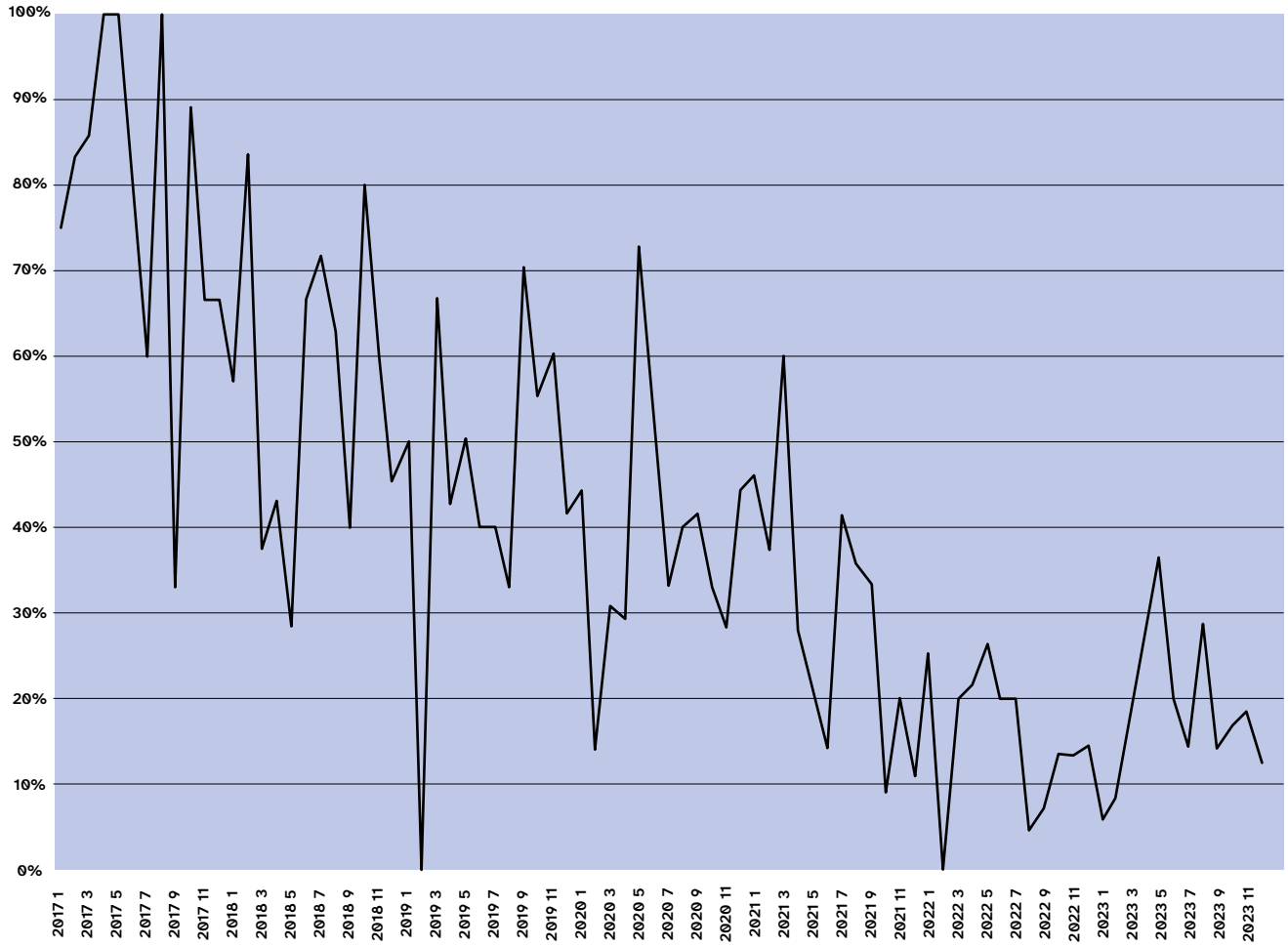


Figure 6:
Percent of Opioid Positive Toxicology Screens that Tested Positive for Heroin Alone Among People Experiencing Homelessness Based on Illinois Death Records, 2017-2023



Technical Explanation

The toxicology findings show that PEH decedents in Chicago have the highest proportion testing positive for fentanyl analogs and/or heroin. While the death certificates indicate there are more drug-related deaths in Cook County, it may in part be explained by different resources available across jurisdictions. Some jurisdictions have greater resources to conduct autopsies and comprehensive toxicology testing. As a demonstration, only 11.0% of PEH decedents with drug-related overdoses did not have an autopsy in Cook County, while in other public health regions, as much as 45.2% of PEH decedents involving drug-related overdoses did not have an autopsy. The role of drug-involved overdoses may be undercounted in some regions.

9.4 Severe Mental Illness (Morbidity only)

Severe mental illness was identified using the diagnosis code for schizophrenia, schizotypal disorder, delusional disorder, schizoaffective disorder, other nonorganic psychotic disorder, unspecified nonorganic psychosis, manic episode, bipolar affective disorder, severe major depression without psychosis, major depression with psychosis, dissociative identity disorder, and depersonalization-derealization syndrome. There were 306,672 visits identified with a diagnosis of severe mental illness, and these were far more likely to be coded for homelessness (22.5%) and be for an admission (60.1%). These visits were more likely to be for males (71.7%), Black or African Americans 53.1%), and less likely to be discharged to home or self-care (72.4%). Over half of the visits presented 3 or more comorbidities, and these visits accounted for 6,513 suicide and 3,195 assault cases.

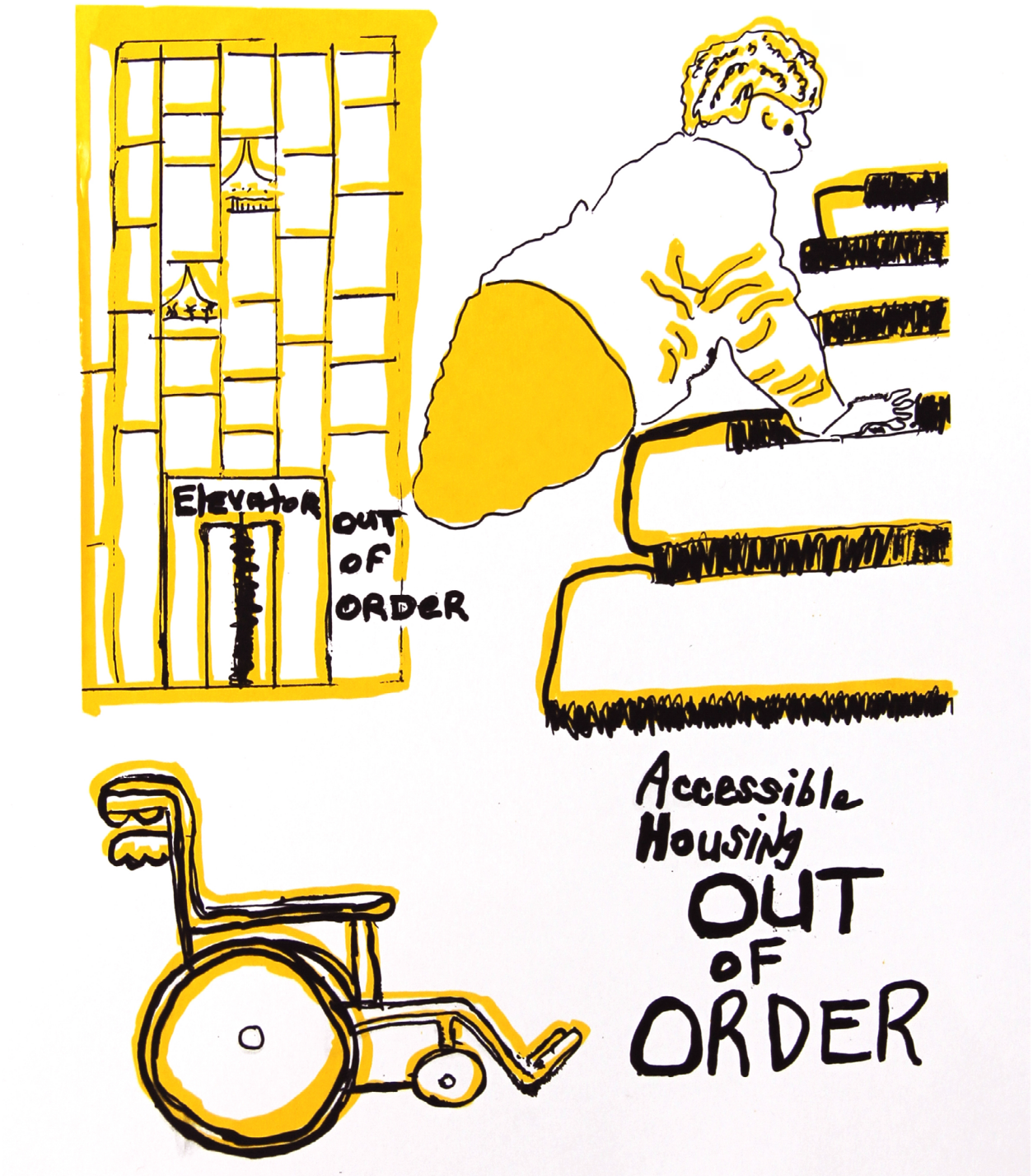
9.5 Traumatic Injuries

9.5.1 GENERAL TRAUMATIC INJURIES

The most common causes of fatal traumatic injury among PEH decedents were homicides (n=93; 3.1%), transportation-related incidents in which PEH were primarily injured as pedestrian roadway users (n=63 pedestrian-related incidents, out of 86 transportation-related deaths; includes only persons suffering traumatic injuries related to being struck by, falling out of a vehicle/train), suicides (n=56; 1.9%), falls (n=39; 1.3%), and drowning (n=36; 1.2%). Only eight of the decedents who drowned tested positive for a drug associated with substance use disorders, and the intent could not be determined in over half of the drownings (n=20; 55.6%).

The remainder of the drowning-related deaths were determined to be accidental. There were also three electrical-related deaths, all of which involved contact with the electrified rail on Chicago Transit Authority tracks. A total of 24 PEH also died from exposure to gases, fumes, and vapors, of whom 10 died from carbon monoxide poisoning.

Table 32 describes primarily non-fatal injuries suffered by PEH treated in Illinois hospitals, including the intent and general cause. Approximately 15% of visits were injuries, varying by type (ED visits vs admissions) of visit and the presence of coding for homelessness. The majority were classified as accidental injuries. The most common causes of injury include (Table 32): poisoning (including non-drug poisoning), falls, assaults or homicides, temperature-related injury, and transportation incidents, including motor vehicle crashes. Transportation incidents most often involved pedestrians and bicyclists being struck. This was similar to other findings related to injuries in PEH (Silver 2024) and the pattern observed in the mortality data.



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Table 32:
Injuries of People Experiencing Homelessness Treated in Illinois Hospitals by Visit, 2017-2023

	Admissions Coded with Z59 (N=102,447)		Other Admissions (N=322,029)		ED Visits Coded with Z59 (N=116,787)		Other ED Visits (N=1,282,741)		Total (N=1,824,004)	
Intent of Injury (includes traumatic injury and poisoning)										
Accidental	16,924	16.5%	49,697	15.4%	13,721	11.7%	176,522	13.8%	256,864	14.1%
Assault	1,362	1.3%	2,976	0.9%	2,509	2.1%	30,361	2.4%	37,208	2.0%
Self-Harm/Suicide	2,819	2.8%	7,689	2.4%	736	0.6%	8,407	0.7%	19,651	1.1%
Undetermined intent	114	0.1%	270	0.1%	41	0.0%	598	0.0%	1,023	0.1%
Not an injury case (illness case)	81,228	79.3%	261,397	81.2%	99,780	85.4%	1,066,853	83.2%	1,509,258	82.7%
Cause of Injury (includes traumatic injury and poisoning)										
Accidental explosion	8	0.0%	19	0.0%	4	0.0%	66	0.0%	97	0.0%
Animals- bite or contact with	154	0.2%	271	0.1%	344	0.3%	3,260	0.3%	4,029	0.2%
Assault or homicide, including firearms	1,049	1.0%	2,353	0.7%	1,871	1.6%	24,210	1.9%	29,483	1.6%
Contact with non-powered hand tool	2	0.0%	5	0.0%	4	0.0%	203	0.0%	214	0.0%
Cut or piercing instrument	156	0.2%	366	0.1%	179	0.2%	5,659	0.4%	6,360	0.3%
Drowning	0	0.0%	3	0.0%	1	0.0%	1	0.0%	5	0.0%
Electric current	5	0.0%	11	0.0%	7	0.0%	75	0.0%	98	0.0%
Ergonomic and motion-related hazards	41	0.0%	83	0.0%	215	0.2%	5,105	0.4%	5,444	0.3%
Exposure to other inanimate mechanical forces, including constriction by hair, rubber band, jewelry	4	0.0%	7	0.0%	6	0.0%	131	0.0%	148	0.0%
Falls - slips, trips, at level, one level to another	2,163	2.1%	6,730	2.1%	2,361	2.0%	36,437	2.8%	47,691	2.6%
Firearm - undetermined intent firearm discharge	5	0.0%	24	0.0%	1	0.0%	37	0.0%	67	0.0%
Firearm - non assault cases	83	0.1%	350	0.1%	48	0.0%	662	0.1%	1,143	0.1%
Heat sources, including smoke, jumping out of burning structure, or hit by falling debris	122	0.1%	331	0.1%	112	0.1%	1,506	0.1%	2,071	0.1%
Legal intervention	20	0.0%	33	0.0%	26	0.0%	622	0.0%	701	0.0%
Machinery	3	0.0%	28	0.0%	4	0.0%	443	0.0%	478	0.0%
Medical error	890	0.9%	4,417	1.4%	113	0.1%	1,792	0.1%	7,212	0.4%
Nature or environment - cataclysmic storms, tornadoes, earthquakes, volcano, avalanche, floods	0	0.0%	0	0.0%	1	0.0%	2	0.0%	3	0.0%
Nature or environment - exposure to sunlight	1	0.0%	1	0.0%	7	0.0%	16	0.0%	25	0.0%
Poisoning*	8,650	8.4%	25,451	7.9%	2,746	2.4%	37,556	2.9%	74,403	4.1%
Radiation, including ionizing, radon, UV, non-ionizing	1	0.0%	2	0.0%	6	0.0%	10	0.0%	19	0.0%
Struck by or against or caught, crushed, jammed, or pinched in or between objects	213	0.2%	579	0.2%	451	0.4%	12,083	0.9%	13,326	0.7%
Suicide, including poisoning and firearms	710	0.7%	1,969	0.6%	213	0.2%	2,991	0.2%	5,883	0.3%
Temperature-related injury	1,178	1.1%	846	0.3%	1,646	1.4%	2,574	0.2%	6,244	0.3%
Transportation incident, including motor vehicle collisions	647	0.6%	1,842	0.6%	505	0.4%	11,015	0.9%	14,009	0.8%
No injury or unspecified means of injury	85,149	83.1%	273,399	84.9%	103,603	88.7%	1,112,791	86.8%	1,574,942	86.3%

* Poisoning includes exposures to pharmaceutical and non-pharmaceutical agents, in addition to drug-related overdoses

9.5.2 ASSAULTS

Past studies have shown that PEH experience a higher prevalence of assault-related injuries (Nyamathi 2000; Stenius-Ayoade 2017; Cawley 2022; Fine 2023). In the current study, people experiencing homelessness were almost three times more likely to be murdered compared to the general population of Illinois (3.1% vs 1.1%). Most PEH homicide victims were assaulted with firearms (46.2%), sharp objects (16.1%), blunt or bodily force (14.0%), and strangulation (5.4%). Compared to all PEH deaths, PEH who were murdered were disproportionately 44 years or younger (50.5% vs 21.8%), non-Hispanic Black (57.0% vs 39.5%), and born in Illinois (61.3% vs 49.4%). However, a larger proportion of PEH victims of homicide had a family member who was the key informant on the death certificate (77.4% vs 64.9%). Only 7.5% (n=7) of PEH who were murdered tested positive for drugs associated with substance use disorders, and three of them were determined to be intentionally poisoned.

Importantly, there were 37,208 visits from non-fatal assaults treated in Illinois hospitals within the seven-year period. These visits were most commonly in the ED (88.3%) and involved males (61.7%), 25–44-year-olds (50.6%), and Black African Americans (45.8%). Assaults most commonly involved bodily force (58.3%), and occurred at a derelict or abandoned house (4.6%).

9.5.3 SUICIDE AND SUICIDE ATTEMPTS

There were 56 suicides involving PEH identified in the death records, most commonly by hanging or strangulation (n=23), poisoning (n=13), hit by train or vehicle (n=6), or a firearm (n=6). Compared to PEH decedents who did not die from suicide, PEH who died from suicide disproportionately involved people between the ages of 18-44 years (62.5% vs. 20.3%), females (28.6% vs 22.0%), non-Hispanic Whites (69.6% vs 46.3%), and Hispanics or Latinos (14.3% vs 8.7%). Compared to all other PEH deaths, suicides involving PEH disproportionately occurred in rural regions of Illinois (14.3% vs 5.0%) and was substantially lower in Chicago (37.5% vs 58.8%), also suicides disproportionately occurred in emergency shelters or hotels/motels (10.8% vs 5.5%), in outdoor settings (32.1% vs 19.4%) or at a residence of a family or friend (8.9% vs 3.4%). Corresponding with the younger age of PEH who died from suicide, a disproportionate number had a parent as the informant on the death certificate (46.4% vs 15.3%). Only 16.1% of PEH who committed suicide tested positive for drugs associated with substance use disorders.

