HEALTH CARE SERVICE UTILIZATION AMONG PEOPLE EXPERIENCING HOMELESSNESS BEFORE DEATH

(2021-2023)

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Patient Care Intervention Center

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Introduction

People Experiencing Homelessness (PEH) have a 3.5-fold greater risk of death on average, compared to housed individuals [1]. They face significant structural and systemic barriers to accessing timely, coordinated, and effective health care and social services. These barriers are often compounded by a greater burden of chronic illness, behavioral health conditions, and social instability, contributing to preventable morbidity and mortality. However, little is known about the opportunities for prevention, including the patterns of health care and social service use in the year or more before death, among individuals who die while experiencing homelessness. This information, hopefully, offers crucial insight into the function, and limits, of the safety net systems in place and intended to support them.

The Approach: This study focuses on Harris County, Texas, where 659 individuals were identified as experiencing homelessness when they died from 2021 through 2023. Using a unique combination of linked datasets, combining information in medicolegal death records from Harris County Institute of Forensic Sciences (HCIFS), the local Homeless Management Information System (HMIS), and two health information exchanges (HIEs): administrative health care data from Healthconnect Texas (HTX) and health and social services from the Patient Care Intervention Center (PCIC), we explore health care utilization in the time leading up to death. Additional data from PCIC includes records of emergency medical services (EMS), law enforcement encounters, social service contacts, and visits to local recovery programs. Integrating these diverse administrative datasets provides a more comprehensive view of system service utilization by this uniquely vulnerable population than ever before. This type of data linkage is critical for identifying the gaps in care, potential opportunities for intervention, and areas where cross-sector coordination could be strengthened.

Findings: Both PCIC and HTX services saw dramatic growth curves in utilization within the year preceding death, building up rapidly before the date of death. We also found service engagement on the rise longitudinally, coming out of the COVID-19 pandemic. The proportion of PEH deaths with any history of PCIC service use increased from 54% to 60%, while HTX service use rose from 62% to 77% from 2021 to 2023. Among PCIC users, interactions with city EMS and hospitals showed the greatest increase in the twelve months leading up to death. In comparison, HTX user data showed a great reliance on both outpatient and emergency services over inpatient care during this period, with utilization spiking across all three categories with proximity to the date of death.

Call to Action: This report examines patterns of service engagement and health conditions preceding death among individuals experiencing homelessness, with the goal of identifying actionable points of intervention. The findings are intended to prompt urgent dialogue among health care providers, public agencies, and community partners about the preventable nature of these deaths. By illuminating where and how individuals interacted with the system in the months before death, this report seeks to catalyze coordinated efforts to reduce the unacceptably high rates of premature mortality in this vulnerable population.

- Mahvish Kazmi, Lucas Lin, Ben King, PhD MPHt

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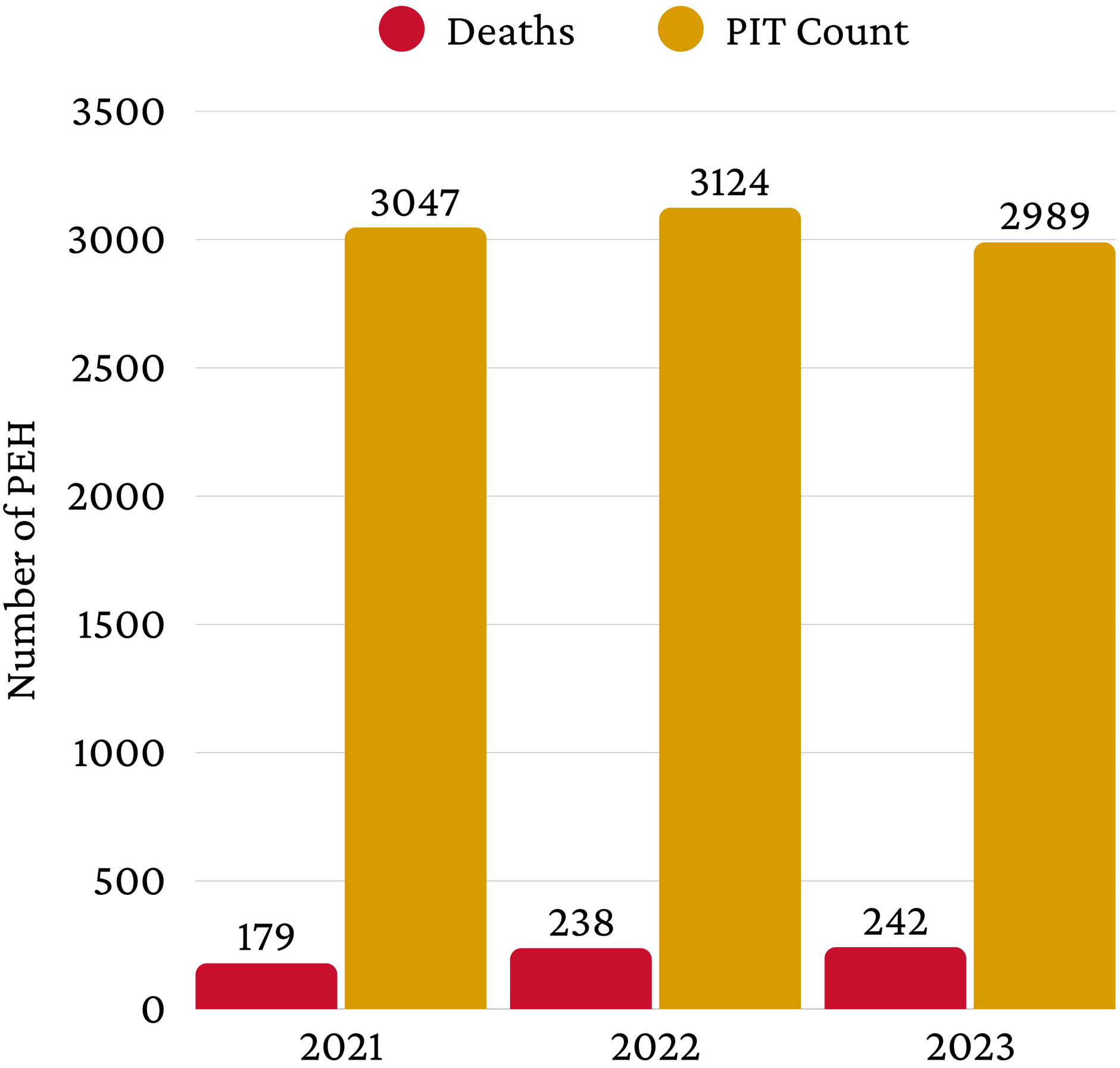
Mortality Trends

Figure 1. Point-in-Time Homeless Population Counts in Harris County for 2021–2023



In Harris County, the Point-in-Time (PIT) count of people experiencing homelessness (PEH) has remained relatively stable over the past three years, with an average of 3,000 individuals [2]. The number of deaths within this population increased from 179 in 2021 to 242 in 2023 [3,4]. The mortality rate also rose during this period, from 5.9% to 8.1%. Among PCIC/HTX service users, deaths related to acute toxicity and hypertensive cardiovascular disease (CVD) increased during the same timeframe, potentially contributing to the overall rise in mortality among PEH.