Importantly, there were 19,002 visits from suicide attempts within the seven-year period. Following a suicide attempt, it is standard protocol to either admit the patient or transfer the patient to a psychiatric facility to comprehensively assess the continued risk of self-harm. These visits were commonly admitted (55.5%) and coded for homelessness (18.7%). Visits most commonly involved males (59.8%), 25–44-year-olds (50.1%), and non-Hispanic Whites (61.0%). Nearly 5% of suicide attempts were in children under the age of 18. Suicide attempts most often involved poisoning (57.6%), followed by cutting or piercing instruments (20.1%).

9.6 Cold-Related Injuries

Over the seven years, 112 PEH had cold exposure identified as a contributing cause of death. Compared to the general population decedents, PEH decedents disproportionately died from cold-related injuries (3.7% vs 0.1%). The majority of PEH who died from excessive cold tested positive for a drug associated with substance use disorders (n=67; 59.8%). By comparison, only 38.5% of all other deaths involving PEH tested positive for a drug associated with substance use disorders. Comparing cold-related deaths involving PEH with all other PEH decedents, those dying from cold-related injuries disproportionately tested positive for alcohol (38.4% vs 14.6%) and, despite almost the same proportion tested positive for opioids (29.5% vs 28.1%), cold-related deaths were more likely to also test positive for at least one additional drug that is a known respiratory depressant or a sedative that can increase the risk of death when taken at the same time as an opioid (42.0% vs 18.5%). Cold-related deaths disproportionately had the following additional contributing causes of death compared to all other PEH decedents: nutritional deficiencies (4.5% vs 0.5%), hypertension (20.5% vs 12.6%), and arteriosclerosis (15.2% vs 8.1%). The majority of PEH who died from cold-related injuries were found deceased in an outdoor setting (65.2%; forests, parks, urban outdoor settings, abandoned buildings), which was much higher than the proportion observed among all other PEH decedents (17.9%). The remainder of cold-related deaths occurred in a hospital (n=31), an unknown residence (n=7), or a hotel/motel (n=1). Almost all cold-related deaths occurred in the IDPH Westchester Region (92.0% in the greater metropolitan Chicago area). Two of the cold-related deaths involved homicides: one involved an individual left outside naked in a duffel bag, and the other involved a person who was locked in a rental storage unit.

When compared to all deaths involving PEH, cold-related deaths disproportionately involved males (91.1% vs 76.7%), people between the ages of 45 and 64 years (65.2% vs 50.1%), and non-Hispanic Whites (54.5% vs 46.4%). Only 22.3% of PEH who died from cold-related injuries were born in Illinois, compared to 50.9% of all other PEH who died during this period. In addition, only 38.4% of PEH who died from cold-related injuries had a family member who was the key informant for providing personal information about the decedent to the individual completing the death certificate (compared to 66.3% among all other PEH-involved deaths).

The hospital data showed a very similar pattern relating to cold injuries among PEH. Over the seven years, there were 6,930 hospital visits to treat cold-related injuries among PEH, of which 1,674 involved hypothermia and 2,864 involved frostbite. When compared to all other hospital visits involving PEH, PEH with cold injuries were far more likely to be coded as homeless by medical staff during the visit (Z59; 47.0% vs 11.9%). Similar to the mortality data, PEH suffering cold injuries who were treated in a hospital were disproportionately male (compared to all other PEH related hospital visits; 82.1% vs 65.9%), 55 years and older (38.5% vs 27.7%), less likely to be an Illinois resident (91.5% vs 96.0%), and had the following comorbidities: cardiovascular disease (42.0% vs 35.8%), liver disease (4.3% vs 2.8%), weight loss (4.5% vs 1.2%), fluid and electrolyte disorders (17.9% vs 7.4%), anemia (3.5% vs 1.4%), and alcohol use disorder

(23.2% vs 16.5%). PEH with cold injuries were also disproportionately discharged to a nursing home (7.7% vs 2.4%) and more costly in terms of average total hospital charges ($25,737 vs $11,721).

Table 33 presents the distribution of cold-related deaths by wind chill temperature (°F; Fahrenheit) on the day of injury. Cold-related injuries occurred at a median low wind chill temperature of 19.0°F (intra-quartile range of 7.9 to 26.9°F), and non-fatal cold-related injuries occurred at a median of 16.6°F (intra-quartile range of -1.6 to 27.8°F). For cold injuries, 10.7% of deaths (n=12) and 19.3% of non-fatal injuries (n=1,336) occurred when minimum daily wind chill temperatures were above 32°F. The findings demonstrate that a proportion of fatal and non-fatal cold injuries occur at temperatures when many municipalities do not have expanded emergency shelter services for extreme cold weather (typically below 32°F).

Table 33:
Distribution of Cold-Related Deaths and Non-Fatal Injuries Treated in Hospitals Among People Experiencing Homelessness by Wind Chill Temperature (°F) on the Day of Injury, 2017-2023

	Less than 0°F		0 to 15.9°F		16 to 31.9°F		32 to 45.9°F		46°F or higher	
Cold-Related Injuries Resulting in Death	15	13.4%	25	22.3%	60	53.6%	11	9.8%	1	0.9%
Cold-Related Injuries Treated in Hospitals	1836	26.5%	1564	22.6%	2194	31.7%	707	10.2%	629	9.1%
Hypothermia	281	16.8%	357	21.3%	588	35.1%	233	13.9%	215	12.8%
Frostbite	1037	36.2%	700	24.4%	818	28.6%	204	7.1%	105	3.7%
Other Health Effects	518	21.7%	507	21.2%	788	32.9%	270	11.3%	309	12.9%

The characteristics of PEH dying from cold-related injuries correlate with several known risk factors such as (1) the aging process and underlying medical conditions that impact thermoregulation, which increases the risk of cold-related cardiovascular dysfunction, and the ability to recover from hypothermia; (2) exposures to alcohol and other drugs that increase vasoconstriction on the skin, resulting in feeling warm but a reduction in core temperature; (3) a subgroup of PEH who move to Illinois who may have a greater difficulty acclimating to cold temperatures or do not have adequate cold-weather clothing; and (4) a possibly higher degree of inadequate social support and corresponding lack of intermittent access to a temporary shelter with family or friends during very cold weather events.

10 Additional Hospital Measures (Morbidity Only)

10.1 Severity Measures and Cost of Care

Table 34 describes various measures used as proxies for the severity of health conditions and healthcare burden. The majority of visits were for emergent care (77.7%) or urgent care (6.4%), with only 11.3% related to elective health care services. Elective visits generally involve two pathways: a planned visit to the ED to undergo diagnostic procedures, investigations, and treatment without hospital admission (including ambulatory surgeries) or a planned visit to the hospital for admission (including planned surgeries and drug treatment programs). For admissions, the median length of stay in the hospital was five days, with half of visits falling within 3-7 days and requiring mechanical ventilation in 13,919 (3.3%) of admissions.

The total hospital charges for people experiencing homelessness utilizing Illinois hospitals were $22,349,173,835.00 for 2017- 2023 (in 2020 U.S. dollars). The median bill per visit was just over $20,000 for admissions and $2,500 for ED visits, regardless of the Z59 code.

10.2 Discharge Status

The majority of discharges across visit categories were to home or self-care. This was slightly higher in visits coded with Z59 for both admissions and ED visits. For PEH, discharges to “home” or “self-care” often result in barriers to appropriate continued care or treatment, as amenities available to support this for stably housed individuals were often not available (ability to store medications properly, take medications as directed, maintain a relationship with a primary care provider, etc.).

Discharge to another health care facility was far more likely to occur for patients who were admitted because of the additional complications and condition severity, as well as discharges to continued psychiatric care for those who attempted suicide. Approximately 5% of visits resulted in the person leaving against medical advice, which was slightly higher in visits without a Z59 code for both admissions and ED visits. A total of 4,675 (0.3%) visits involved patients dying or being discharged to hospice care. These outcomes were more common following a hospital admission.

Table 34:
Severity Measures and Discharge Status of People Experiencing Homelessness Treated in Illinois Hospitals by Visit, 2017-2023

	Admissions Coded with Z59 (N=102,447)		Other Admissions (N=322,029)		ED Visits Coded with Z59 (N=116,787)		Other ED Visits (N=1,282,741)		Total (N=1,824,004)	
Admission Type										
Elective	11,447	11.2%	40,287	12.5%	1,519	1.3%	152,771	11.9%	206,024	11.3%
Emergency	71,013	69.3%	215,034	66.8%	105,051	90.0%	1,026,570	80.0%	1,417,668	77.7%
Trauma Center	671	0.7%	2,427	0.8%	189	0.2%	2,794	0.2%	6,081	0.3%
Urgent Care	19,059	18.6%	63,706	19.8%	1,994	1.7%	31,419	2.4%	116,178	6.4%
Newborn	86	0.1%	219	0.1%	0	0.0%	0	0.0%	305	0.0%
Unknown	171	0.2%	356	0.1%	8,034	6.9%	69,187	5.4%	77,748	4.3%
Hospital Treatment										
Treated in a facility with a Level 1 or 2 trauma unit	40,117	39.2%	114,400	35.5%	63,344	54.2%	601,258	46.9%	819,119	44.9%
Median days in hospital (IQR)	5.0	3.0-8.0	5.0	3.0-7.0	NA	NA	NA	NA	5.0	3.0-7.0
Required mechanical ventilation	2,267	2.2%	11,652	3.6%	0	0.0%	0	0.0%	13,919	0.8%
Underwent surgical intervention	7,347	7.2%	33,189	10.3%	907	0.8%	40,817	3.2%	82,260	4.5%
Median hospital charges (IQR)	$20,311.20	$12600.67-$35,811.56	$20,157.74	$11,954.35-$37,014.88	$2,566.18	$1,151.40-$5,829.86	$2,884.89	$1,226.73-$6,061.09	$4,436.82	$1,608.54-$11,743.89
Discharge Status										
Routine Discharge (Home/Home Health/Home Care Services)	77,884	76.0%	236,893	73.6%	102,020	87.4%	1,103,439	86.0%	1,520,236	83.3%
Discharge to Another Health Care Facility	15,123	14.8%	51,871	16.1%	3,487	3.0%	42,993	3.4%	113,474	6.2%
Discharge to a Psychiatric Facility	3059	3.0%	8,102	2.5%	6,806	5.8%	66,570	5.2%	84,537	4.6%
Discharged to Court / Law Enforcement	403	0.4%	1,538	0.5%	363	0.3%	9,060	0.7%	11,364	0.6%
Expired	342	0.3%	1,888	0.6%	47	0.0%	900	0.1%	3,177	0.2%
Discharged to Hospice Care at Home or Medical Facility	199	0.2%	995	0.3%	28	0.0%	276	0.0%	1,498	0.1%
Left Against Medical Advice	5,419	5.3%	20,607	6.4%	4,031	3.5%	59,467	4.6%	89,524	4.9%
Other/Unspecified	18	0.0%	135	0.0%	5	0.0%	36	0.0%	194	0.0%

11 Recommendations

11.1 Data Improvement Strategies

11.1.1 WORK TO ENHANCE THE IDENTIFICATION AND DOCUMENTATION OF INDIVIDUALS EXPERIENCING HOMELESSNESS WITHIN HEALTHCARE SETTINGS

It is important to improve the consistent identification and documentation of people experiencing homelessness (PEH) to advance health equity. Significantly increasing the use of ICD-10, Z codes help to identify housing instability and increases the effectiveness of treating root causes of poor health. Standardized practices support continuity of care and improve coordination. Accurate and consistent data also enhances public health surveillance and trend monitoring, supports discharge planning, referrals to social services, and informs resource investments and allocation.

- Conduct a literature review of Z-code utilization among healthcare providers.
- Develop a strategy to increase awareness, knowledge, and understanding about the importance of social determinants of health and documentation of Z-codes in the medical record.

11.1.2 INTEGRATE BROADER DATA SOURCES TO ENRICH UNDERSTANDING OF HOMELESSNESS DEMOGRAPHICS AND SERVICE UTILIZATION

Integrating data from across sectors is critical to developing a better understanding of who is experiencing homelessness. Broader data improves the total denominator, enhances collaboration, and strengthens the ability to monitor service utilization. Ultimately, it gives policymakers and providers the insights needed to design more effective, coordinated, and responsive interventions.

- Leverage already existent systems of data within IDPH like Emergency Medical Services (EMS) data.
- Advance the creation of a statewide Homelessness Data Warehouse.
- Explore ways to learn more from the Healthcare for the Homeless service providers to expand data sources.
- Map out additional data sources to incorporate into future reports, as it could enhance understanding of demographics and resource utilization among the population.

11.1.3 EVALUATE THE FEASIBILITY OF ESTABLISHING A MORTALITY REVIEW BOARD FOR INDIVIDUALS EXPERIENCING HOMELESSNESS

Establishing an Illinois Homeless Mortality Review Board (IHMRB) would create a structured and comprehensive process to review deaths among people experiencing homelessness, with the goal of identifying preventable factors and informing system-level improvements. Modeled after successful efforts such as the Illinois Maternal Mortality Review Committee and the Overdose Fatality Review Board that is in development, an IHMRB could bring together a wide range of stakeholders to examine deaths, observe patterns, and guide strategies to prevent premature deaths among people experiencing homelessness.

- Conduct a national review of existing mortality review committees to identify best practices and frameworks that can be adapted locally.
- Engage with the Illinois Maternal Mortality Review Committee, and in development, the Overdose Fatality Review Board where possible, to learn and understand the process to developing and organizing a similar committee structure.

11.1.4 CONDUCT A STATEWIDE WARMING CENTER ACCESS ASSESSMENT

A comprehensive assessment of warming center access across the state is essential to preventing injuries and deaths associated with extreme weather among unsheltered populations. This assessment should analyze extreme weather-related morbidity and mortality in relation to the location and availability of warming centers, aiming to identify geographic and service delivery gaps. It is also important to evaluate actual utilization patterns of existing warming centers to understand barriers to access and its effectiveness. The findings should inform the strategic development of physical infrastructure and supportive services, to ensure that life-saving resources are available where and when they are most needed.

- Review and analyze cold weather-related injury and death locations relative to warming center locations throughout the state.
- Organize a process to collect utilization data of warming centers listed as access points.
- Identify geographic service deserts and gaps to inform the potential development of physical infrastructure to prevent cold weather-related injuries and deaths among unsheltered populations.
- Obtain and review 311/211 data to learn more about the location, volume and frequency of requests for shelter and housing related services.

11.1.5 EXPLORE OPPORTUNITIES TO GATHER HOUSING STATUS AT DEATH

A limited but growing number of states track the number of people who die while experiencing homelessness. Understanding the impact that social determinants of health, particularly housing instability, has on premature death is critical to highlighting the disparity between housed and unhoused populations. This also allows public health systems to identify trends in causes and circumstances of death and establishes an efficient data tracking system to better inform policy, and prevention and intervention strategies.

- Explore and review how other states are tracking homelessness at time of death.
- Work to understand specifically how other states address privacy and inaccurate data concerns.

11.2 Provider Engagement Strategy

11.2.1 DEVELOP AND IMPLEMENT A PROVIDER ENGAGEMENT STRATEGY

To improve healthcare responsiveness and reduce stigma involving people facing housing insecurity, there should be efforts to expand learning opportunities to help build capacity in clinical settings to improve responsiveness and reduce stigma in healthcare delivery. Utilizing pathways like grand rounds and webinars could help target and engage providers. Applying data from the IHMMR, while highlighting content related to implicit bias, and trauma informed care, could strengthen discharge planning practices when providing care for people experiencing homelessness. To reach a broader audience, IDPH could support a continuing education course/module that would educate providers, nurses and social workers about housing insecurity, homelessness and what services are available outside of the hospital settings. The use of pre- and post- data surveys could help demonstrate the impact of this course.

- Develop a partnership with an academic institution to develop and implement this course.
- Develop pre- and post-engagement surveys to assess attendees' understanding of homelessness and housing insecurity, and how these issues affect patients.
- Explore opportunities to engage students in health professions in training focused on homelessness and effective healthcare delivery for unhoused populations.

12 Conclusion

Building on existing research, this report documents severe health inequities between people experiencing homelessness in Illinois and other residents. This population experiences a high burden of mortality and morbidity, specifically related to life expectancy, the burden of chronic disease, accidental and violent injury victimization, substance use, and cold- and heat-related mortality. Through research into morbidity and mortality data, the goal was to shine a light on opportunities to improve systems of care for people experiencing homelessness in the state. It is important to understand that homelessness is not inevitable, but rather is driven by structural forces, such as housing costs and gaps in safety net programs. Therefore, efforts to improve the health of people experiencing homelessness should seek both to strengthen systems of care for PEH and to change the conditions that drive housing instability and homelessness. As advocates and practitioners have long understood, housing is a health-promoting intervention. The IDPH and the University of Illinois Chicago School of Public Health look forward to working with partners to build and act on this report.