Total PEH Deaths by Race

Figure 2. Count of Deaths by Race

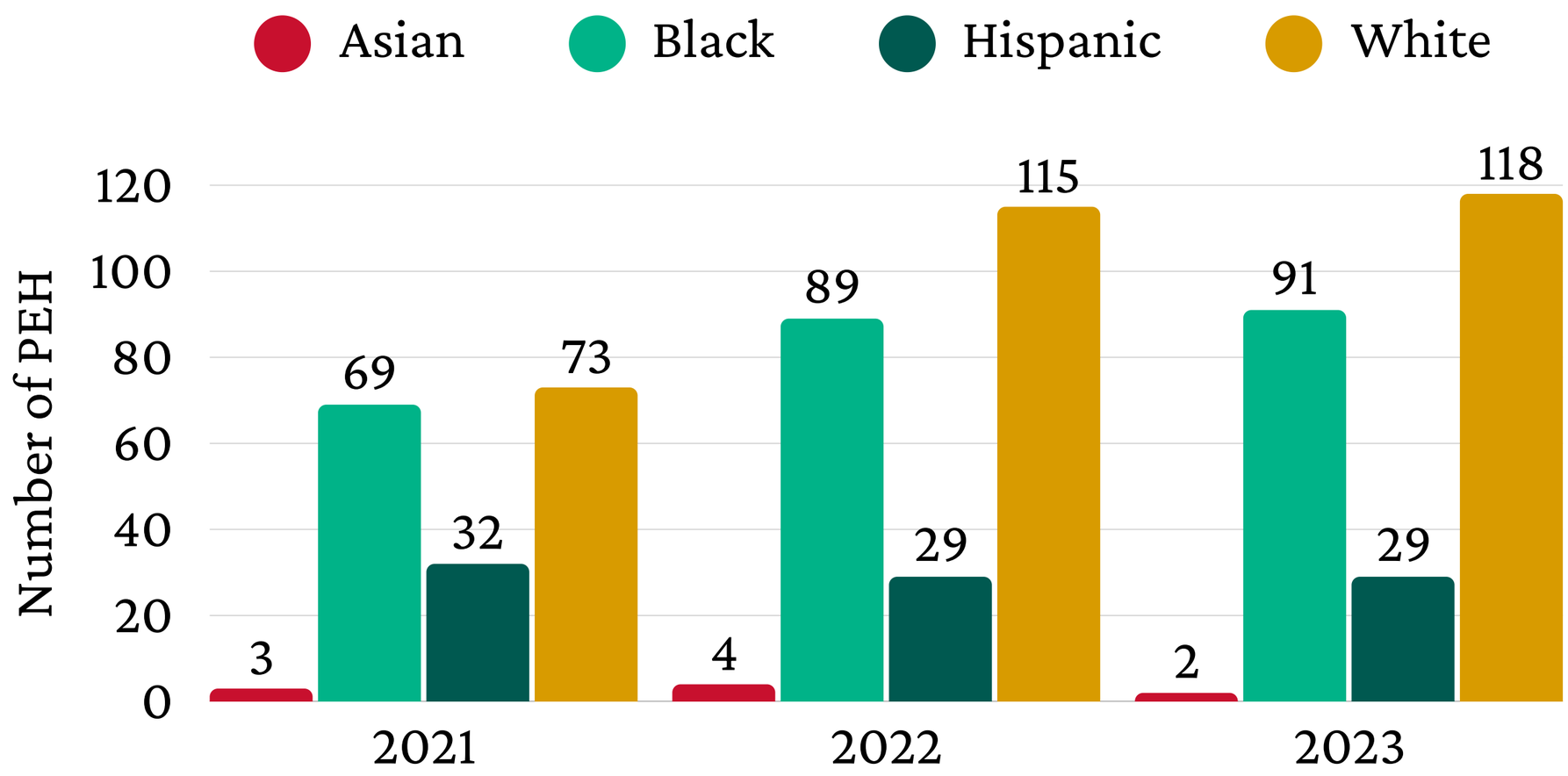


Table 1. Count and Percentage of Deaths by Race

	2021 (n)	2021 (%)	2022 (n)	2022 (%)	2023 (n)	2023 (%)
Asian	3	2%	4	2%	2	1%
Black	69	39%	89	38%	91	38%
Hispanic	32	18%	29	12%	29	12%
White	73	41%	115	48%	118	49%
Total*	179	100%	238	100%	242	100%

*five individuals with unknown race

While the proportion of deaths of Asian and Black PEH stayed stable, the proportion of Hispanic deaths fell from 18% to 12%, and White deaths rose from 41% to 49%. In 2023, Black individuals made up 21% of the general population but accounted for a disproportionately high share of homeless deaths. In contrast, Hispanic individuals comprised 44% of the population yet represented a significantly smaller share of deaths [5].

Total PEH Deaths by Sex

Figure 3. Percentage of Deaths by Sex

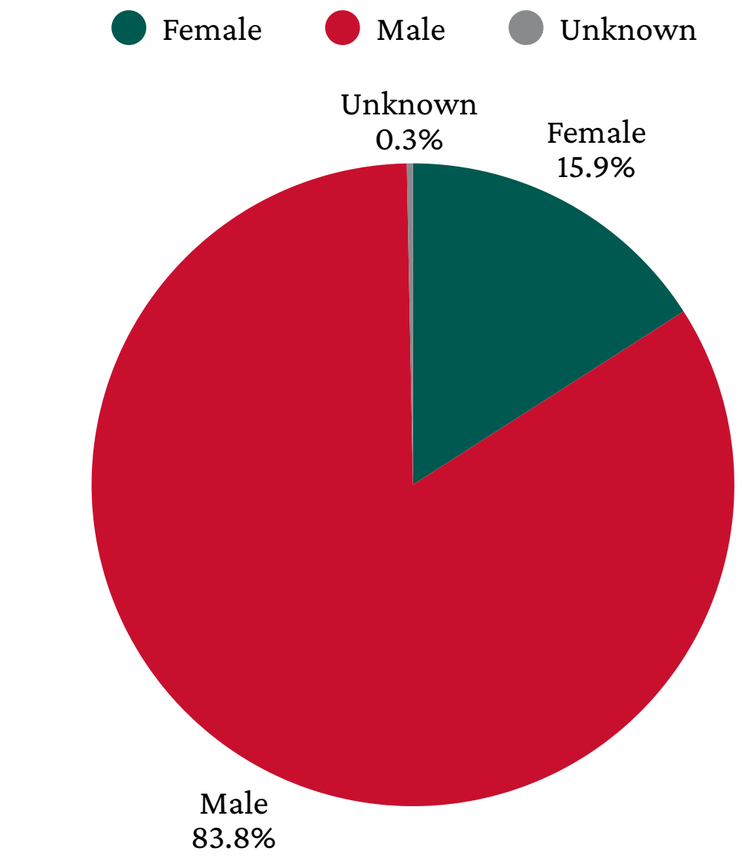
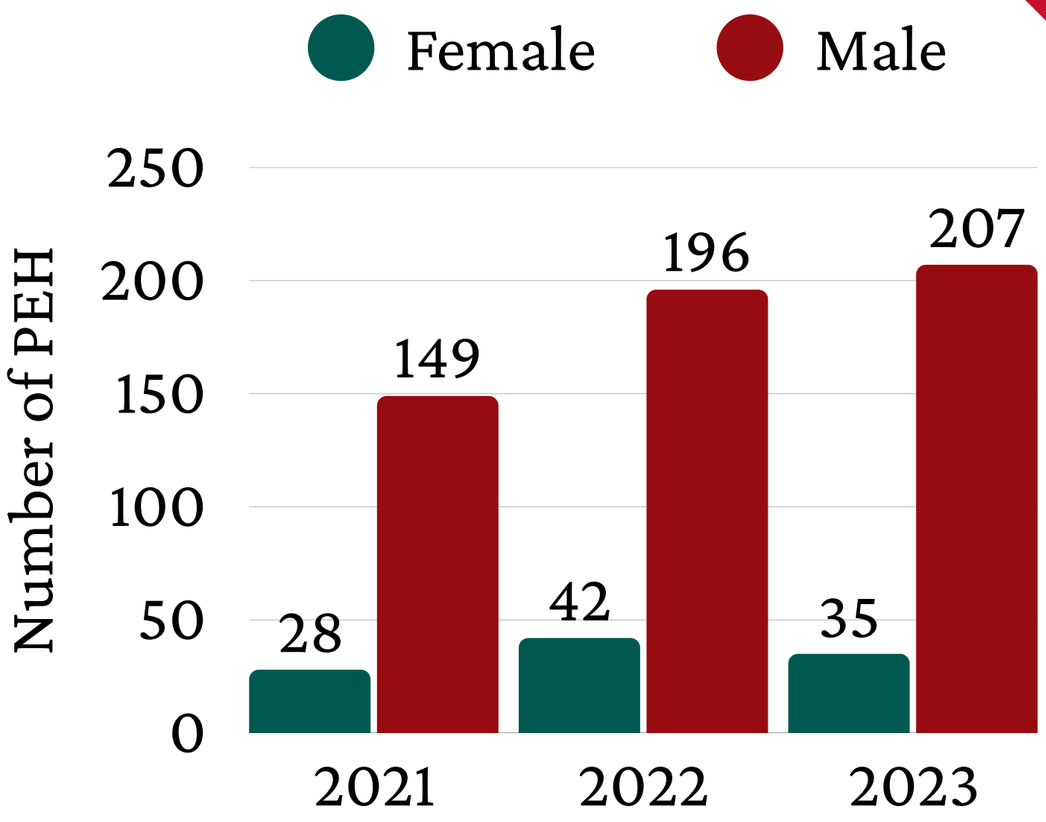


Figure 4. Count of Deaths by Sex



*two individuals with unknown sex

Between 2021 and 2023, the majority of decedents experiencing homelessness were male: 84% in 2021, 82% in 2022, and 86% in 2023. In each year, the number of deaths among males was five to six times higher than among females. In 2023, 62% of the total population experiencing homelessness were male, with a higher percentage in the unsheltered population (78%) [2]. Considering that males made up only 49.6% of Harris County's population in 2023, this reflects an overrepresentation of males among homelessness-related deaths [5].

Median Age of Death among PEH by Sex

Table 2. Median Age of Deaths by Sex

	2021	2022	2023
Female	46	48	45
Male	53	52	52

From 2021 to 2023, the median age of death for females ranged from 45 to 48, while for males it remained higher, between 52 and 53. This suggests that women experiencing homelessness tended to die at younger ages than their male counterparts. In all three years, over half of female deaths occurred before age 50, while more than half of male deaths occurred after age 50.