13 Appendix A: Glossary and Abbreviations

adjusted rate: A statistically modified rate that accounts for factors like age or gender. Adjusted rates allow groups to be compared more fairly without the factor influencing the rate. For example, if a city has a high proportion of older adults (who presumably experience illness more frequently), then illness rates adjusted by age can be used to compare them more evenly with rates from a city with a younger population.

admission: The formal process of accepting a person into a hospital or healthcare facility for treatment, usually involving the start of an inpatient stay.

American Community Survey (ACS): An ongoing survey by the U.S. Census Bureau that gathers detailed information about the population's social, economic, housing, and demographic characteristics. The ACS is conducted every year and helps local governments, researchers, and policymakers make data-driven decisions, such as for hospital, school, or transportation planning.

analysis: The process of carefully examining data or information to find patterns, answers, or conclusions.

causation/causal: When one factor directly leads to a difference in another factor, such as smoking causing lung disease. Of note, causation (direct influence) differs from correlation (two things happening together without one influencing the other). Research is typically necessary to determine whether a result is due to causation or correlation.

comorbidity: When a person has two or more health conditions at the same time, either related or unrelated to each other. The term is often used in medical research to better understand how multiple conditions interact, especially in chronic illness and mental health studies.

Continuum of Care (CoC): A coordinated system of housing and services designed to help individuals and families experiencing homelessness move from crisis to stability and permanent housing. In the United States, the term is often associated with Department of Housing and Urban Development-funded programs and regional planning bodies that organize local responses to homelessness. Each CoC works to streamline outreach, shelter, supportive services, and housing solutions. Other organizations have different definitions for this term.

correlation: Two things happening together but not influencing the other.

crude mortality rate: The total number of deaths in a population during a specific time period, divided by the total population, usually expressed per 1,000 or 100,000 people. It is also known as the "raw" or "unadjusted" mortality rate or the "death rate."

cumulative: Refers to the total amount of something gathered over time, such as the combined number of hospital days, visits, or admissions a person or group has had during a given period. For example, the cumulative hospital utilization might track all inpatient stays over a year to understand the overall system demand or individual health burden.

data: Information collected during a research study, which can include counts/numbers, descriptions/words, stories, etc. The term "data" is considered both singular (one piece of data) and plural (all data).

deduplicated data: Data that has been cleaned to remove duplicate records, ensuring each individual or item is counted only once. In homelessness or hospital data, the same person might be included multiple times in different systems. Deduplication helps get an accurate count, which is especially important when reporting on service use, mortality, or housing outcomes.

denominator: The bottom number in a fraction, which represents the total group being measured or compared, often used in calculating rates or percentages. For example, when calculating a hospitalization rate, the denominator might be the total population or the total number of people at risk.

discharge status: The results regarding a patient's status after they leave the hospital, such as whether they went home, were transferred to another facility, or passed away. Hospitals track this carefully to ensure patients get proper follow-up care.

doubled-up: When people do not have housing and are living temporarily with friends or family, often because they lost their housing. In public health measures, counts of homelessness are difficult when people are doubled up because these individuals are not as visible as someone who is sleeping on the street or in a shelter. Additionally, people who are doubled-up are sometimes excluded from a strict definition of homelessness, depending on the program or organization.

emergency shelter (ES): A place people can stay temporarily if they have nowhere else to go, usually offering basic needs like a bed and food for a short time. Emergency shelters often only operate overnight and in extreme weather.

findings: The results or discoveries from research or investigations. Findings help inform data-driven decisions and policy changes.

health equity: Ensuring everyone has a fair and just opportunity to be as healthy as possible, no matter their race, income, neighborhood, background, or other factors.

Homeless Management Information System (HMIS): Software application that integrates data on people receiving services from homeless service providers within a continuum of care (CoC) jurisdiction. The HMIS tracks who is getting help and where.

hypothesis: An educated guess that researchers make before doing a study to predict what might happen. Hypotheses are tested with experiments or data to see if they hold up.

ICD-10 code: A special code doctors use to label diseases and health problems in a universal way. "ICD" stands for International Classification of Diseases, and "10" stands for the 10th edition.

Illinois Compiled Statutes (ILCS): The official collection of all laws currently in effect in Illinois, organized by topic. The ILCS could be considered the "legal library" that lawmakers and courts refer to.

literal homelessness: When a person has no permanent place to live (not even temporarily staying with others) and often sleeps on the street or in a shelter. This is the strictest definition of homelessness used for counting purposes.

medical respite: A safe place where people experiencing homelessness can rest and recover after a hospital stay before they are well enough to live independently.

morbidity: The state of being sick or having a disease. Morbidity rates track the amount of people affected by illnesses in a population.

mortality: The amount of death. For example, the mortality rate calculates the number of deaths in a group over a specific amount of time. Mortality statistics help public health experts understand the amount and causes of death and can lead to the development of prevention strategies.

overrepresentation: When a group appears more frequently in data than you would expect based on their comparable size in the general population. For example, approximately 50% of the US population is male, yet 60-70% of people experiencing homelessness are male; therefore, males are overrepresented in the homeless population.

p-value: A statistical term that helps researchers decide whether the results of an experiment or study are likely due to a real effect or just random chance. A small p-value (typically less than 0.05 or 5%) suggests that the results are unlikely due to random chance alone, indicating they are probably due to a real effect. A large p-value implies that the results were most likely due to random chance. Results with a p-value of less than 0.05 are typically termed "statistically significant."

Point-in-Time (PIT) count: Count of people who are homeless (sheltered and unsheltered) on a single night of the year, usually in a winter month. Because this is a snapshot of only one day, it does not capture everyone who is homeless over time.

safe haven (SH): A place where people who are experiencing homelessness can stay without strict rules, often with 24/7 access. Safe havens are designed to be welcoming and low-barrier.

sample: A smaller group selected from a larger group (the population) to study, so researchers can learn about the population without having to include every person in the study. Samples should represent the larger population. Otherwise, the results may be biased and/or inaccurate.

significant: A statistical term that means the outcome is probably not due to random chance. In other words, the result is strong enough that the researchers are convinced that something real is going on, and the results are not just a coincidence.

social determinants of health: The conditions where people live, learn, work, and play that affect their health, such as income, education, and neighborhood safety. These factors may have a greater impact on a person's health than direct medical care.

standard deviation (SD): A measure of how spread-out numbers are in a data set. A small standard deviation indicates that most data points are close to the average and tightly clustered, whereas a large standard deviation indicates higher variability in the data.

Standard Occupational Classification (SOC): A system used to group jobs into categories based on the type of work performed. Governments and researchers use SOC codes to analyze employment trends.

standardized rate: A rate that is statistically adjusted to remove the effects of differences in group characteristics like age or sex, allowing for a more balanced comparison between groups. For example, disease rates in young versus old populations may need to be statistically standardized in order to remove age differences.

stratified data: Data that is divided into different levels or groups based on characteristics like age, gender, or income to better understand differences in results seen at each layer, which might not have been noticed when looking at the results as a whole. Stratifying data helps reveal patterns hidden in the overall numbers.

structural inequity: Deep, built-in unfairness in systems or institutions that sometimes creates disadvantages for some groups. This type of inequity extends beyond an individual person's bias and can be found within societal rules and history.

surveillance data: Information collected regularly to monitor health trends to help public health officials spot outbreaks early. For example, flu cases can be tracked on a weekly basis through surveillance measures.

survey: A way to collect information by asking a group of people a set of questions, either on paper, phone, or online. Surveys gather data from a large number of people quickly and efficiently.

transitional housing (TH): Temporary housing that helps people move from homelessness to permanent homes, often with support services.

unadjusted rate: This is the straightforward calculation of an event occurring within a population, such as the number of people who got sick, without considering any differences between groups.

undercount: When fewer people are counted than actually exist in a population or situation, often due to hidden or hard-to-reach groups.

validity/validation: The accuracy of a test or tool to measure what it is intended to measure. Without validity, research results are not trustworthy.

variable: The person, place, thing, or phenomenon that researchers are trying to measure in some way. Researchers study how variables relate to each other.

Z59 code: A code from the ICD-10 system that refers to problems related to housing and economic circumstances, like homelessness or lack of adequate housing. Z59 codes can help track social issues affecting health.

14 Appendix B: Detailed Tables for IDPH Regions

Appendix B Table 1 - Mortality: Demographics																		
2017-2023 Mortality Data	**Rockford Region**		**Peoria Region**		**Metro East Region**		**Marion Region**		**Champaign Region**		**Westchester West Chicago Region**		**Westchester Suburban Cook County**		**Westchester Chicago**		**Statewide**	
Total Deaths	128		120		108		36		99		302		452		1751		2,996	
Gender																		
Female	38	29.7%	33	27.5%	26	24.1%	12	33.3%	28	28.3%	79	26.2%	99	21.9%	348	19.9%	663	22.1%
Male	90	70.3%	87	72.5%	82	75.9%	24	66.7%	71	71.7%	223	73.8%	346	76.5%	1,390	79.4%	2,313	77.2%
Unspecified	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	7	1.5%	13	0.7%	20	0.7%
Mean Age at Death (sd)	55.0		58.7		54.7		58.6		56.3		54.5		57.1		55.1		55.5	
0 to 2 Years	2	1.6%	0	0.0%	1	0.9%	0	0.0%	1	1.0%	2	0.7%	7	1.5%	31	1.8%	44	1.5%
3 to 5 Years	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	0.1%	2	0.1%
6 to 12 Years	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
13 to 17 Years	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.3%	0	0.0%	2	0.1%	3	0.1%
18 to 24 Years	2	1.6%	1	0.8%	0	0.0%	0	0.0%	0	0.0%	10	3.3%	8	1.8%	17	1.0%	38	1.3%
25 to 34 Years	9	7.0%	11	9.2%	13	12.0%	2	5.6%	7	7.1%	27	8.9%	30	6.6%	125	7.1%	224	7.5%
35 to 44 Years	24	18.8%	15	12.5%	16	14.8%	7	19.4%	11	11.1%	52	17.2%	48	10.6%	197	11.3%	370	12.3%
45 to 54 Years	30	23.4%	21	17.5%	24	22.2%	4	11.1%	20	20.2%	54	17.9%	74	16.4%	351	20.0%	578	19.3%
55 to 64 Years	30	23.4%	32	26.7%	29	26.9%	9	25.0%	32	32.3%	78	25.8%	144	31.9%	587	33.5%	941	31.4%
65 to 74 Years	16	12.5%	19	15.8%	13	12.0%	8	22.2%	18	18.2%	43	14.2%	78	17.3%	279	15.9%	474	15.8%
75 and Older	15	11.7%	21	17.5%	12	11.1%	4	11.1%	10	10.1%	35	11.6%	49	10.8%	115	6.6%	261	8.7%
Unknown	0	0.0%	0	0.0%	0	0.0%	2	5.6%	0	0.0%	0	0.0%	14	3.1%	45	2.6%	61	2.0%
Veteran	13	10.2%	21	17.5%	13	12.0%	4	11.1%	9	9.1%	30	9.9%	57	12.6%	166	9.5%	313	10.4%
Family Member was Key Informant* *A family member was identified as the key informant providing personal information about the decedent to the individual completing the death certificate (all other informants were unrelated to the decedent).	108	84.4%	102	85.0%	86	79.6%	30	83.3%	88	88.9%	254	84.1%	308	68.1%	979	55.9%	1,955	65.3%
Race/Ethnicity																		
White, non-Hispanic	85	66.4%	100	83.3%	84	77.8%	30	83.3%	76	76.8%	226	74.8%	225	49.8%	574	32.8%	1,400	46.7%
Black, non-Hispanic	36	28.1%	15	12.5%	19	17.6%	4	11.1%	19	19.2%	36	11.9%	160	35.4%	910	52.0%	1,199	40.0%
Hispanic or Latino	5	3.9%	4	3.3%	2	1.9%	1	2.8%	3	3.0%	34	11.3%	34	7.5%	182	10.4%	265	8.8%
Other/Unspecified	2	1.6%	1	0.8%	3	2.8%	1	2.8%	1	1.0%	6	2.0%	33	7.3%	85	4.9%	132	4.4%
Marital Status of Decedent																		
Never Married	57	44.5%	39	32.5%	34	31.5%	6	16.7%	38	38.4%	125	41.4%	210	46.5%	829	47.3%	1,338	44.7%
Married or Civil Union	8	6.3%	15	12.5%	13	12.0%	9	25.0%	17	17.2%	30	9.9%	32	7.1%	80	4.6%	204	6.8%
Divorced or Separated	36	28.1%	46	38.3%	34	31.5%	11	30.6%	32	32.3%	91	30.1%	96	21.2%	254	14.5%	600	20.0%
Widowed	14	10.9%	9	7.5%	13	12.0%	6	16.7%	6	6.1%	27	8.9%	23	5.1%	79	4.5%	177	5.9%
Unknown	13	10.2%	11	9.2%	14	13.0%	4	11.1%	6	6.1%	29	9.6%	91	20.1%	509	29.1%	677	22.6%

Appendix B Table 2 - Mortality: Temporal																		
2017-2023 Mortality Data	Rockford Region		Peoria Region		Metro East Region		Marion Region		Champaign Region		Westchester West Chicago Region		Westchester Suburban Cook County		Westchester Chicago		Statewide	
Weekday of Death																		
Monday	28	21.9%	20	16.7%	15	13.9%	4	11.1%	17	17.2%	44	14.6%	67	14.8%	285	16.3%	480	16.0%
Tuesday	18	14.1%	12	10.0%	12	11.1%	3	8.3%	13	13.1%	35	11.6%	52	11.5%	247	14.1%	392	13.1%
Wednesday	17	13.3%	13	10.8%	16	14.8%	7	19.4%	20	20.2%	39	12.9%	73	16.2%	242	13.8%	427	14.3%
Thursday	13	10.2%	25	20.8%	23	21.3%	7	19.4%	11	11.1%	47	15.6%	56	12.4%	251	14.3%	433	14.5%
Friday	17	13.3%	20	16.7%	17	15.7%	5	13.9%	20	20.2%	52	17.2%	61	13.5%	249	14.2%	441	14.7%
Saturday	21	16.4%	20	16.7%	10	9.3%	6	16.7%	11	11.1%	41	13.6%	70	15.5%	249	14.2%	428	14.3%
Sunday	14	10.9%	10	8.3%	15	13.9%	4	11.1%	7	7.1%	44	14.6%	73	16.2%	228	13.0%	395	13.2%
Year of Death																		
2017	14	10.9%	15	12.5%	12	11.1%	4	11.1%	12	12.1%	44	14.6%	57	12.6%	181	10.3%	339	11.3%
2018	10	7.8%	13	10.8%	11	10.2%	5	13.9%	9	9.1%	49	16.2%	37	8.2%	202	11.5%	336	11.2%
2019	16	12.5%	9	7.5%	12	11.1%	6	16.7%	10	10.1%	39	12.9%	46	10.2%	205	11.7%	343	11.4%
2020	23	18.0%	17	14.2%	12	11.1%	6	16.7%	13	13.1%	46	15.2%	69	15.3%	302	17.2%	488	16.3%
2021	21	16.4%	23	19.2%	14	13.0%	5	13.9%	21	21.2%	35	11.6%	74	16.4%	288	16.4%	481	16.1%
2022	30	23.4%	24	20.0%	20	18.5%	4	11.1%	19	19.2%	47	15.6%	100	22.1%	316	18.0%	560	18.7%
2023	14	10.9%	19	15.8%	27	25.0%	6	16.7%	15	15.2%	42	13.9%	69	15.3%	257	14.7%	449	15.0%
Month of Death																		
Cold Months: November to March	55	43.0%	54	45.0%	52	48.1%	11	30.6%	41	41.4%	130	43.0%	211	46.7%	738	42.1%	1,292	43.1%