Manners of Death Between Users and Non-Users of PCIC/HTX Services

Figure 5. Count of Users by Manners of Death

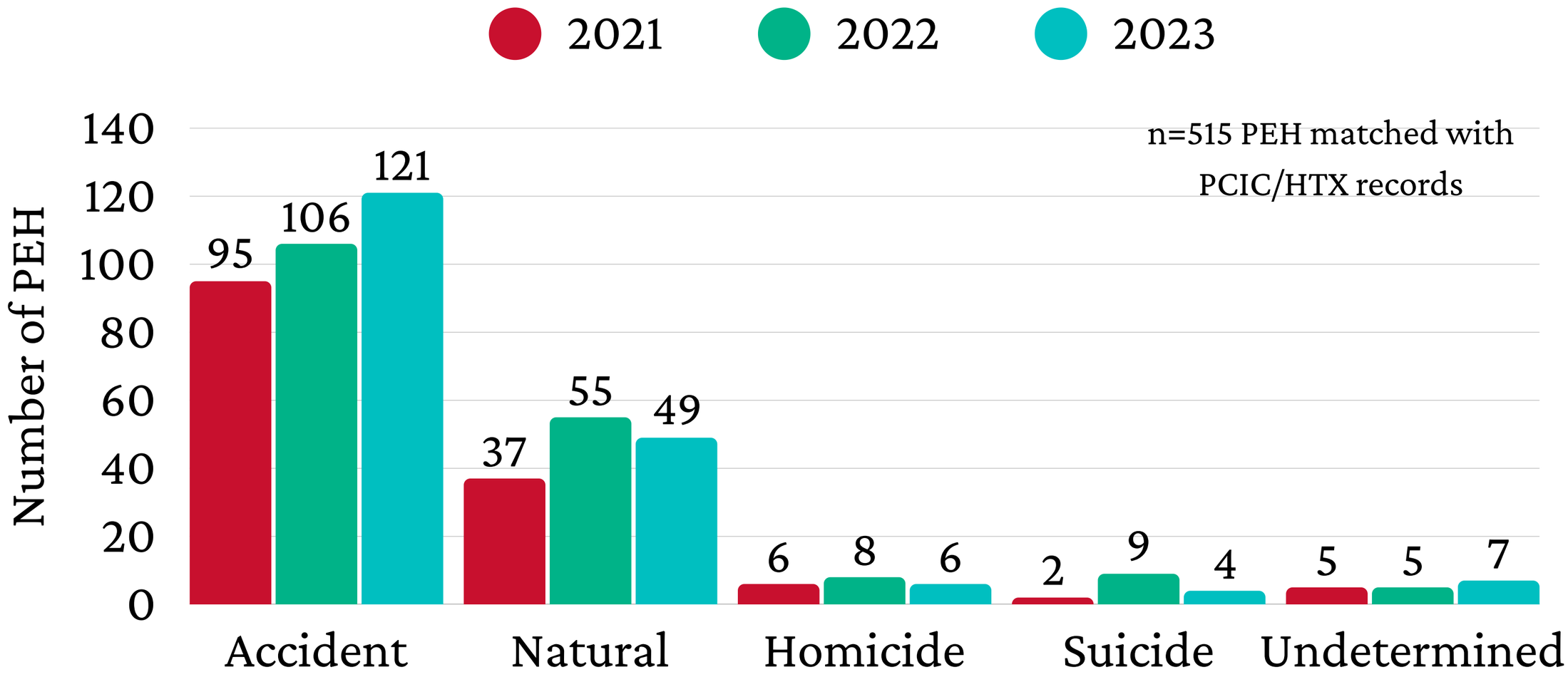
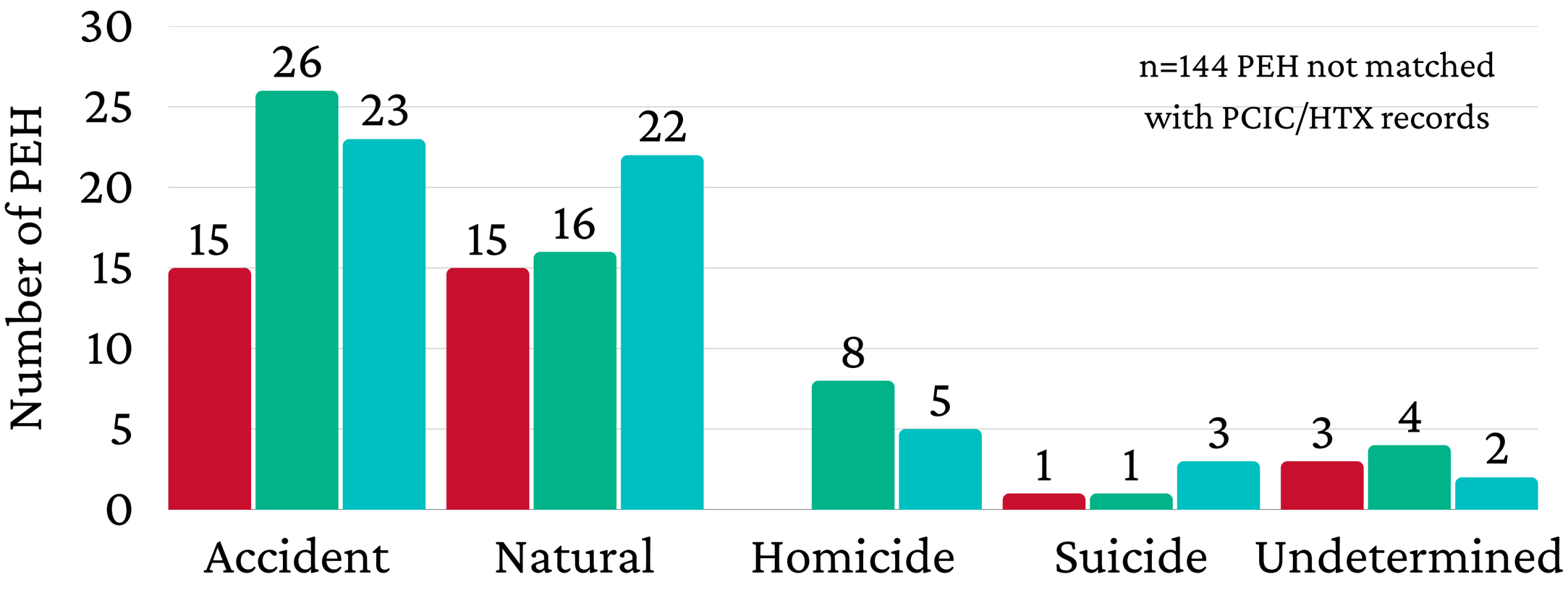


Figure 6. Count of Non-Users by Manners of Death



The two figures present data on the manners of death between PEH who utilized PCIC/HTX services and those who didn't. Between 2021 and 2023, accidents were the leading manner of death for both users and non-users, including causes such as acute toxicity, drowning, fire-related incidents, and motor vehicle collisions, pointing out the high-risk environment and hazardous circumstances that PEH frequently face. Following accidents, natural causes emerged as the second most common manner of death in both groups, likely reflecting increased vulnerability to chronic diseases and infections, which are exacerbated by limited access to health care, poor nutrition, and unstable living conditions.