Appendix B Table 3 - Mortality: Contributing Causes																		
2017-2023 Mortality Data	Rockford Region		Peoria Region		Metro East Region		Marion Region		Champaign Region		Westchester West Chicago Region		Westchester Suburban Cook County		Westchester Chicago		Statewide	
Contributing Cause of Death																		
Injury and Poisoning	58	45.3%	41	34.2%	52	48.1%	14	38.9%	44	44.4%	144	47.7%	187	41.4%	814	46.5%	1,354	45.2%
Drug-Related Overdose	38	29.7%	30	25.0%	38	35.2%	11	30.6%	37	37.4%	122	40.4%	164	36.3%	743	42.4%	1,183	39.5%
Traumatic Injury	5	3.9%	9	7.5%	6	5.6%	2	5.6%	5	5.1%	12	4.0%	18	4.0%	61	3.5%	118	3.9%
Suicide	5	3.9%	2	1.7%	2	1.9%	2	5.6%	4	4.0%	9	3.0%	11	2.4%	21	1.2%	56	1.9%
Homicide	7	5.5%	8	6.7%	1	0.9%	1	2.8%	3	3.0%	5	1.7%	11	2.4%	57	3.3%	93	3.1%
Excessive Cold	2	1.6%	2	1.7%	4	3.7%	0	0.0%	1	1.0%	11	3.6%	18	4.0%	74	4.2%	112	3.7%
Disease of the Circulatory System	40	31.3%	45	37.5%	42	38.9%	13	36.1%	43	43.4%	111	36.8%	155	34.3%	599	34.2%	1,048	35.0%
Diseases of the Respiratory System	21	16.4%	30	25.0%	22	20.4%	9	25.0%	17	17.2%	49	16.2%	73	16.2%	200	11.4%	421	14.1%
Endocrine, Metabolic, and Nutritional Diseases	11	8.6%	19	15.8%	13	12.0%	6	16.7%	11	11.1%	26	8.6%	42	9.3%	167	9.5%	295	9.8%
Diabetes	6	4.7%	14	11.7%	12	11.1%	4	11.1%	9	9.1%	15	5.0%	25	5.5%	87	5.0%	172	5.7%
Nutritional Deficiencies	2	1.6%	3	2.5%	1	0.9%	0	0.0%	0	0.0%	3	1.0%	2	0.4%	9	0.5%	20	0.7%
Fluid and Electrolyte Disorders	3	2.3%	0	0.0%	2	1.9%	0	0.0%	0	0.0%	5	1.7%	4	0.9%	15	0.9%	29	1.0%
Cancer	9	7.0%	14	11.7%	10	9.3%	6	16.7%	10	10.1%	22	7.3%	38	8.4%	104	5.9%	213	7.1%
Infectious Diseases	7	5.5%	22	18.3%	10	9.3%	3	8.3%	5	5.1%	17	5.6%	34	7.5%	98	5.6%	196	6.5%
Toxicology Results from Autopsy																		
Positive for any Drug Associated with Substance Use Disorders	38	29.7%	30	25.0%	38	35.2%	11	30.6%	37	37.4%	122	40.4%	164	36.3%	743	42.4%	1,183	39.5%
Opioids	33	25.8%	13	10.8%	26	24.1%	4	11.1%	19	19.2%	77	25.5%	107	23.7%	563	32.2%	842	28.1%
Fentanyl Analogs and Precursors	31	24.2%	8	6.7%	23	21.3%	2	5.6%	16	16.2%	63	20.9%	89	19.7%	502	28.7%	734	24.5%
Heroin	8	6.3%	4	3.3%	5	4.6%	0	0.0%	5	5.1%	29	9.6%	32	7.1%	200	11.4%	283	9.4%
Methadone	0	0.0%	0	0.0%	1	0.9%	0	0.0%	1	1.0%	3	1.0%	5	1.1%	35	2.0%	45	1.5%
Stimulants	12	9.4%	13	10.8%	16	14.8%	4	11.1%	12	12.1%	49	16.2%	71	15.7%	322	18.4%	499	16.7%
Amphetamine	1	0.8%	10	8.3%	12	11.1%	4	11.1%	7	7.1%	7	2.3%	9	2.0%	24	1.4%	74	2.5%
Cocaine	11	8.6%	3	2.5%	7	6.5%	0	0.0%	7	7.1%	43	14.2%	65	14.4%	307	17.5%	443	14.8%
Alcohol	6	4.7%	11	9.2%	12	11.1%	6	16.7%	15	15.2%	50	16.6%	76	16.8%	288	16.4%	464	15.5%
Sedative-Hypnotic and Anxiolytic	2	1.6%	2	1.7%	5	4.6%	1	2.8%	3	3.0%	7	2.3%	30	6.6%	112	6.4%	162	5.4%
Benzodiazepine	0	0.0%	2	1.7%	1	0.9%	1	2.8%	1	1.0%	4	1.3%	17	3.8%	59	3.4%	85	2.8%

*Counts for total Deaths shown in these tables will differ from totals shown in the state fact sheet which only includes counts for the more recent 5 years.

Appendix B Table 4 - Morbidity: Demographics																				
2017-2023 Morbidity Hospital Data	**Rockford Region**		**Peoria Region**		**Metro East Region**		**Marion Region**		**Champaign Region**		**Westchester West Chicago Region**		**Westchester Suburban Cook County**		**Westchester Chicago**		**Statewide**	
Total Number of Hospital Visits	73,427		118,692		150,772		64,173		105,477		264,632		245,916		727,591		1,824,004	
Total Number of Emergency Department Visits	58,964	80.3%	95,212	80.2%	123,558	82.0%	53,453	83.3%	86,721	82.2%	198,873	75.2%	179,648	73.1%	548,075	75.3%	1,399,528	76.7%
Total Number of Hospital Admissions	14,463	19.7%	23,480	19.8%	27,214	18.0%	10,720	16.7%	18,756	17.8%	65,759	24.8%	66,268	26.9%	179,516	24.7%	424,476	23.3%
Median Number of Hospital Visits per Person	18		18		15		17		18		15		16		14		14	
Hospital Visits with ICD-10 Z59 Code (Designated as Experiencing Homelessness)																		
Number and Percent of Emergency Department Visits with Z59 Code	2797	4.7%	4642	4.9%	9219	7.5%	2557	4.8%	5220	6.0%	12390	6.2%	15213	8.5%	53320	9.7%	116787	8.3%
Number and Percent of Hospital Admissions with Z59 Code	3063	21.2%	5513	23.5%	8678	31.9%	2741	25.6%	4530	24.2%	15494	23.6%	13980	21.1%	40135	22.4%	102447	24.1%
Gender																		
Female	27,765	37.8%	46,725	39.4%	62,370	41.4%	27,894	43.5%	43,467	41.2%	97,912	37.0%	80,350	32.7%	214,594	29.5%	619,594	34.0%
Male	45,662	62.2%	71,964	60.6%	88,399	58.6%	36,276	56.5%	61,999	58.8%	166,711	63.0%	165,506	67.3%	512,918	70.5%	1,204,230	66.0%
Unspecified	0	0.0%	3	0.0%	3	0.0%	3	0.0%	11	0.0%	9	0.0%	60	0.0%	79	0.0%	180	0.0%
Mean Age at Date of Hospital Visit	44.1		41.9		42.7		42.4		42.4		43.1		44.1		46.6		44.6	
0 to 2 Years	95	0.1%	151	0.1%	204	0.1%	27	0.0%	94	0.1%	375	0.1%	401	0.2%	1,682	0.2%	3,089	0.2%
3 to 5 Years	57	0.1%	129	0.1%	83	0.1%	21	0.0%	52	0.0%	196	0.1%	164	0.1%	812	0.1%	1,552	0.1%
6 to 12 Years	206	0.3%	297	0.3%	311	0.2%	132	0.2%	323	0.3%	752	0.3%	473	0.2%	1,554	0.2%	4,123	0.2%
13 to 17 Years	816	1.1%	1,717	1.4%	1,797	1.2%	1,014	1.6%	1,706	1.6%	3,525	1.3%	2,515	1.0%	4,354	0.6%	17,686	1.0%
18 to 24 Years	6,682	9.1%	13,214	11.1%	14,550	9.7%	6,664	10.4%	11,076	10.5%	24,293	9.2%	19,777	8.0%	40,139	5.5%	141,320	7.7%
25 to 34 Years	15,358	20.9%	27,942	23.5%	33,133	22.0%	14,473	22.6%	23,325	22.1%	59,357	22.4%	54,570	22.2%	133,114	18.3%	376,035	20.6%
35 to 44 Years	14,466	19.7%	27,163	22.9%	33,948	22.5%	14,283	22.3%	24,167	22.9%	55,842	21.1%	49,321	20.1%	136,105	18.7%	371,683	20.4%
45 to 54 Years	15,049	20.5%	22,303	18.8%	32,309	21.4%	12,474	19.4%	20,260	19.2%	56,401	21.3%	53,925	21.9%	172,558	23.7%	401,549	22.0%
55 to 64 Years	15,744	21.4%	18,882	15.9%	26,437	17.5%	11,655	18.2%	19,208	18.2%	48,286	18.2%	46,979	19.1%	177,455	24.4%	380,043	20.8%
65 to 74 Years	4,175	5.7%	5,415	4.6%	6,752	4.5%	3,012	4.7%	4,289	4.1%	13,316	5.0%	14,808	6.0%	51,906	7.1%	107,764	5.9%
75 and Older	779	1.1%	1,479	1.2%	1,248	0.8%	418	0.7%	977	0.9%	2,289	0.9%	2,983	1.2%	7,912	1.1%	19,160	1.1%
Race/Ethnicity																		
Black, non-Hispanic	21,208	28.9%	23,482	19.8%	47,305	31.4%	6,098	9.5%	27,360	25.9%	64,121	24.2%	107,396	43.7%	481,382	66.2%	804,326	44.1%
White, non-Hispanic	45,484	61.9%	87,370	73.6%	98,678	65.4%	50,850	79.2%	71,305	67.6%	160,062	60.5%	93,626	38.1%	117,225	16.1%	760,761	41.7%
Hispanic or Latino	3,657	5.0%	3,751	3.2%	1,527	1.0%	970	1.5%	2,751	2.6%	18,150	6.9%	23,883	9.7%	70,117	9.6%	131,498	7.2%
Other/Unspecified	3,078	4.2%	4,089	3.4%	3,262	2.2%	6,255	9.7%	4,061	3.9%	22,299	8.4%	21,011	8.5%	58,867	8.1%	127,419	7.0%

Appendix B Table 5 - Morbidity: Costs																		
2017-2023 Morbidity Hospital Data	**Rockford Region**		**Peoria Region**		**Metro East Region**		**Marion Region**		**Champaign Region**		**Westchester West Chicago Region**		**Westchester Suburban Cook County**		**Westchester Chicago**		**Statewide**	
Payer Type (Insurance)																		
Medicaid	46,423	63.2%	82,799	69.8%	97,704	64.8%	39,487	61.5%	65,821	62.4%	158,621	59.9%	140,150	57.0%	448,231	61.6%	1,113,513	61.0%
Medicare	18,409	25.1%	22,951	19.3%	32,203	21.4%	13,978	21.8%	23,040	21.8%	53,480	20.2%	51,315	20.9%	129,779	17.8%	358,980	19.7%
Commercial Insurance	4,461	6.1%	7,034	5.9%	12,375	8.2%	5,311	8.3%	7,603	7.2%	30,570	11.6%	23,705	9.6%	65,869	9.1%	161,815	8.9%
Self-Pay	3,169	4.3%	4,297	3.6%	6,511	4.3%	3,873	6.0%	4,022	3.8%	17,053	6.4%	25,659	10.4%	69,860	9.6%	152,826	8.4%
Other	965	1.3%	1,611	1.4%	1,979	1.3%	1,524	2.4%	4,991	4.7%	4,908	1.9%	5,087	2.1%	13,852	1.9%	36,870	2.0%
Total Charges (2020 Inflation Adjusted $USD)* *This does not represent actual costs, as typically only a fraction of the total charges is reimbursed. This rate varies by payer but typically the reimbursed total will be 50% or more of the total charges.	$ 957,769,934		$ 1,351,925,897		$ 1,576,814,778		$ 590,139,444		$ 1,137,347,861		$ 3,893,120,559		$ 3,225,483,281		$ 8,705,452,907		$ 22,349,173,835	

Appendix B Table 6 - Morbidity: Temporal

2017-2023 Morbidity Hospital Data	Rockford Region		Peoria Region		Metro East Region		Marion Region		Champaign Region		Westchester West Chicago Region		Westchester Suburban Cook County		Westchester Chicago		Statewide	
Day of Hospital Visit																		
Monday	10,813	14.7%	18,082	15.2%	22,873	15.2%	9,811	15.3%	16,358	15.5%	40,787	15.4%	36,181	14.7%	106,706	14.7%	272,307	14.9%
Tuesday	11,324	15.4%	18,204	15.3%	23,482	15.6%	9,991	15.6%	16,446	15.6%	40,869	15.4%	37,595	15.3%	110,775	15.2%	279,432	15.3%
Wednesday	11,253	15.3%	18,134	15.3%	23,009	15.3%	9,936	15.5%	16,179	15.3%	40,749	15.4%	37,599	15.3%	109,706	15.1%	277,384	15.2%
Thursday	11,188	15.2%	18,099	15.2%	22,578	15.0%	9,734	15.2%	16,141	15.3%	39,944	15.1%	36,710	14.9%	109,256	15.0%	274,522	15.1%
Friday	11,100	15.1%	17,599	14.8%	22,261	14.8%	9,670	15.1%	15,595	14.8%	39,018	14.7%	36,708	14.9%	107,955	14.8%	270,681	14.8%
Saturday	9,195	12.5%	14,554	12.3%	18,778	12.5%	7,629	11.9%	12,607	12.0%	32,553	12.3%	31,517	12.8%	94,749	13.0%	231,680	12.7%
Sunday	8,554	11.6%	14,020	11.8%	17,791	11.8%	7,402	11.5%	12,151	11.5%	30,712	11.6%	29,606	12.0%	88,444	12.2%	217,998	12.0%
Year of Hospital Visit																		
2017	10,938	14.9%	16,358	13.8%	22,542	15.0%	7,654	11.9%	12,532	11.9%	39,672	15.0%	34,784	14.1%	101,338	13.9%	255,699	14.0%
2018	11,575	15.8%	17,387	14.6%	22,616	15.0%	8,992	14.0%	13,727	13.0%	39,583	15.0%	37,327	15.2%	113,711	15.6%	275,237	15.1%
2019	11,306	15.4%	17,160	14.5%	22,873	15.2%	9,583	14.9%	15,279	14.5%	39,434	14.9%	37,235	15.1%	114,981	15.8%	279,135	15.3%
2020	10,274	14.0%	15,916	13.4%	20,162	13.4%	8,908	13.9%	14,915	14.1%	35,451	13.4%	35,023	14.2%	102,964	14.2%	254,749	14.0%
2021	9,906	13.5%	16,465	13.9%	20,366	13.5%	9,797	15.3%	16,239	15.4%	36,552	13.8%	33,989	13.8%	95,327	13.1%	248,575	13.6%
2022	9,845	13.4%	16,885	14.2%	20,721	13.7%	9,944	15.5%	16,160	15.3%	36,506	13.8%	33,264	13.5%	96,316	13.2%	249,496	13.7%
2023	9,559	13.0%	18,485	15.6%	21,445	14.2%	9,270	14.4%	16,598	15.7%	37,293	14.1%	34,153	13.9%	102,461	14.1%	260,136	14.3%
Month of Hospital Visit																		
Cold Months: November to March	29,136	39.7%	46,642	39.3%	60,295	40.0%	25,497	39.7%	41,776	39.6%	106,164	40.1%	99,043	40.3%	301,294	41.4%	739,893	40.6%

Appendix B Table 7 - Morbidity: Comorbidities

2017-2023 Morbidity Hospital Data	Rockford Region		Peoria Region		Metro East Region		Marion Region		Champaign Region		Westchester West Chicago Region		Westchester Suburban Cook County		Westchester Chicago		Statewide	
Most Common Serious Comorbidities																		
Hypertension	14,864	20.2%	26,236	22.1%	33,557	22.3%	13,712	21.4%	26,502	25.1%	56,661	21.4%	58,782	23.9%	186,000	25.6%	433,182	23.7%
Psychoses	8,163	11.1%	11,249	9.5%	18,091	12.0%	7,454	11.6%	9,029	8.6%	30,510	11.5%	43,751	17.8%	132,260	18.2%	275,002	15.1%
Depression	10,647	14.5%	14,788	12.5%	22,962	15.2%	10,884	17.0%	14,758	14.0%	50,685	19.2%	38,987	15.9%	82,108	11.3%	257,556	14.1%
Diabetes	8,458	11.5%	13,180	11.1%	16,917	11.2%	7,561	11.8%	13,169	12.5%	26,188	9.9%	28,362	11.5%	77,376	10.6%	198,143	10.9%
Heart Disease	5,564	7.6%	8,785	7.4%	12,024	8.0%	4,580	7.1%	10,251	9.7%	22,322	8.4%	23,317	9.5%	61,810	8.5%	154,193	8.5%
Fluid and Electrolyte Disorders	6,024	8.2%	9,195	7.7%	9,901	6.6%	3,905	6.1%	8,679	8.2%	23,908	9.0%	19,636	8.0%	50,043	6.9%	136,588	7.5%
Renal Failure	2,530	3.4%	3,637	3.1%	3,964	2.6%	1,645	2.6%	3,610	3.4%	8,001	3.0%	8,456	3.4%	26,077	3.6%	59,708	3.3%
Liver Disease	2,000	2.7%	2,767	2.3%	3,491	2.3%	1,555	2.4%	3,222	3.1%	10,172	3.8%	8,114	3.3%	18,185	2.5%	51,476	2.8%
Cancer	827	1.1%	1,224	1.0%	1,158	0.8%	478	0.7%	1,017	1.0%	3,106	1.2%	2,986	1.2%	8,027	1.1%	19,307	1.1%
AIDS/HIV	226	0.3%	398	0.3%	374	0.2%	126	0.2%	466	0.4%	1,164	0.4%	1,422	0.6%	8,530	1.2%	13,132	0.7%

Appendix B Table 8 - Morbidity: Diagnoses

2017-2023 Morbidity Hospital Data	Rockford Region		Peoria Region		Metro East Region		Marion Region		Champaign Region		Westchester West Chicago Region		Westchester Suburban Cook County		Westchester Chicago		Statewide	
Primary Hospital Diagnosis																		
Mental Disorders	12,519	17.0%	20,111	16.9%	23,320	15.5%	10,284	16.0%	14,463	13.7%	49,907	18.9%	51,135	20.8%	128,871	17.7%	326,848	17.9%
Substance Use Disorder (Primary Diagnosis Only)	8,637	11.8%	16,412	13.8%	17,353	11.5%	5,398	8.4%	13,898	13.2%	51,613	19.5%	47,138	19.2%	130,133	17.9%	306,642	16.8%
Musculoskeletal and Connective Tissue Disorders	5,907	8.0%	9,504	8.0%	13,568	9.0%	6,131	9.6%	10,052	9.5%	19,459	7.4%	17,784	7.2%	59,686	8.2%	147,019	8.1%
Traumatic Injury	7,754	10.6%	12,092	10.2%	15,631	10.4%	6,574	10.2%	10,840	10.3%	26,224	9.9%	23,186	9.4%	62,174	8.5%	171,134	9.4%
Fracture	1,215	1.7%	1,909	1.6%	2,682	1.8%	1,056	1.6%	2,039	1.9%	4,069	1.5%	3,534	1.4%	10,618	1.5%	27,986	1.5%
Open Wound	985	1.3%	1,859	1.6%	2,472	1.6%	1,041	1.6%	1,432	1.4%	3,370	1.3%	2,819	1.1%	8,741	1.2%	23,505	1.3%
Traumatic Brain Injury	193	0.3%	311	0.3%	390	0.3%	131	0.2%	223	0.2%	642	0.2%	542	0.2%	1,646	0.2%	4,215	0.2%
Internal Injury of the Torso (including spine)	46	0.1%	66	0.1%	77	0.1%	29	0.0%	54	0.1%	131	0.0%	126	0.1%	423	0.1%	998	0.1%
Other Traumatic Injury	3,668	5.0%	5,751	4.8%	7,349	4.9%	3,574	5.6%	4,547	4.3%	11,011	4.2%	8,151	3.3%	22,776	3.1%	69,339	3.8%
Disorders of the Respiratory System	3,589	4.9%	5,481	4.6%	8,308	5.5%	3,272	5.1%	5,143	4.9%	11,219	4.2%	9,505	3.9%	36,696	5.0%	85,408	4.7%
Disorders of the Circulatory System	2,139	2.9%	3,193	2.7%	4,457	3.0%	1,957	3.0%	3,559	3.4%	7,210	2.7%	7,824	3.2%	25,346	3.5%	57,420	3.1%
Diseases of the Skin	1,614	2.2%	2,911	2.5%	4,830	3.2%	1,819	2.8%	2,557	2.4%	5,109	1.9%	4,454	1.8%	14,910	2.0%	39,641	2.2%
Diseases of the Central and Peripheral Nervous System	1,948	2.7%	3,143	2.6%	4,021	2.7%	1,629	2.5%	2,578	2.4%	5,893	2.2%	4,465	1.8%	15,004	2.1%	40,163	2.2%
Disorders of the Digestive System	1,824	2.5%	2,930	2.5%	4,043	2.7%	1,793	2.8%	2,891	2.7%	6,174	2.3%	4,434	1.8%	13,721	1.9%	38,836	2.1%
Infectious Disease	1,086	1.5%	2,265	1.9%	3,004	2.0%	1,199	1.9%	1,779	1.7%	3,618	1.4%	4,004	1.6%	12,911	1.8%	30,895	1.7%
Diseases of the Urinary Tract and Genitalia	1,496	2.0%	2,904	2.4%	4,187	2.8%	1,631	2.5%	2,663	2.5%	4,715	1.8%	3,492	1.4%	10,627	1.5%	32,433	1.8%
Diabetes	1,095	1.5%	2,185	1.8%	2,792	1.9%	1,340	2.1%	2,026	1.9%	3,549	1.3%	3,721	1.5%	9,086	1.2%	26,570	1.5%
Pregnancy and Perinatal Related	1,391	1.9%	2,577	2.2%	2,867	1.9%	1,062	1.7%	2,604	2.5%	4,550	1.7%	3,127	1.3%	10,275	1.4%	28,975	1.6%
Diseases of the Oral Cavity	817	1.1%	1,586	1.3%	2,422	1.6%	1,122	1.7%	1,576	1.5%	2,416	0.9%	1,704	0.7%	4,766	0.7%	16,756	0.9%
Anemias and Other Blood Disorders	1,105	1.5%	536	0.5%	826	0.5%	306	0.5%	584	0.6%	1,597	0.6%	3,239	1.3%	11,156	1.5%	19,733	1.1%
Liver Conditions	742	1.0%	1,030	0.9%	1,214	0.8%	639	1.0%	1,112	1.1%	2,989	1.1%	2,232	0.9%	4,569	0.6%	14,859	0.8%

Appendix B Table 9 - Morbidity: Outcomes

2017-2023 Morbidity Hospital Data	Rockford Region		Peoria Region		Metro East Region		Marion Region		Champaign Region		Westchester West Chicago Region		Westchester Suburban Cook County		Westchester Chicago		Statewide	
Hospital Measures of Severity																		
Median Days in Hospital	5	0.0%	5	0.0%	4	0.0%	4	0.0%	4	0.0%	5	0.0%	5	0.0%	5	0.0%	5	0.0%
Underwent Surgical Intervention	4,190	5.7%	5,548	4.7%	6,785	4.5%	3,190	5.0%	5,198	4.9%	14,331	5.4%	11,892	4.8%	29,174	4.0%	82,260	4.5%
Required Mechanical Ventilation	676	0.9%	809	0.7%	798	0.5%	337	0.5%	633	0.6%	2,124	0.8%	1,898	0.8%	6,169	0.8%	13,919	0.8%
Received Obstetric Care	1,690	2.3%	2,910	2.5%	3,385	2.2%	1,288	2.0%	3,120	3.0%	5,343	2.0%	3,835	1.6%	12,685	1.7%	34,870	1.9%
Received Drug Treatment Services	1,009	1.4%	2,587	2.2%	834	0.6%	96	0.1%	718	0.7%	17,088	6.5%	9,668	3.9%	16,588	2.3%	51,314	2.8%
Administered Naloxone	208	0.3%	387	0.3%	432	0.3%	177	0.3%	275	0.3%	1,395	0.5%	1,590	0.6%	7,837	1.1%	12,745	0.7%
Discharge Status From Hospital																		
Routine Discharge (Home/Home Health/Home Care Services)	62,205	84.7%	101,751	85.7%	129,414	85.8%	52,510	81.8%	91,941	87.2%	217,359	82.1%	195,482	79.5%	608,771	83.7%	1,518,924	83.3%
Discharge to Another Acute Health Care Facility	1,240	1.7%	2,775	2.3%	3,793	2.5%	2,917	4.5%	2,136	2.0%	5,072	1.9%	4,356	1.8%	11,326	1.6%	35,091	1.9%
Discharge to a Psychiatric Facility	3,337	4.5%	4,273	3.6%	3,771	2.5%	3,060	4.8%	3,581	3.4%	17,001	6.4%	18,506	7.5%	26,175	3.6%	84,537	4.6%
Discharge to a Rehabilitation, Skilled Nursing, or Long-Term Care Facility	2,082	2.8%	2,837	2.4%	3,065	2.0%	1,197	1.9%	2,027	1.9%	10,196	3.9%	13,341	5.4%	31,681	4.4%	68,961	3.8%
Left Against Medical Advice	3,390	4.6%	5,289	4.5%	8,838	5.9%	3,353	5.2%	4,457	4.2%	10,341	3.9%	10,632	4.3%	39,307	5.4%	89,524	4.9%
Discharge to Court/Law Enforcement	464	0.6%	1,281	1.1%	1,161	0.8%	651	1.0%	737	0.7%	1,696	0.6%	1,431	0.6%	3,515	0.5%	11,364	0.6%
Expired During Course of Hospitalization or Discharge to Hospice	181	0.2%	224	0.2%	301	0.2%	112	0.2%	231	0.2%	744	0.3%	735	0.3%	1,981	0.3%	4,675	0.3%
Other/Unspecified	528	0.7%	262	0.2%	429	0.3%	373	0.6%	367	0.3%	2,223	0.8%	1,433	0.6%	4,835	0.7%	10,928	0.6%

*Statewide totals include persons with out of state residencies

15 Appendix C: Methodology

15.1 Data Sources

15.1.1 SOURCES FOR COUNTS OF PEOPLE EXPERIENCING HOMELESSNESS

The objective of this report was to utilize three data sources to estimate the total population of people experiencing homelessness (PEH). The three data sources are as follows:

- Deduplicated Homeless Management Information System (HMIS) Data
- Point in Time (PIT) Counts
- Doubled-Up Household Estimates based on American Community Survey (U.S. Census Bureau)

15.1.2 HOMELESS MANAGEMENT INFORMATION SYSTEM (HMIS) DATA

HMIS is a software application that integrates data on people receiving services from homeless service providers within a continuum of care (CoC) area. The purpose of HMIS is to help providers coordinate and optimize services. HMIS is managed by local continuums of care, of which Illinois has 19. While it was designed primarily to improve the efficiency of service providers, it can be used to count sheltered and unsheltered PEH and evaluate programs. Per HUD guidelines, all programs submit client names, Social Security numbers, dates of birth, race-ethnicity, gender, veteran status, disabling conditions, residence before program entry, ZIP codes of last permanent address, and program entry and exit dates. Some programs also submit data regarding income, education, physical disabilities, developmental disabilities, HIV status, mental health conditions, substance use disorders, history of domestic violence, services received, destination, and reasons for leaving a program.

Comprehensive HMIS data systems were not able to be utilized for this report. While no current data systems that provide population estimates of the homeless population provide complete estimates of PEH, HMIS provides the most accurate estimate of the annual population of those experiencing literal homelessness as defined by HUD. This includes counts of unsheltered individuals living in rough sleeping encampments if they were contacted by a service provider. For example, in Chicago between 2016 and 2022, for each person counted on the PIT, there were an additional 4 to 9 people accessing homeless services during the rest of the calendar year captured in HMIS data.

However, HMIS data also has limitations. It does not capture information regarding any PEH or persons experiencing housing instability who do not utilize HMIS-related housing or homelessness services, which includes those temporarily living with friends and family following the loss of housing (e.g., “doubled-up”).

15.1.3 POINT-IN-TIME (PIT) COUNTS OF PEOPLE EXPERIENCING HOMELESSNESS

The U.S. Department of Housing and Urban Development (HUD) Point-in-Time (PIT) counts (USHUD, 2025) were used. All 19 continuum of care (CoC) jurisdictions in Illinois participate in the annual count of sheltered and unsheltered people experiencing homelessness. The count is managed, planned, and executed by local CoCs and submitted to HUD. However, because the PIT count of sheltered and unsheltered people occurs on a single night of the year, it misses (1) people experiencing episodic homelessness not occurring on the night of the count, (2) all unsheltered people who have no contact with service providers or do not want to be counted, and (3) those doubling up with family and friends.

While PIT estimates are recognized to undercount people experiencing homelessness, the PIT counts are a valuable source for denominator estimates because the data are (1) readily available; (2) provide counts of PEH stratified by age, gender (including transgender, gender non-conforming), race-ethnicity, veteran status, type of shelter (e.g., ES, TH); and (3) provide counts by CoC jurisdiction.

Twelve CoCs were unable to provide complete sheltered and unsheltered PEH counts in 2021 because of the COVID-19 pandemic, and a minority of CoC jurisdictions were unable to provide complete counts sporadically in other years. For calculating statewide annual crude mortality rates by demographic characteristics, the 2021 PIT counts were corrected using the average between the 2020 and 2022 PIT counts. For calculating crude average annual rates by CoC, the average count of unsheltered and sheltered people was used only for years where a complete count was reported in a given CoC jurisdiction.

15.1.4 ESTIMATING DOUBLED-UP HOUSEHOLDS FROM ACS PUMS

The number of people in doubled-up households was estimated using the American Community Survey Public Use Microdata Sample (ACS PUMS; IPUMS USA 2025). ACS is a random sample of 1 in 100 U.S. residents, collecting person and housing unit level data. The annual data files of the one-year ACS PUMS data for 2017-2023 were used. The ACS PUMS had separate data files for housing unit and person-level information. For each year, the housing and person datasets were linked according to guidelines in the technical documentation (U.S. Census, 2025). Because of unstable estimates, the study was only able to provide counts of people doubling up at the state level.

Methods developed by Richard et al (2022) were used to estimate the total number of people living doubled up in Illinois. The SAS code provided in the supplemental materials was used, and the instructions were followed on how to create the PUMS dataset through ACS PUMS (Richard 2022). The modified SAS code for estimating doubled-up people in Illinois is publicly available upon request from the UIC research team.

This measure was constructed based on households and individuals who met the following criteria (see Richards 2022 for a more detailed description):

Household income is less than 125% (lower estimate) or 200% (upper estimate) of the poverty line.

AND

Living in an overcrowded household, defined as more than two people per bedroom.

AND

Someone who lives with relatives who, based on age and relationship, are non-dependents or living arrangements include a non-relative or non-partner.

Estimates of doubling up were calculated using a modified household income of less than 200% of the poverty line. The cut-off of 125% is conservative and likely excludes many households that are doubling up for economic reasons, particularly households with multiple dependents. Many federal and state agencies use the modified 200% above the poverty line cut-off. The lower estimate included individuals living in a household with income below 125% of the federal poverty level that met 1 of the 3 above criteria. The upper estimate included individuals living in a household with income below 200% of the federal poverty level that met 1 of the 3 above criteria. Guidance by Richard et al. (2022) was followed for calculating the poverty line cut-offs, including modifying the median gross rent by year. The median gross rent for a two-bedroom apartment in Illinois by year was as follows: 2017-$977; 2018-$1,000; 2019-$1,023; 2020-$1,035; 2021-$1,107; 2022-$1,197; and 2023-$1,254 (American Community Survey, 2025). SAS survey procedures were used to obtain estimates. The jackknife variance method was used with 80 replicate weights to estimate the standard error.

15.1.5 DATA SOURCE: DEATH CERTIFICATES (MORTALITY DATA)

Illinois state law mandates that all death certificates be filed with the Illinois Department of Public Health. These records are typically submitted by funeral home directors with pertinent medical information provided by an attending physician. Death certificates are sent to the local registrar who then forwards them to the IDPH Division of Vital Records. For this analysis, all deaths reported to IDPH occurring between January 1, 2017, and December 31, 2023, were analyzed. Death records included all deaths of Illinois residents, including residents who died outside of Illinois, and non-residents who died within Illinois.

Death certificates include data on the decedent's age, race-ethnicity, marital status, veteran status, level of education, birth country/state, date of death, smoking history, pregnancy status, occupation, industry, autopsy findings (if conducted), place of death, disposition method, the relationship of the informant to the decedent, immediate and contributing causes of death, and toxicology finding. For each decedent, up to 20 fields are capturing contributing causes of death using the International Classification of Diseases 10th Revision (ICD-10) coding. The coding of cause of death can be affected by variations in medical practice and diagnostic labeling.

While death certificates do not capture housing status, they do capture the last known residential address, the address of death, and a descriptor of the death location. Information was used regarding the location of death, residence at time of death, and narrative fields to identify potential people who experienced homelessness before death.

15.1.5.1 INCLUSION CRITERIA MORTALITY ANALYSIS

Death certificates do not capture specific information on homelessness. For this reason, strategies developed by public health researchers in Minnesota, Boston, Los Angeles County, and San Francisco were used to identify deaths involving PEH (Fine 2023; Minnesota Department of Health 2023; LACDPH 2023; LACDPH 2025; Cawley 2022).

For this report, all cases that met the following criteria were included:

Any narrative fields on the death certificate containing a homelessness-related keyword (e.g., homeless, indigent).

OR

All death certificates with an unknown residential address (e.g., “no fixed abode” and “no known residence”).

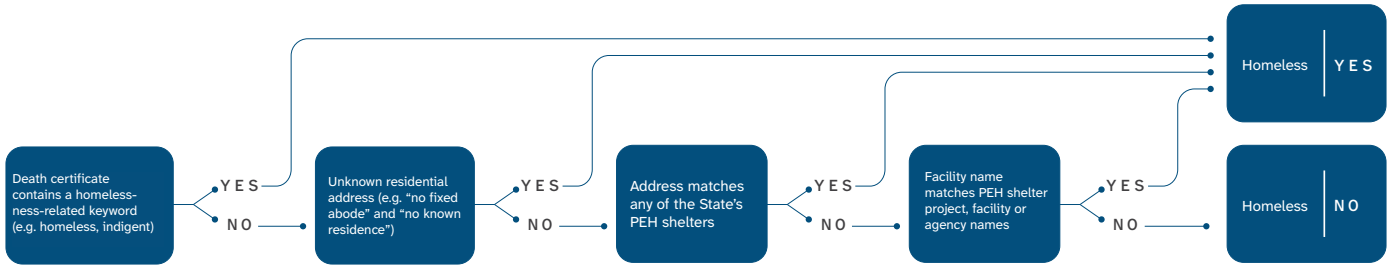
OR

All death certificates with a street address that matched any of the state’s emergency shelters (ES), transitional housing facilities (TH), safe havens (SH), and migrant shelters.