Causes of Death Between Users and Non-Users of PCIC/HTX Services

Figure 7. Count of Users by Causes of Death

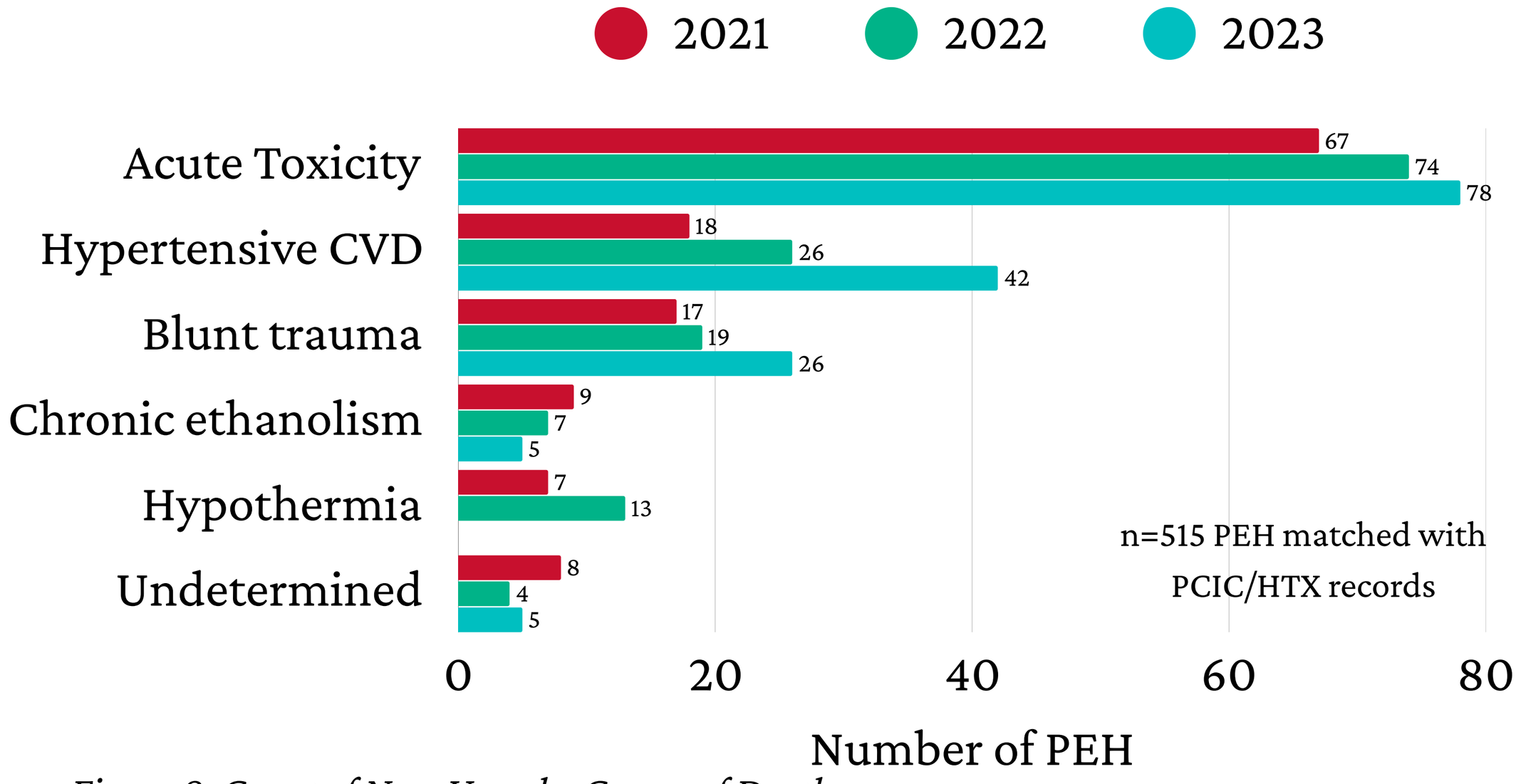
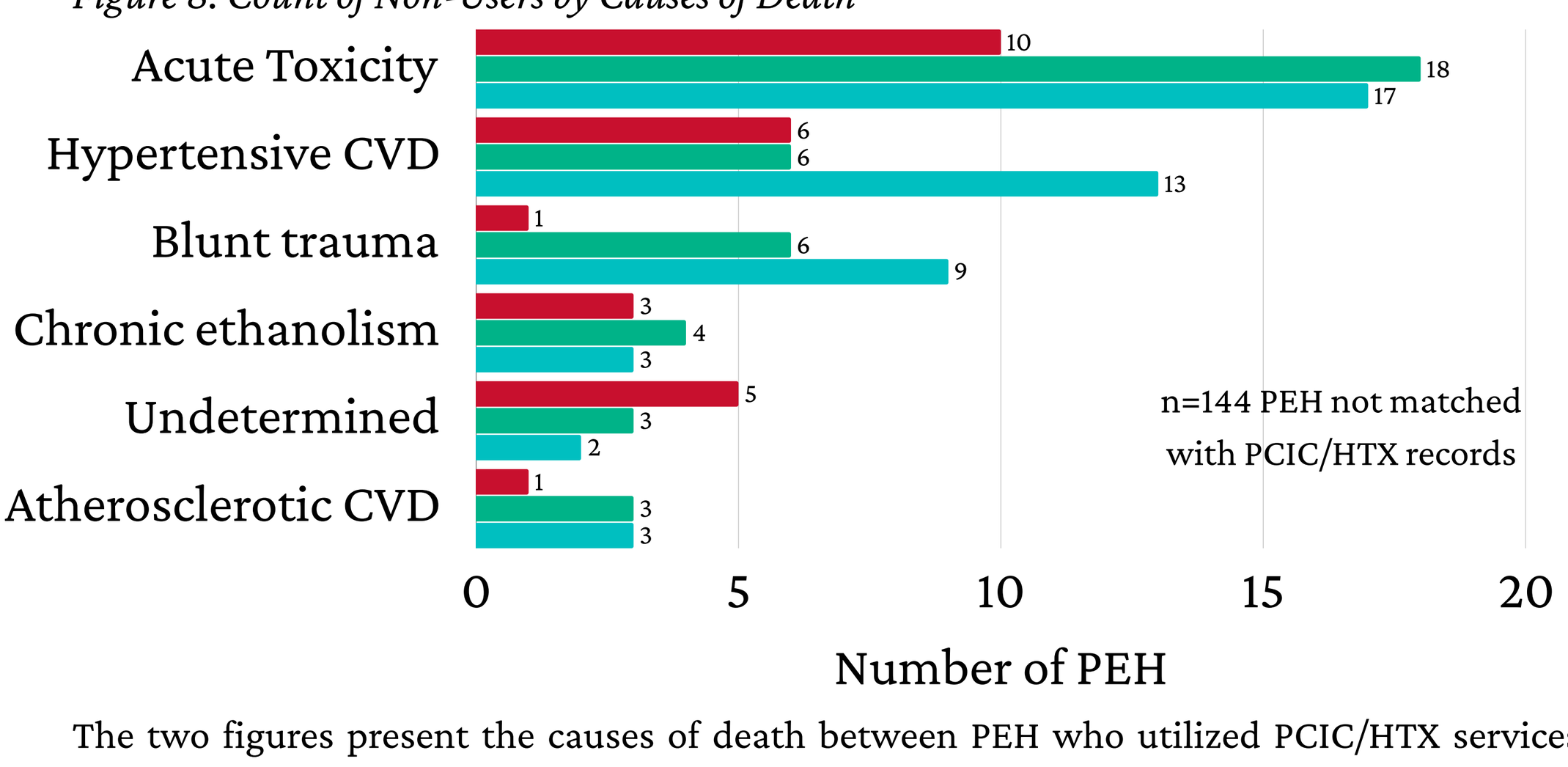


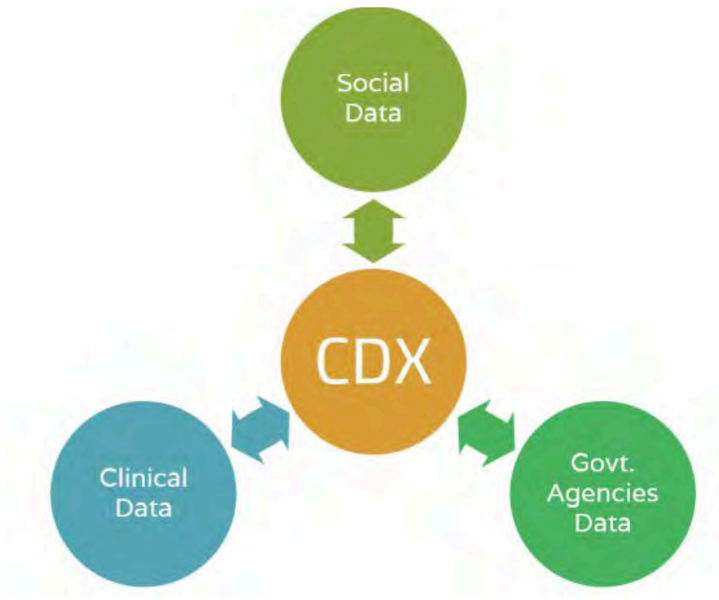
Figure 8. Count of Non-Users by Causes of Death



The two figures present the causes of death between PEH who utilized PCIC/HTX services and those who didn't. Among both groups, acute toxicity was the leading non-natural cause of death, highlighting the ongoing impact of the substance use crisis within this population. This finding highlights the need for expanded harm reduction strategies, substance use treatment access, and coordinated behavioral health services. In terms of natural causes, hypertensive CVD was the leading natural cause of death, highlighting the burden of chronic illness among PEH. Notably, a high number of PEH deaths were due to blunt force trauma.