OR

All death certificates with keywords that matched any of the project, facility, or agency names of the state’s emergency shelters (ES), transitional housing facilities (TH), safe havens (SH), and migrant shelters (e.g., Hope Haven, Salvation Army).

Diagram of Inclusion Criteria: Identifying People Experiencing Homelessness in Death Certificates



Illinois Death Certificates, January 1, 2017 and December 31, 2023.

15.1.5.1.1 IDENTIFYING PEH USING KEYWORDS

An aggregate list of keywords and phrases was developed based on HUD guidance documentation, documentation by the National Health Care for the Homeless Council (NHCHC 2021), a description of methods in published research, guidance from OPEH and the Cook County Medical Examiner, and UIC School of Public Health past research. After the first pass using a broad list of keywords, the records were validated by reviewing all the location variables and narrative fields to confirm the status of homelessness and eliminate false matches.

In the final inclusion criteria, only the following terms to identify PEH were used:

- encampment
- homeless
- indigent
- lives in car
- lives in tent
- lives in van
- lives in vehicle
- lives in shed
- lives in camp
- lives in trailer
- recovery housing

- room key
- shelter
- skid row
- temporary
- transient
- transitional
- housing
- undomiciled
- unsheltered
- vagrant

The keywords that flagged the most homelessness cases were “homeless,” “shelter,” “temporary,” “transitional housing,” and “recovery housing.” These terms were searched in the following fields on the death certificate: (1) facility name of location of death (item 7b on death certificate), (2) facility address of location of death (item 7b on death certificate), (3) place of death (item 7c on death certificate), (4) residential address(item 13a-g on death certificate), (5) place of injury (item 32 on death certificate), (6) description of how injury occurred (item 35 on death certificate), (7) decedent’s usual occupation (item 50 on death certificate; homeless is listed as occupation), and (8) business/industry (item 51 on death certificate; homeless is listed as industry).

Many keywords were eliminated or modified as recommended in the literature for identifying PEH because they primarily captured deaths of people dying in outdoor settings related to drug overdoses, homicides, suicides, and motor vehicle crashes. However, these cases were too vague and unclear to determine if the death involved a person experiencing homelessness. Nearly all the death certificates with these keywords had a residential address provided and an immediate family member identified the body (informant relation). While unable to verify PEH status, some of these excluded deaths that had these keywords may involve PEH.

The following keywords were excluded or modified because they resulted in a high proportion of false matches after reviewing the location variables and narrative fields:

- “tent” - All death records were clear false matches and matched on a substring of the following words: detention, tenth, persistent, stent, patent. It also identified people camping in tents recreationally. The term was replaced with “lives in tent,” which was consistent with the wording used on Illinois death certificates.
- “shed” - Almost all death records were clear false matches and matched on a substring of the following words: “rushed” or “while working in a shed at home.” The term was replaced with “lives in shed,” which was consistent with the wording used on Illinois death certificates.
- “PEH” - All death records were clear false matches and matched on a substring of the following words: Tepehuanes (Mexico). “Homeless” was used instead, which was consistent with the wording used on Illinois death certificates. No death certificates using PEH about people experiencing homelessness were found. In future iterations, if the term “PEH” is adopted by those completing death certificates, the term will be added to the inclusion criteria and restrict string matches to only words not containing any prefix/suffix alphanumeric values (i.e., match on whole word PEH and ignore words containing the string xx“peh”xx).
- “institution” - All death records identified were clear false matches and matched on substrings of the following words: correctional institution. No adequate substitute keyword was identified to replace “institution.”
- “bus bench” - Almost all death records were clear false matches involving people dying near or at a bus bench. The status of homelessness could not be verified. In nearly all cases, a residential address was provided, and an immediate family identified the body (informant relation). If other PEH keywords were provided, these cases were coded as involving PEH.
- “bus stop” - Almost all death records were clear false matches involving people dying near or at a bus stop. The status of homelessness could not be verified. In nearly all cases, a residential address was provided, and an immediate family identified the body (informant relation). If other PEH keywords were provided, these cases were coded as involving PEH.
- “camp” - Almost all death records were clear false matches involving deaths while camping recreationally. This term was replaced with “lives in camp” or “encampment,” which was consistent with the wording used on Illinois death certificates.
- “dumpster” - Almost all death records were clear false matches involving drug overdoses, homicides, or suicides, or were too vague and unclear to determine if the death involved a PEH.
- “exposure” - Almost all death records were clear false matches involving cold or heat exposures, but the narratives were too vague and unclear to determine if the death involved a PEH.
- “freeway” - Almost all death records were clear false matches involving motor vehicle crashes or suicides and were too vague and unclear to determine if the death involved a PEH.
- “overpass” - Almost all death records were clear false matches involving motor vehicle crashes or suicides and were too vague and unclear to determine if the death involved a PEH.
- “shopping cart” – This term was not used in Illinois death certificates during this period. It also appears to be too vague and unclear to determine if the death would involve a PEH.
- “trailer” - Almost all death records were clear false matches involving motor vehicle crashes (tractor-trailer). This term was replaced with “lives in trailer,” which was consistent with the wording used on Illinois death certificates.
- “train track” - Almost all death records were clear false matches involving homicides or suicides and were too vague and unclear to determine if the death involved people experiencing homelessness.

Below is a complete list of keywords/terms removed from the initial inclusion criteria. Nearly all the cases identified using the keywords and phrases listed below involved suicides, homicides, drug overdoses, and motor vehicle crashes, but they had a residential address. The research team reviewed the narrative fields for these records, and it was unclear if any involved people experiencing homelessness. The list below could be truncated to key substrings of text, but a longer list is presented to show the actual phrasing used on Illinois death certificates.

- abandoned
- building
- abandoned farm
- abandoned home
- abandoned house
- access rd
- access road
- alley
- alleyway
- behind building
- behind business
- behind the residence
- boatyard
- bridge
- camp ground
- camper located on premises
- campground
- car
- cemetery
- church
- city park
- city park lot cornfield
- creek
- creek bed
- dead in vehicle
- decedent
- automobile
- decedents vehicle
- ditch
- ditch next to rd
- drainage ditch
- driveway
- embankment
- next to rd
- empty grassy lot
- farm
- field
- flying j
- park
- forest preserve found in car
- found in drway
- found in parked car
- found in vehicle
- gangway
- gas station
- bathroom
- gas station parking lot
- gravel pit
- hwy
- in a grassy ditch
- in a shed
- in automobile
- in car
- in field
- in parked automobile
- in parked vehicle
- in parking lot
- in semi truck
- in truck
- in van
- in vehicle
- in wooded area
- inside vehicle
- lagoon
- lake
- landfill
- lawn of church
- location found in truck
- metro link station
- national forest
- near gravel
- off of rdway
- on st
- on street outbuilding
- outside
- outside on ground
- park
- parked car
- parked truck
- parking garage
- parking lot
- plowed field
- pond
- railrd track
- railroad track
- rdside
- rdway rear alley
- rear lot
- residential yard
- rest area
- river
- river edge
- roadside
- roadway
- rural area
- rural setting
- rural wooded area
- rural wooded lot
- ship yard
- side of rd
- side of rdway
- side of road
- side of roadway
- sidewalk
- state campground
- state park
- storage building
- storage facility
- store parking lot
- train station
- train track
- under bridge
- vacant apartment
- vacant building
- vacant home
- vacant house
- vacant lot
- vehicle
- viaduct
- woods

15.1.5.2 IDENTIFYING PEH WITH AN "UNKNOWN" RESIDENTIAL ADDRESS

In the next stage of identifying PEH, death certificates with an unknown residential address (item 13a on the death certificate) were identified. The following text strings are used on Illinois death certificates when the residential address is unknown:

- Na
- not available
- Unknown
- unknown
- homeless
- no fixed address
- no fixed abode
- no known residence

During the validation stage, all the location variables and narrative fields were reviewed to confirm the status of homelessness and to identify clear false matches. Only 4.8% of the records with no known residential address were likely to not involve PEH. To eliminate any clear false matches, exclusion criteria were added. In cases with an unknown residential address, if the place of death variable on the death certificate indicated that the person died at their home (item 7c on death certificate; i.e., "decedent's home") or in a nursing facility, for this analysis they were not classified as PEH. In addition, if the place of injury field (item 32 on death certificate) indicated that the person died at their home (i.e., "decedent's home"), they were not classified as PEH. Adding these exclusion criteria to this stage of identifying PEH, eliminated all the likely false matches identified during the validation process. However, the excluded cases may, in fact, involve PEH who intermittently stay at a family or friend's residence (e.g., the parental residence of estranged children, with a sibling or grandparent, temporarily "crashing" at a friend's house), and people who are recently separated from a partner, or a person whose private residence was acquired by a nursing home to pay for residential costs.

15.1.5.3 IDENTIFYING PEH BY MATCHING TO PEH HOUSING PROGRAMS

To identify shelters and other PEH housing facilities, the housing inventory count (HUD HIC) databases for the years 2017- 2023 (USHUD 2025) were used. The HIC lists were augmented with data obtained from the Illinois Office to Prevent and End Homelessness (Chief Homelessness Officer Christine Haley; IL OPEH 2021; IL OPEH 2023; IDHS 2024), the Chicago CoC (OPEH 2023b), UI Health, Google and shelterlist.com (Shelter List 2024). The comprehensive list includes emergency shelters (ES), transitional housing facilities (TH), safe havens (SH), and migrant shelters. The list does not include individuals temporarily staying with family or friends (i.e., "doubled-up" or "couch surfing"), individuals residing in privately rented or owned housing (i.e., permanent housing, HUD rental, or mortgage assistance programs), or individuals residing in institutions (e.g., jails, juvenile correctional facilities, foster care, hospital beds, detox centers, hospice, nursing facilities). Based on HUD HIC data, there are approximately 800-1,100 shelters and OPH/RRH sites with fixed addresses in Illinois. The final deduplicated aggregated master list that was used for matching with death records included the following updated counts from last year's report:

- N= 1,278 unique addresses, but many facilities do not have an address reported (1) to protect victims of domestic violence, (2) if they have multiple sites, or (3) if the agency has changing/varying addresses.
- N=1,811 unique project and/or facility names.
- N=570 unique agency names; many agencies have multiple sites and different names for each site.

The addresses were cleaned to improve matching by removing the suffix notation at the end of street addresses (e.g., removed "st," "street") because of a high degree of variability of naming conventions used on the death certificates. For uniformity, addresses were converted to lowercase, used the unabbreviated naming convention (e.g., converted "mt" to "mount, "st" to "saint, "ft" to "fort"), and removed symbols from names and addresses (removed "-;'<.+?/(),").

Using SQL code, the city name and street address of shelters were matched to the following fields on the death certificate: (1) facility address of location of death (item 7b on death certificate), (2) place of death (item 7c on death certificate; some death certificates had an address in this field), (3) residential address (item 13 on death certificate), (4) place of injury (item 32 on death certificate; some death certificates had an address in this field), and (5) address location of injury (item 34 on death certificate). Validation of this step of the matching showed that even though multiple fields were used for matching addresses, the shelter addresses only matched to the residential address field in the death records (resid_addresslowcase). Furthermore, the validation step identified shelter addresses that had dual use for both general health care services and housing for PEH. If these death certificates did not also have a homelessness keyword, these cases were excluded because there was no means to differentiate PEH decedents from other decedents at these facilities. This included an address for a veterans' home with only 15 beds out of 304 beds designated for homeless veterans and a senior living facility that began to provide shelter to migrants in 2022-23.

Next, using SQL code, the project, facility, and agency names were matched to the following fields on the death certificate: (1) facility name of location of death (item 7b on death certificate), and (2) place of death (item 7c on death certificate; some death certificates had an address in this field). Validation of this step of the matching identified three primary care hospitals that have dual use for general health care services and housing for PEH. If these death certificates did not also have a homelessness keyword, the cases were excluded. Many hospitals provide housing to PEH, but because there was no means to distinguish between deaths involving the main health care patient population and PEH, these cases were omitted.

Finally, because there was a lot of variability in how the facility names were written in the HUD HIC and other lists of shelters across years despite having the same address, a list of keywords was developed for recurring shelter names (e.g. Hope Haven, Salvation Army). After validating the matched cases, the following keywords for shelters were removed because they generated too many false matches: “haven” (many hospitals in Illinois include this term in their names), “ignite” (also a name for private medical center), “journey” (similar naming to a hospice facility), “the bridge” (similar naming to a private skilled nursing facility), and “argonne” (similar naming to a cancer center).

15.1.6 STATISTICAL ANALYSIS – MORTALITY DATA (DEATH CERTIFICATES)

SAS software (v 9.4; Cary, NC) was used for all statistical analyses. As part of the descriptive analysis, the following decedent characteristics were summarized:

- Demographic characteristics, including gender, age, race and ethnicity, marital status, level of education, veteran status, birth state/country, state of residence, occupation, and industry.
- Time-related variables, including weekly, seasonal, and annual trends, with a focus on the COVID-19 pandemic.
- Spatial patterns by urban and rural counties, IDPH regions, and statewide continuum of care jurisdictions.
- Autopsy information.
- Place of death, disposition of the body, and data on the key informant providing personal information about the decedent to the individual completing the death certificate.
- Contributing causes of death.
- Toxicological data.
- Information about the cause and nature of traumatic injuries.

Frequencies (percentages) were presented for categorical variables and means (standard deviation) for continuous variables. Crude mortality rates per 100 PEH were calculated for key demographic subgroups using Point-in-Time counts. Spatial data by the seven IDPH regions and the 19 statewide continuum of care jurisdictions is presented. The Westchester public health region was stratified into West Chicago, Suburban Cook County, and the city of Chicago. Westchester is a new region comprised of the former Bellwood and West Chicago regions. For this report, all counties with a population of less than 60,000 were defined as rural based on the definition used by the Illinois Primary Health Care Association. Rural counties were identified based on population totals reported in the 2020 U.S. Census.

The persons completing the death certificates are trained to collect information about the decedent’s usual occupation -- the job the decedent worked at most of their lives. The CDC NIOSH Industry and Occupation Computerized Coding System (NIOCCS) data tool was used to code the occupation information provided on the death certificate into Standard Occupational Classification Codes (SOC). However, a large proportion of the death certificates were not coded by NIOCCS (38.3% of PEH decedent’s occupations were uncoded). NIOCCS was unable to code many records even though 97.7% of occupation fields had a valid occupation inputted. For this reason, the uncoded occupations were analyzed manually. When analyzing the uncoded original job titles provided on the death certificate, the vast majority of PEH were employed in general labor rather than in a skilled trade.

15.2 Illinois Outpatient and Inpatient Hospital Data

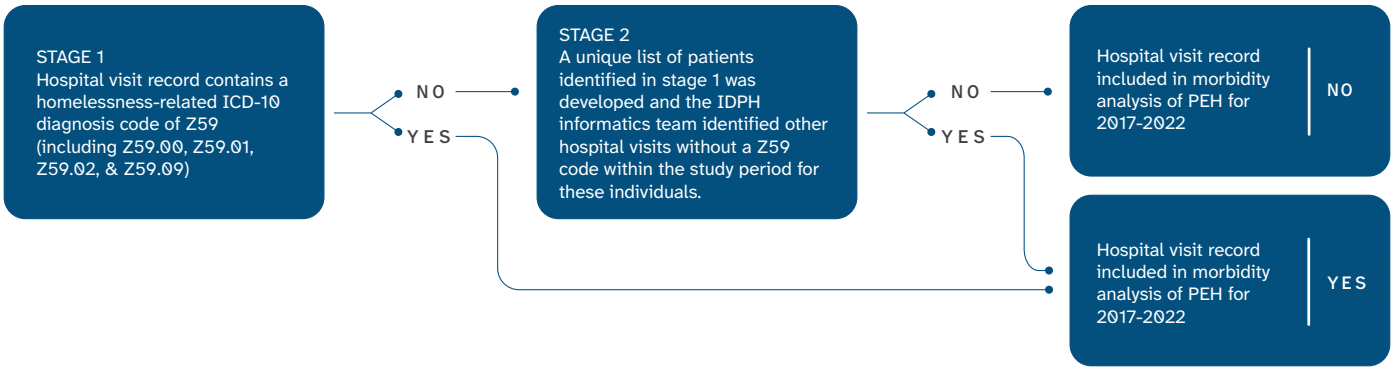
To assess morbidity, outpatient and inpatient hospital data was analyzed for January 1, 2017, through December 31, 2023. The outpatient database includes patients treated in emergency departments or other hospital-based outpatient services (e.g., radiologic elective procedures) for less than 24 hours who were not admitted as an inpatient to the hospital. These are referred to as ED visits throughout the report. The inpatient database includes all patients treated for 24 hours or more in Illinois hospitals for any medical reason. These are referred to as admissions throughout the report. Both datasets include information on patient demographics (age, race, gender), clinical outcomes (diagnoses, hospital procedures, and discharge status), and economic outcomes (hospital charges and payer source).

15.2.1 INCLUSION CRITERIA FOR THE MORBIDITY ANALYSIS

Hospital visits involving PEH were identified in two stages:

- Stage 1: All hospital records were included with an ICD-10 (this is a diagnostic coding system used by all health care entities) code of Z59 (including Z59.00, Z59.01, Z59.02, and Z59.09), which is a code used to identify patients experiencing homelessness.
- Stage 2: After creating a unique list of patients who had a Z59 code shown on any ED visit or admission between 2017- 2022 (stage 1), the IDPH informatics team identified other hospital visits involving these individuals where a Z59 code was not listed.

Diagram of Inclusion Criteria: Identifying People Experiencing Homelessness in Hospital Records



Illinois Discharge Data (inpatient and outpatient/emergency department (ED)), January 1, 2017 through December 31, 2023.

In stage one, records were identified with an ICD-10 code of Z59 (including Z59.00, Z59.01 and Z59.02) for "homelessness" in accordance with previous studies using hospital data (International Classification of Diseases, Tenth Revision [ICD-10; Geneva, Switzerland: World Health Organization; 1992]; Madigan 2020; Madigan 2021). The ICD-10 Z59 code captures people who lack housing, including people living in permanent/temporary housing or a shelter, and explicitly identifies the following subgroups: nomad, nomadism (i.e., new term for hobo), social migrant, tramp, transient, vagabond, vagabondage, and vagrancy. In stage one, 219,234 visits involving PEH were identified.

However, these visits could be by the same individual, and research conducted by the UIC Office of the Vice Chancellor of Health Affairs and UI Health demonstrated that the majority of hospital visits involving people who are homeless do not have a corresponding Z59 code. To address these issues, in stage two, the IDPH informatics team identified all other hospital visits involving any person who had a Z59 code shown on any ED visit or admission. The informatics team used linkage methods to identify these other hospital visits of PEH. There are two main methods for linking data: deterministic and probabilistic. Deterministic linkage involves the exact, one-to-one character matching of pre-designated variables. This technique is frequently used when identifiers, such as name, medical record number, and Social Security number, are available. Although deterministic linkage methods intuitively provide greater confidence that different records describe one case, in practice, deterministic linkage is far more complicated. For example, misspelled names, variations in name spelling (Alex and Alexander), or errors in data entry frequently prevent the matching of cases that describe the same person. Probabilistic linkage can solve this problem and is used when identifiers are not available or to augment deterministic linkage. Probabilistic linkage requires the researcher to make assumptions regarding the probability that two different records match and allows for a decision as to which records should be included in the combined data file and attributed to a single case. This technique allows greater flexibility and offers the ability to match a larger number of cases involving the same person but would be missed by deterministic linkage alone.

To identify additional hospital visits where a Z59 code was not used, IDPH linked records on the following variables: first and last name, date of birth, and gender. IDPH standardized the format of all the variables ensuring that the variable types, lengths, cases, and codes were equivalent. In the first step, IDPH identified records that matched exactly on first and last name, date of birth, and gender (deterministic linkage) to the deduplicated list of patients who had a Z59 code used in a prior visit.

In the next step, a probabilistic approach to identify potential patient matches was used, focusing on records that haven't been matched deterministically yet. To improve the efficiency of the matching process, the patient data was first blocked by date of birth. Blocking allows for comparisons only within "blocks" (records with the same date of birth), which reduces the number of comparisons and speeds up the process. Then matches were scored using Cosine Similarity and Levenshtein Edit Distance to refine potential matches. Cosine similarity is a measure of how similar two strings are to each other; the score ranges from 0 to 1, where a 1 is a perfect match. Levenshtein distance scores the "distance" between two strings by "counting" the minimum number of changes to a string required to make two strings

identical. For example, the distance between “Jon” and “John” is 1 (Jo_n). Matches with similar scores of 0.92 or higher were classified as true matches. The model was run by the IDPH informatics team in a Python notebook within an IBM CP4D cloud environment.

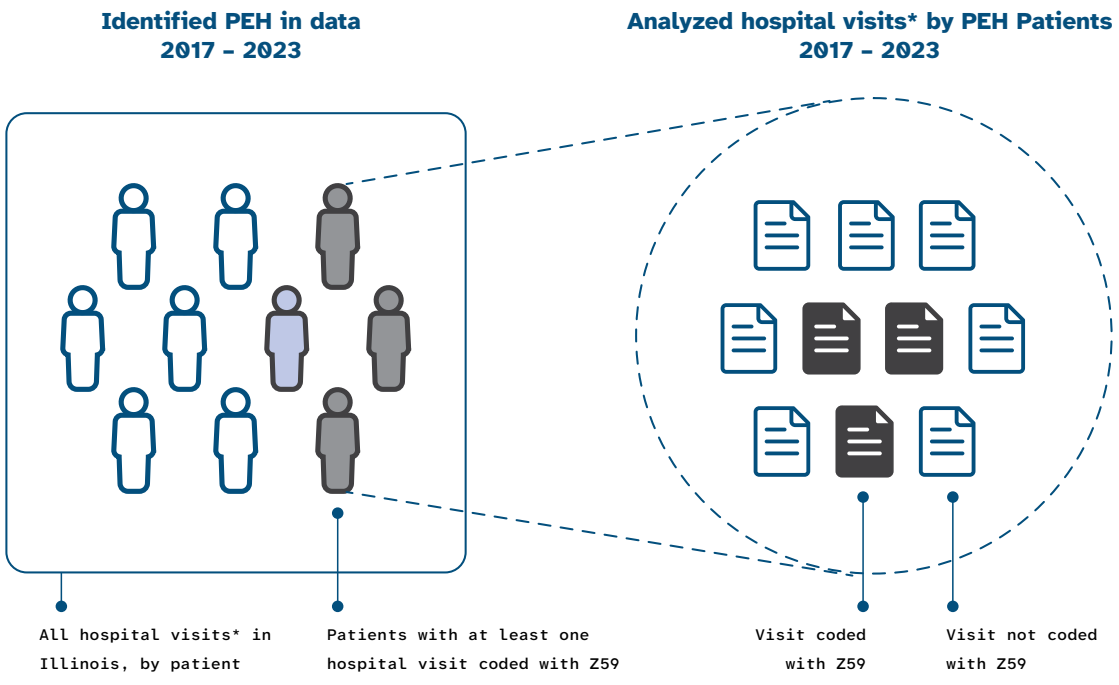
In stage 2, an additional 1,604,770 hospital visits involving PEH during 2017-2023 were identified. All visits for people who ever had a Z59 code used in their hospital records between 2017-2023, including visits without a corresponding Z59 code, are captured in this dataset. However, individuals whose homelessness was never recorded by medical providers in the hospital setting are missed in this analysis. These latter cases will likely involve a disproportionate number of people who are homeless for brief periods for economic reasons in the absence of major mental health or legal risk factors (e.g., those “doubled-up” following recent eviction, foreclosure, separation). In addition, there was no means to differentiate between people who were homeless for the entire six-year period and those who experienced intermittent or short-term homelessness. A proportion of the people included in this analysis likely experienced homelessness only for a part of the six years. Data from Illinois CoCs shows that of the total sheltered and unsheltered PEH approximately 15-20% will return to homelessness within 24 months of placement in housing (USHUD 2024b). However, research does show that there are persistent adverse health effects associated with episodic, intermittent, or short-term homelessness. In addition, the demographics and health conditions identified among these patients are similar to previously published research.

Fields with personal identifiers were removed from the final dataset used for the analysis. IDPH created a unique patient identifier to identify unique patients. The UIC research team did not have access to any personal identifiers.

15.2.2 STATISTICAL ANALYSIS – MORBIDITY DATA (HOSPITAL ED VISITS AND ADMISSIONS)

SAS software (v 9.4; Cary, NC) was used for all statistical analyses. Because the focus is on cumulative hospital care utilization, total hospital visits were analyzed. Most PEH had multiple ED visits and hospital admissions between 2017- 2023. Past research shows that PEH with mental health conditions have higher hospital care utilization that may skew the demographics, comorbidities, and reasons for hospital care when analyzing the data at the visit level alone. For this reason, data of unique people are summarized to better characterize patient demographics and comorbidities. In the primary analysis of hospital visits, the data is stratified by visits in which the person was identified as experiencing homelessness by the presence of a Z59 code and visits in which they were not identified as experiencing homelessness through the Z59 code. In the latter hospital visits, these individuals may be experiencing homelessness at the time of the hospital visit or have housing, reflecting intermittent housing instability. The hospital data does not provide detailed information on housing instability at the time of the visit. The data is further stratified by level of hospital care: ED visits only vs admissions to the hospital. ED visits and admissions substantially differ by several factors, such as reason for hospital visit, severity, and outcomes.

Data Stratification in Morbidity Analysis			
Hospital Admissions (inpatient)		**ED Visits (outpatient)**	
Visit contains Z59 Homelessness Code	Visit does not contain Z59 Homelessness Code	Visit contains Z59 Homelessness Code	Visit does not contain Z59 Homelessness Code



In this analysis, data is summarized for both outpatient and inpatient cases.

- Patient characteristics (gender, age, race, and ethnicity)
- Patient comorbidities
- Reason for visit
- Insurance coverage
- Length of stay
- Total hospital costs
- Discharge status

Total hospital charges are in 2020 U.S. dollars adjusted for annual inflation using the BLS Consumer Price Index (CPI-U; BLS 2025). The Elixhauser Comorbidity Index was used to assess comorbidities (Elixhauser 1998). Current procedural terminology (CPT) used for outpatient billing and procedural codes used for inpatient billing describe medical procedures provided during the service that were billed for, such as diagnostic tests, imaging, and surgeries. Procedure codes were analyzed to identify surgical amputations and other relevant procedures. All obstetric visits and information on deliveries including complications were also summarized.

Spatial data is presented by the seven IDPH regions and the 19 statewide continuum of care jurisdictions. The Westchester public health region was stratified into West Chicago, Suburban Cook County, and the city of Chicago. Westchester is a new region comprised of the former Bellwood and West Chicago regions. For this report, counties with a population of less than 60,000 were defined as rural based on the definition used by the Illinois Primary Health Care Association. Rural counties were identified based on population totals reported in the 2020 U.S. Census.

Frequencies (percentages) are presented for categorical variables and means (standard deviation) for continuous variables. Crude hospital utilization rates per 100 PEH were calculated for key demographic subgroups using Point-in-Time counts.

15.2.3 METHOD OF DEDUPLICATION AND CREATING A UNIQUE PATIENT DATASET

While the primary analysis focuses on cumulative hospital utilization of PEH, a sub-analysis was also conducted to describe individual patients rather than total visits, because heavy hospital users may skew the data presented in the tables. Nearly all PEH (93.6%) in the hospital dataset visited an Illinois hospital more than once between 2017-2023. To identify unique people, the hospital outpatient and inpatient data files were deduplicated. IDPH created a unique numeric code for each person based on identifiable information (first and last name, date of birth, and gender). For the analysis of the unique patient dataset, a single record for each individual was retained. If a person had been admitted to a hospital, the most recent hospital admission was retained. If the person was never admitted to a hospital, then the most recent ED visit was retained. Admission data was prioritized over ED visit data because comorbidities are better characterized during hospital admissions.

To evaluate the reliability of coding, a pool of patient visits of high hospital utilizers was randomly sampled and evaluated for the consistency of reporting gender, race-ethnicity, and ICD-10 codes for comorbidities. There was a high level of agreement for gender; on only two out of 13,201 records the listed gender differed across an individual's records. In contrast, there was a higher level of incongruity for race-ethnicity. Consistent with prior research (Maizlish, 2006; Liebler, 2017; Johnson, 2023), the highest variability in reported race-ethnicity was for patients who primarily identify as Hispanic or Latino but was congruent across approximately 97% of records for those who primarily identify as non-Hispanic Black or non-Hispanic White. There was also a high degree of variability in the documentation of comorbidities across a patient's hospital visits. Chronic illnesses and psychiatric conditions were not consistently reported across visits. On most visits, these chronic conditions were simply omitted (not coded). However, when a chronic illness and psychiatric disorder was listed across multiple visits for the same person, similar ICD-10 codes were used.

16 References

Aldridge, R. W., Story, A., Hwang, S. W., Nordentoft, M., Luchenski, S. A., Hartwell, G., Tweed, E. J., Lewer, D., Katikireddi, S. V., & Hayward, A. C. (2018). Morbidity and mortality in homeless individuals, prisoners, sex workers, and individuals with substance use disorders in high-income countries: A systematic review and meta-analysis. The Lancet, 391(10117), 241–250. https://doi.org/10.1016/S0140-6736(17)31869-X

American Community Survey. (2019). Median gross rent by bedrooms (Table B25031): 1-Year estimates. U.S. Census Bureau. https://data.census.gov/cedsci/table?q=B25063%3A%20GROSS%20RENT&t=Housing&tid=ACSDT1Y2019.B25031

Arenas, I., Scarborough, W., Lehmann, A., Brown, K., & Lewis, A. E. (2024, March). Black homelessness in Illinois: Structural drivers of inequality. Institute for Research on Race and Public Policy, University of Illinois Chicago.

Bennett, A. S., Watford, J. A., Elliott, L., Wolfson-Stofko, B., & Guarino, H. (2019). Military veterans' overdose risk behavior: Demographic and biopsychosocial influences. Addictive Behaviors, 99, 106036. https://doi.org/10.1016/j.addbeh.2019.106036

Breslau, J., Lane, M., Sampson, N., & Kessler, R. C. (2008). Mental disorders and subsequent educational attainment in a U.S. national sample. Journal of Psychiatric Research, 42(9), 708–716. https://doi.org/10.1016/j.jpsychires.2008.01.016

Brown, R. T., Hemati, K., Riley, E. D., Lee, C. T., Ponath, C., Tieu, L., Guzman, D., & Kushel, M. B. (2017). Geriatric conditions in a population-based sample of older homeless adults. The Gerontologist, 57(4), 757–766. https://doi.org/10.1093/geront/gnw011

Bureau of Labor Statistics. (2025, July 2). Consumer price index for all urban consumers (CPI-U). U.S. Department of Labor. https://www.bls.gov/cpi/data.htm

Burke, C., Johnson, E. E., Bourgault, C., Borgia, M., & O'Toole, T. P. (2013). Losing work: Regional unemployment and its effect on homeless demographic characteristics, needs, and health care. Journal of Health Care for the Poor and Underserved, 24(3), 1391–1402. https://doi.org/10.1353/hpu.2013.0150

Byrne, T., Montgomery, A. E., Chapman, A. B., Pettey, W., Effiong, A., Suo, Y., Velasquez, T., & Nelson, R. E. (2023). Predictors of homeless service utilization and stable housing status among veterans receiving services from a nationwide homelessness prevention and rapid rehousing program. Evaluation and Program Planning, 97, 102223. https://doi.org/10.1016/j.evalprogplan.2022.102223

Cawley, C., Kanzaria, H. K., Zevin, B., Doran, K. M., Kushel, M., & Raven, M. C. (2022). Mortality among people experiencing homelessness in San Francisco during the COVID-19 pandemic. JAMA Network Open, 5(3), e221870. https://doi.org/10.1001/jamanetworkopen.2022.1870

Chicago Coalition for the Homeless. (2016). Estimate of homeless people in Chicago, IL. https://www.chicagohomeless.org/estimate-of-homeless-people-in-chicago/

COVID-19 Excess Mortality Collaborators. (2022). Estimating excess mortality due to the COVID-19 pandemic: A systematic analysis of COVID-19-related mortality, 2020–21. The Lancet, 399(10334), 1513–1536. https://doi.org/10.1016/S0140-6736(21)02796-3

Cummings, C., Lei, Q., Hochberg, L., Hones, V., & Brown, M. (2022). Social support and networks among people experiencing chronic homelessness: A systematic review. American Journal of Orthopsychiatry, 92(3), 349–363. https://doi.org/10.1037/ort0000616

DiTosto, J. D., Holder, K., Soyemi, E., Beestrum, M., & Yee, L. M. (2021). Housing instability and adverse perinatal outcomes: A systematic review. American Journal of Obstetrics & Gynecology: Maternal-Fetal Medicine, 3(6), 100477. https://doi.org/10.1016/j.ajogmf.2021.100477

Elixhauser, A., Steiner, C., Harris, D. R., & Coffey, R. M. (1998). Comorbidity measures for use with administrative data. Medical Care, 36(1), 8–27. https://doi.org/10.1097/00005650-199801000-00004

Fargo, J., Metraux, S., Byrne, T., Munley, E., Montgomery, A. E., Jones, H., Sheldon, G., Kane, V., & Culhane, D. (2012). Prevalence and risk of homelessness among U.S. veterans. Preventing Chronic Disease, 9, E45. https://doi.org/10.5888/pcd9.120045

Fazel, S., Geddes, J. R., & Kushel, M. (2014). The health of homeless people in high-income countries: Descriptive epidemiology, health consequences, and clinical and policy recommendations. The Lancet, 384(9953), 1529–1540. https://doi.org/10.1016/S0140-6736(14)61132-6

Figueroa, J. F., Joynt, K. E., Zhou, X., Orav, E. J., & Jha, A. K. (2017). Safety-net hospitals face more barriers yet use fewer strategies to reduce readmissions. Medical Care, 55(3), 229–235. https://doi.org/10.1097/MLR.0000000000000687

Fine, D. R., Dickins, K. A., Adams, L. D., Horick, N. K., Critchley, N., Hart, K., Gaeta, J. M., Lewis, E., Looby, S. E., & Baggett, T. P. (2023).