Patient Care Intervention Center (PCIC)

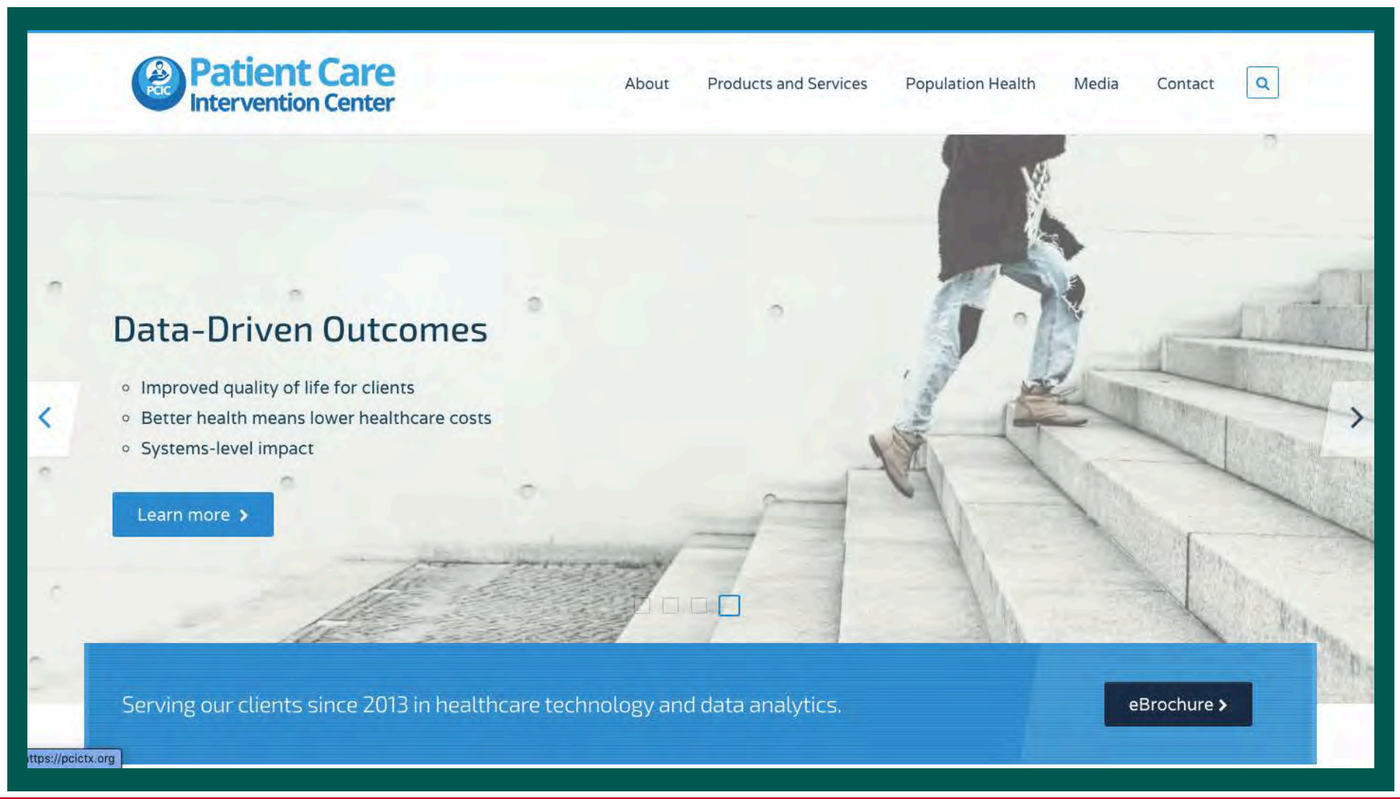
The Patient Care Intervention Center is a Houston-based non-profit organization that is dedicated to enhancing health equity through the integration of clinical, behavioral, and social determinants of health and turning them into actionable insights through data. PCIC collaborates with local governments, hospital systems, health plans, federally qualified health centers, health maintenance organizations, and social service agencies to streamline coordination of care and patient data sharing. PCIC's data originates from a county-wide health database that links client information from various health care, law enforcement, and social service entities in the Greater Houston region, enabling comprehensive tracking and identification of service gaps. Their mission is to humanize health equity by providing partners with insights that drive action, guiding individuals toward achievable health and well-being.



Social Data - Homeless & Housing Programs, Social Services Programs

Clinical Data - Hospitals, Payers, EMS, Behavioral Health

Government Agencies - Jails and Criminal Justice System



Patient Care Intervention Center

PCIC Service Utilization of PEH Before Death (All Time)

Table 3. PCIC Service Utilization Among PEH of All Time

	2021 n(%)		**2022** n(%)	
Users	97	54%	143	60%
Non-users	82	46%	95	40%
Total PEH Deaths	179	100%	238	100%