Mortality by age, gender, and race and ethnicity in people experiencing homelessness in Boston, Massachusetts. JAMA Network Open, 6(8), e2331004. https://doi.org/10.1001/jamanetworkopen.2023.31004

Giannouchos, T. V., Gary, J. C., Anyatonwu, S., & Kum, H. C. (2021). Emergency department utilization by adolescents experiencing homelessness in Massachusetts. Medical Care, 59(Suppl 2), S187–S194. https://doi.org/10.1097/MLR.0000000000001436

Harandi, T. F., Taghinasab, M. M., & Nayeri, T. D. (2017). The correlation of social support with mental health: A meta-analysis. Electronic Physician, 9(9), 5212–5222. https://doi.org/10.19082/5212

Heun-Johnson, H., Menchine, M., Goldman, D., & Seabury, S. (2018). The cost of mental illness: Illinois facts and figures. USC Schaeffer Center for Health Policy & Economics. https://healthpolicy.usc.edu/wp-content/uploads/2019/05/IL-Chartbook-v3-2019.pdf

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. PLoS Medicine, 7(7), e1000316. https://doi.org/10.1371/journal.pmed.1000316

Hu, F. H., Zhao, D. Y., Fu, X. L., Zhang, W. Q., Tang, W., Hu, S. Q., Shen, W. Q., & Chen, H. L. (2023). Effects of social support on suicide-related behaviors in patients with severe mental illness: A systematic review and meta-analysis. Journal of Affective Disorders, 328, 324–333. https://doi.org/10.1016/j.jad.2023.02.070

Hwang, S. W., & Burns, T. (2014). Health interventions for people who are homeless. The Lancet, 384(9953), 1541–1547. https://doi.org/10.1016/S0140-6736(14)61133-8

Illinois Department of Human Services. (2025, January 23). FY17 and FY22 emergency and transitional housing providers lists. https://www.dhs.state.il.us/page.aspx?item=30362

Illinois Office to Prevent and End Homelessness. (2021, July 8). Congregate living facilities list [Data set].

Illinois Office to Prevent and End Homelessness. (2023, September 20). Homeless shelters list [Data set].

Illinois Office to Prevent and End Homelessness. (2023). Chicago homeless services division clearinghouse shelter list.

Illinois Office to Prevent and End Homelessness. (2023a). Home Illinois: Illinois plan to prevent and end homelessness—Annual report: November 1, 2022–October 31, 2023. https://www.dhs.state.il.us/OneNetLibrary/27897/documents/Homelessness/24HomeIllinois120123Final(003)_A11Y.pdf

Illinois State Board of Education. (2023). Illinois report card: Homeless student characteristics. https://irc.isbe.net/State.aspx?source=studentcharacteristics&source2=homeless&Stateid=IL

Johnson, J. A., Moore, B., Hwang, E. K., Hickner, A., & Yeo, H. (2023). The accuracy of race and ethnicity data in U.S.-based healthcare databases: A systematic review. American Journal of Surgery, 226(4), 463–470. https://doi.org/10.1016/j.amjsurg.2023.05.011

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

Lee, S., Tsang, A., Breslau, J., Aguilar-Gaxiola, S., Angermeyer, M., Borges, G., Bromet, E., Bruffaerts, R., de Girolamo, G., Fayyad, J., Gureje, O., Haro, J. M., Kawakami, N., Levinson, D., Oakley Browne, M. A., Ormel, J., Posada-Villa, J., Williams, D. R., & Kessler, R. C. (2009). Mental disorders and termination of education in high-income and low- and middle-income countries: Epidemiological study. The British Journal of Psychiatry, 194(5), 411–417. https://doi.org/10.1192/bjp.bp.108.054841

Levitt, A. J., Culhane, D. P., DeGenova, J., O'Quinn, P., & Bainbridge, J. (2009). Health and social characteristics of homeless adults in Manhattan who were chronically or not chronically unsheltered. Psychiatric Services, 60(7), 978–981. https://doi.org/10.1176/ps.2009.60.7.978

Liebler, C. A., Porter, S. R., Fernandez, L. E., Noon, J. M., & Ennis, S. R. (2017). America's churning races: Race and ethnicity response changes between Census 2000 and the 2010 Census. Demography, 54(1), 259–284. https://doi.org/10.1007/s13524-016-0544-0

Lin, W. C., Bharel, M., Zhang, J., O'Connell, E., & Clark, R. E. (2015). Frequent emergency department visits and hospitalizations among homeless people with Medicaid: Implications for Medicaid expansion. American Journal of Public Health, 105(Suppl 5), S716–S722. https://doi.org/10.2105/AJPH.2015.302693

Lombardi, K., Pines, J. M., Mazer-Amirshahi, M., & Pourmand, A. (2020). Findings of a national dataset analysis on the visits of homeless patients to U.S. emergency departments during 2005–2015. Public Health, 178, 82–89. https://doi.org/10.1016/j.puhe.2019.09.003

Los Angeles County Department of Public Health, Center for Health Impact Evaluation. (2025, March). Mortality rates and causes of

death among people experiencing homelessness in Los Angeles County: 2017–2023. http://publichealth.lacounty.gov/chie/reports/Homeless_Mortality_Report_2025.pdf

Madigan, D., & Friedman, L. S. (2021). Health care utilization of individuals affected by homelessness: Illinois, 2011–2018. Medical Care, 59(Suppl 2), S158–S164. https://doi.org/10.1097/MLR.0000000000001444

Madigan, D., Forst, L., & Friedman, L. S. (2020). Comparison of state hospital visits with Housing and Urban Development estimates of the homeless population: Illinois, 2011–2018. American Journal of Public Health, 110(3), 391–393. https://doi.org/10.2105/AJPH.2019.305492

Maizlish, N., & Herrera, L. (2006). Race/ethnicity in medical charts and administrative databases of patients served by community health centers. Ethnicity & Disease, 16(2), 483–487.

McGivern, L., Shulman, L., Carney, J. K., Shapiro, S., & Bundock, E. (2017). Death certification errors and the effect on mortality statistics. Public Health Reports, 132(6), 669–675. https://doi.org/10.1177/0033354917736514

Meyer, B. D., Wyse, A., & Logani, I. (2023, November). Life and death at the margins of society: The mortality of the U.S. homeless population (Working Paper No. 2023-41). Becker Friedman Institute, University of Chicago.

Minnesota Department of Health, Center of Excellence on Public Health and Homelessness. (2023, January). Minnesota homeless mortality report, 2017–2021. Hennepin Healthcare Research Institute. https://www.health.state.mn.us/communities/homeless/coe/research.html

Naifeh, J. A., Capaldi, V. F., Chu, C., King, A. J., Koh, K. A., Marx, B. P., Montgomery, A. E., O'Brien, R. W., Sampson, N. A., Stanley, I. H., Tsai, J., Vogt, D., Ursano, R. J., Stein, M. B., & Kessler, R. C. (2023). Prospective associations of military discharge characterization with post-active duty suicide attempts and homelessness: Results from the Study to Assess Risk and Resilience in Servicemembers–Longitudinal Study (STARRS-LS). Military Medicine, 188(7–8), e2197–e2207. https://doi.org/10.1093/milmed/usac232

Nashelsky, M. B., & Lawrence, C. H. (2003). Accuracy of cause of death determination without forensic autopsy examination. American Journal of Forensic Medicine and Pathology, 24(4), 313–319. https://doi.org/10.1097/01.paf.0000097857.50734.c3

National Health Care for the Homeless Council. (2021, January). Homeless mortality data toolkit: Understanding and tracking deaths of people experiencing homelessness. https://nhchc.org/wp-content/uploads/2020/12/Homeless-Mortality-Toolkit-FULL-FINAL.pdf

National Low Income Housing Coalition. (2024, May 16). Illinois state profile. https://nlihc.org/oor/state/il

Nielsen, S. F., Hjorthøj, C. R., Erlangsen, A., & Nordentoft, M. (2011). Psychiatric disorders and mortality among people in homeless shelters in Denmark: A nationwide register-based cohort study. The Lancet, 377(9784), 2205–2214. https://doi.org/10.1016/S0140-6736(11)60747-2

Nyamathi, A. M., Leake, B., & Gelberg, L. (2000). Sheltered versus nonsheltered homeless women: Differences in health, behavior, victimization, and utilization of care. Journal of General Internal Medicine, 15(8), 565–572. https://doi.org/10.1046/j.1525-1497.2000.07007.x

Oppenheimer, S. C., Nurius, P. S., & Green, S. (2016). Homelessness history impacts on health outcomes and economic and risk behavior intermediaries: New insights from population data. Families in Society, 97(3), 230–242. https://doi.org/10.1606/1044-3894.2016.97.21

Paler-Ponce, S., & Dworkin, J. (2023, July). Estimate of people experiencing homelessness in Chicago, IL (2015–2021). Chicago Coalition for the Homeless. https://www.chicagohomeless.org/estimate-of-homeless-people-in-chicago/

Richard, M. K., Dworkin, J., Rule, K. G., Farooqui, S., Glendening, Z., & Carlson, S. (2022). Quantifying doubled-up homelessness: Presenting a new measure using U.S. Census microdata. Housing Policy Debate, 34(1), 3–24.

Richards, J., & Kuhn, R. (2022). Unsheltered homelessness and health: A literature review. AJPM Focus, 2(1), 100043. https://doi.org/10.1016/j.focus.2022.100043

Rollings, K. A., Kunnath, N., Ryus, C. R., Janke, A. T., & Ibrahim, A. M. (2022). Association of coded housing instability and hospitalization in the U.S. JAMA Network Open, 5(11), e2241951. https://doi.org/10.1001/jamanetworkopen.2022.41951

Roncarati, J. S., Baggett, T. P., O'Connell, J. J., Hwang, S. W., Cook, E. F., Krieger, N., & Sorensen, G. (2018). Mortality among unsheltered homeless adults in Boston, Massachusetts, 2000–2009. JAMA Internal Medicine, 178(9), 1242–1248. https://doi.org/10.1001/jamainternmed.2018.2924

Roncarati, J. S., O'Connell, J. J., Hwang, S. W., Baggett, T. P., Cook, E. F., Krieger, N., & Sorensen, G. (2020). The use of high-risk criteria to assess mortality risk among unsheltered homeless persons. Journal of Health Care for the Poor and Underserved, 31(1), 441–454. https://doi.org/10.1353/hpu.2020.0032

Rossen, L. M., Nørgaard, S. K., Sutton, P. D., Krause, T. G., Ahmad, F. B., Vestergaard, L. S., Mølbak, K., Anderson, R. N., & Nielsen, J. (2022). Excess all-cause mortality in the U.S. and Europe during the COVID-19 pandemic, 2020 and 2021. Scientific Reports, 12(1), 18559. https://doi.org/10.1038/s41598-022-21844-7

Rossi, P. H. (1989). Down and out in America: The origins of homelessness. University of Chicago Press.

Roy, E., Haley, N., Boudreau, J. F., Leclerc, P., & Boivin, J. F. (2010). The challenge of understanding mortality changes among street youth. Journal of Urban Health, 87(1), 95–101. https://doi.org/10.1007/s11524-009-9397-9

Salem, B. E., Nyamathi, A., Brecht, M. L., Phillips, L. R., Mentes, J. C., Sarkisian, C., & Stein, J. A. (2014). Constructing and identifying predictors of frailty among homeless adults—A latent variable structural equations model approach. Archives of Gerontology and Geriatrics, 58(2), 248–256. https://doi.org/10.1016/j.archger.2013.09.005

Sandel, M., Sheward, R., Ettinger de Cuba, S., Coleman, S., Heeren, T., Black, M. M., Casey, P. H., Chilton, M., Cook, J., Cutts, D. B., Rose-Jacobs, R., & Frank, D. A. (2018). Timing and duration of pre- and postnatal homelessness and the health of young children. Pediatrics, 142(4), e20174254. https://doi.org/10.1542/peds.2017-4254

Shelter List. (2024, January 16). Homeless shelters in Illinois. https://www.shelterlist.com/state/illinois

Shier, M. L., Jones, M. E., & Graham, J. R. (2012). Employment difficulties experienced by employed homeless people: Labor market factors that contribute to and maintain homelessness. Journal of Poverty, 16(1), 27–47.

Silver, C. M., Thomas, A. C., Reddy, S., Kirkendoll, S., Nathens, A. B., Issa, N., Patel, P. P., Plevin, R. E., Kanzaria, H. K., & Stey, A. M. (2024). Morbidity and length of stay after injury among people experiencing homelessness in North America. JAMA Network Open, 7(2), e240795. https://doi.org/10.1001/jamanetworkopen.2024.0795

St. Martin, B. S., Spiegel, A. M., Sie, L., Leonard, S. A., Seidman, D., Girsen, A. I., Shaw, G. M., & El-Sayed, Y. Y. (2021). Homelessness in pregnancy: Perinatal outcomes. Journal of Perinatology, 41(12), 2742–2748. https://doi.org/10.1038/s41372-021-01187-3

Stenius-Ayoade, A., Haaramo, P., Kautiainen, H., Gissler, M., Wahlbeck, K., & Eriksson, J. G. (2017). Mortality and causes of death among homeless in Finland: A 10-year follow-up study. Journal of Epidemiology & Community Health, 71(9), 841–848. https://doi.org/10.1136/jech-2017-209166

Stewart-Tufescu, A., Struck, S., Taillieu, T., Salmon, S., Fortier, J., Brownell, M., Chartier, M., Yakubovich, A. R., & Afifi, T. O. (2022). Adverse childhood experiences and education outcomes among adolescents: Linking survey and administrative data. International Journal of Environmental Research and Public Health, 19(18), 11564. https://doi.org/10.3390/ijerph191811564

Tsai, J., Link, B., Rosenheck, R. A., & Pietrzak, R. H. (2016). Homelessness among a nationally representative sample of U.S. veterans: Prevalence, service utilization, and correlates. Social Psychiatry and Psychiatric Epidemiology, 51(6), 907–916. https://doi.org/10.1007/s00127-016-1210-y

U.S. Census Bureau. (2025, July 2). American community survey 1-year PUMS microdata. https://www.census.gov/programs-surveys/acs/microdata/access.html

U.S. Census Bureau. (2025, July 2). Veteran status (Table S2101). https://data.census.gov/table/ACSST1Y2022.S2101?g=040XX00US17

U.S. Department of Housing and Urban Development. (2025, January 16). Housing inventory census (HIC), 2017–2023. HUD Exchange. https://www.hudexchange.info/resource/3031/pit-and-hic-data-since-2007/

U.S. Department of Housing and Urban Development. (2025, July 2). Continuum of Care (CoC) performance profile reports, Illinois 2018–2023. HUD Exchange. https://www.hudexchange.info/resource/5691/system-performance-measures-data-since-fy-2015/

Van der Geest, V. R., Bijleveld, C. C. J. H., Blokland, A. A. J., & Nagin, D. S. (2014). The effects of incarceration on longitudinal trajectories of employment. Crime & Delinquency, 62(1), 107–140.

Vila-Rodriguez, F., Panenka, W. J., Lang, D. J., Thornton, A. E., Vertinsky, T., Wong, H., Barr, A. M., Procyshyn, R. M., Sidhu, J. J., Smith, G. N., Buchanan, T., Krajden, M., Krausz, M., Montaner, J. S., MacEwan, G. W., & Honer, W. G. (2013). The hotel study: Multimorbidity in a community sample living in marginal housing. American Journal of Psychiatry, 170(12), 1413–1422. https://doi.org/10.1176/appi.ajp.2013.12111439

Wasserman, J. A., & Clair, J. M. (2010). At home on the street: People, poverty, and a hidden culture of homelessness. Lynne Rienner

Publishers.

Yeo, G., Lansford, J. E., Hirshberg, M. J., & Tong, E. M. W. (2024). Associations of childhood adversity with emotional well-being and educational achievement: A review and meta-analysis. Journal of Affective Disorders, 347, 387–398. https://doi.org/10.1016/j.jad.2023.11.083

Zlotnick, C., Robertson, M. J., & Tam, T. (2002). Substance use and labor force participation among homeless adults. American Journal of Drug and Alcohol Abuse, 28(1), 37–53. https://doi.org/10.1081/ADA-120001280