Figure 9. Percent with Service Use in 2021

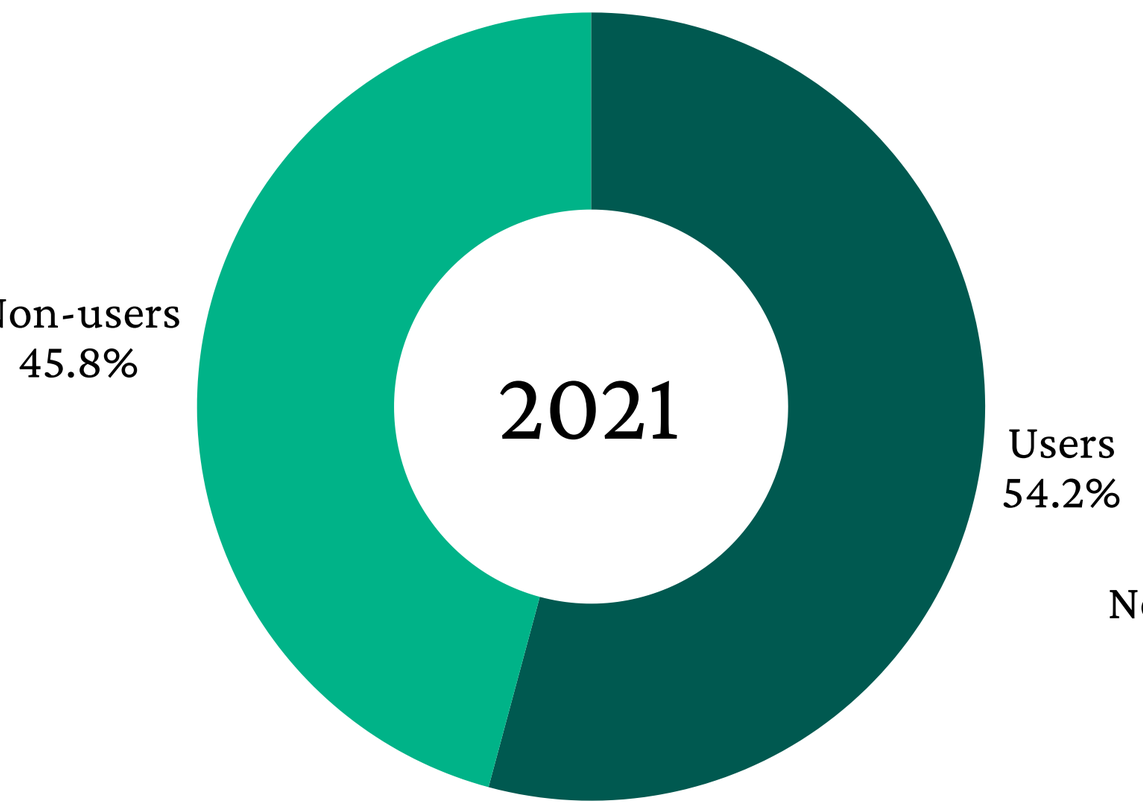
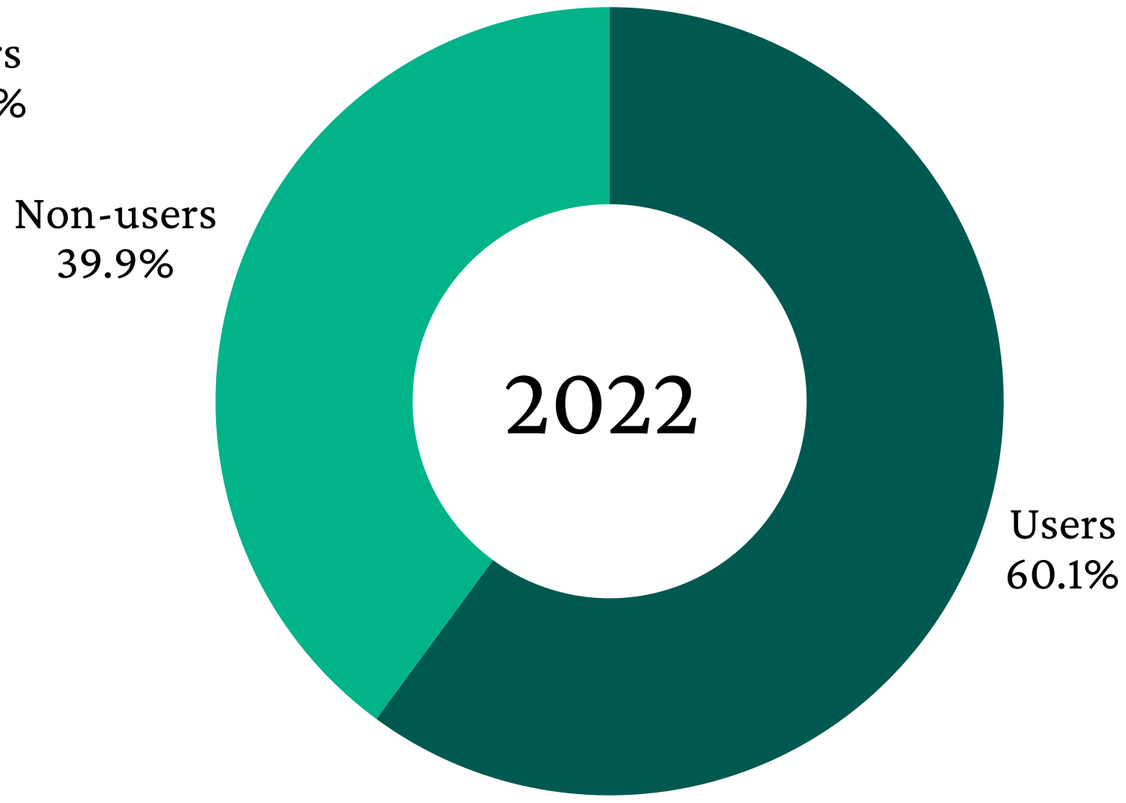


Figure 10. Percent with Service Use in 2022



PCIC service utilization increased from 2021 to 2022, from 54% to 60%, but total deaths among PEH also increased from 179 to 238. Counts of service utilization reflect PEH who have had any records of service interaction before death. Only those who died in 2021 and 2022 had records available for PCIC.

PCIC Service Utilization of PEH Before Death (One Year Before Death)

Table 4. PCIC Service Utilization Among PEH Within a Year Before Death

	2021		2022	
Users	75	42%	124	52%
Non-users	104	58%	114	48%
Total PEH Deaths	179	100%	238	100%

Figure 11. Percent of PCIC Service Users Within a Year Before Death in 2021

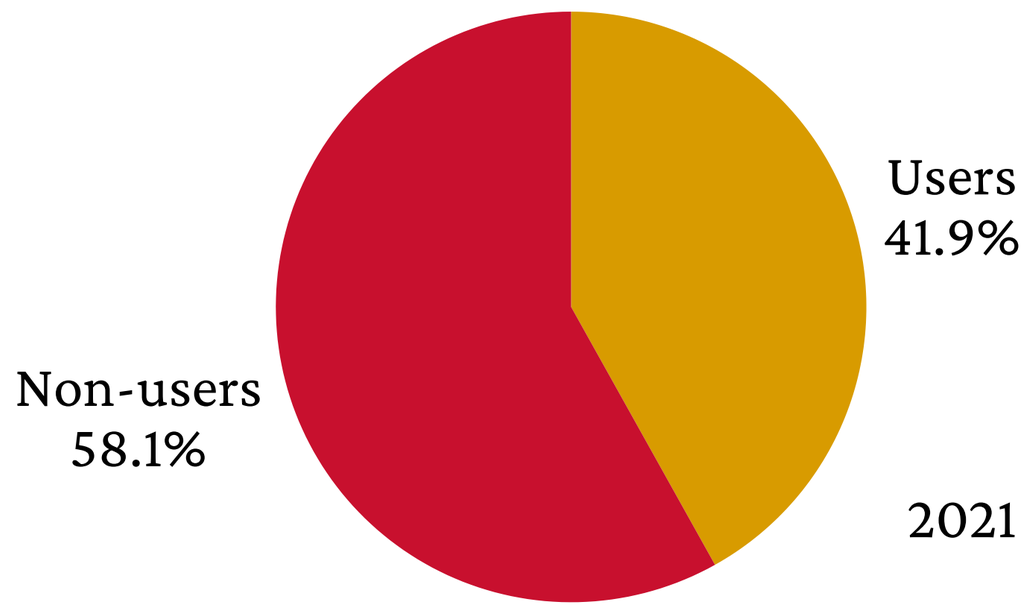


Figure 12. Percent of PCIC Service Users Within a Year Before Death in 2022

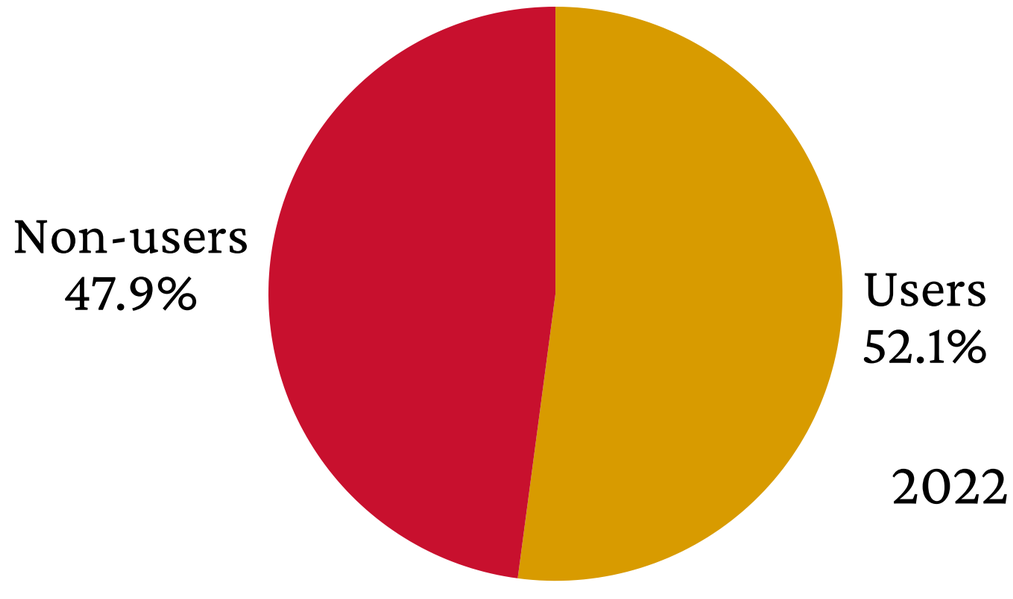
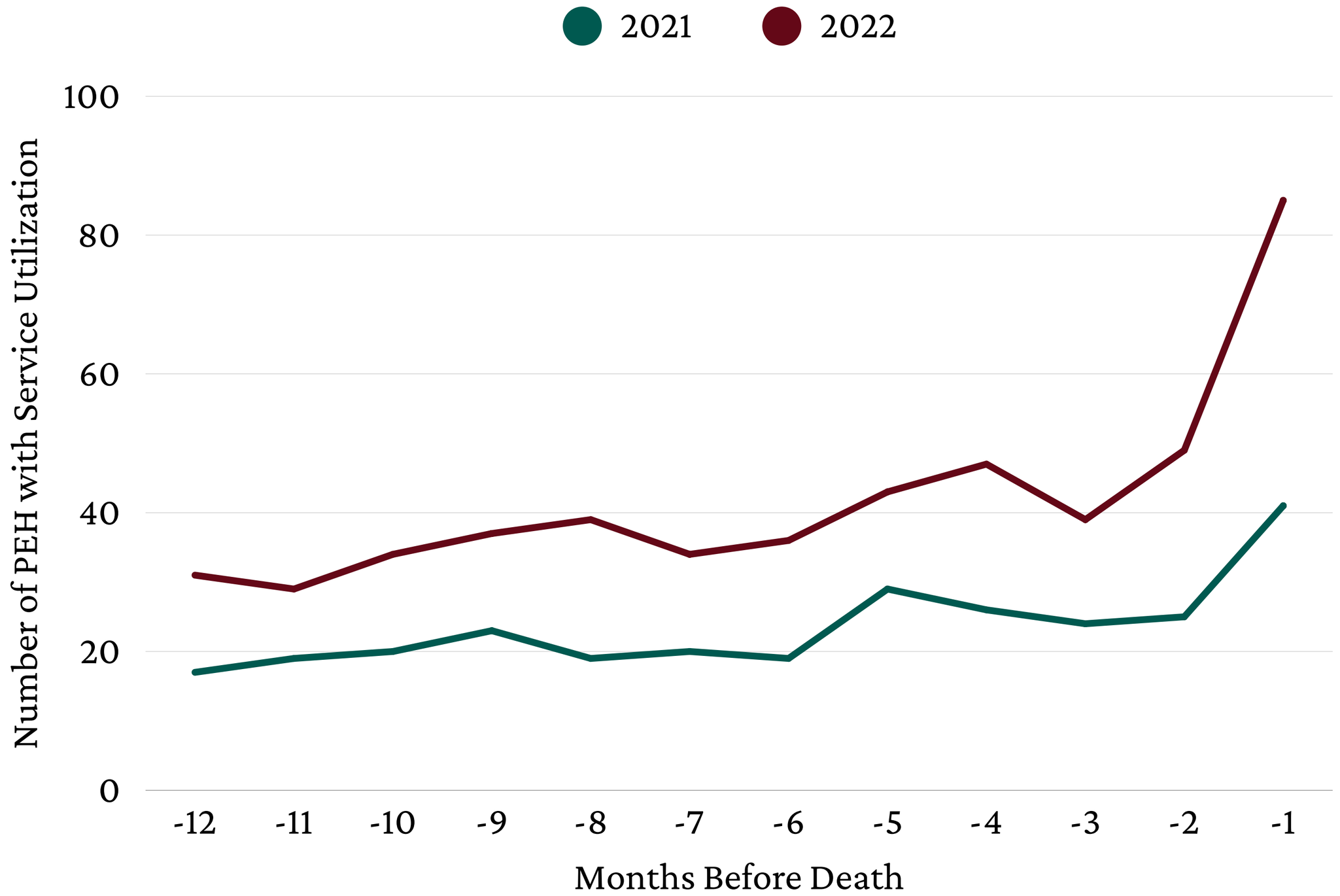


Table 4 and Figures 7 and 8 show PCIC service utilization among individuals who died while experiencing homelessness in 2021 and 2022. In 2021, 42% of decedents had used PCIC services within a year before their death, while 58% had not. By 2022, the proportion of service users increased to 52%, indicating greater engagement with PCIC services prior to death.

PCIC Service Utilization of PEH by Months Before Death*

Figure 13. Monthly PCIC Service Utilization Among Decedents in the 12 Months Prior to Death, 2021–2022



The figure above displays monthly PCIC service utilization during the 12 months preceding death for individuals who died in 2021 and 2022. Service utilization was consistently higher in 2022 compared to 2021 throughout the year. In both years, the number of service users remained relatively stable between 12 and 3 months before death. However, a noticeable increase in service utilization occurred in the final two months before death, particularly in 2022, where utilization sharply rose, peaking during the month immediately preceding death. This trend suggests a pattern of increasing service engagement as individuals approached death, more pronounced in 2022 than in 2021. Notably, the data include the final encounter resulting in death, which may inflate the observed spike and may confound interpretation of true engagement trends.

*Only includes data from PEH who used PCIC services within one year prior to death (n-199); excludes any non-users

PCIC Service Utilization of PEH Months before Death by Service Sector*

Figure 14. Monthly PCIC Service Utilization Among Decedents in the 12 Months Prior to Death by Service Sector, 2021–2022

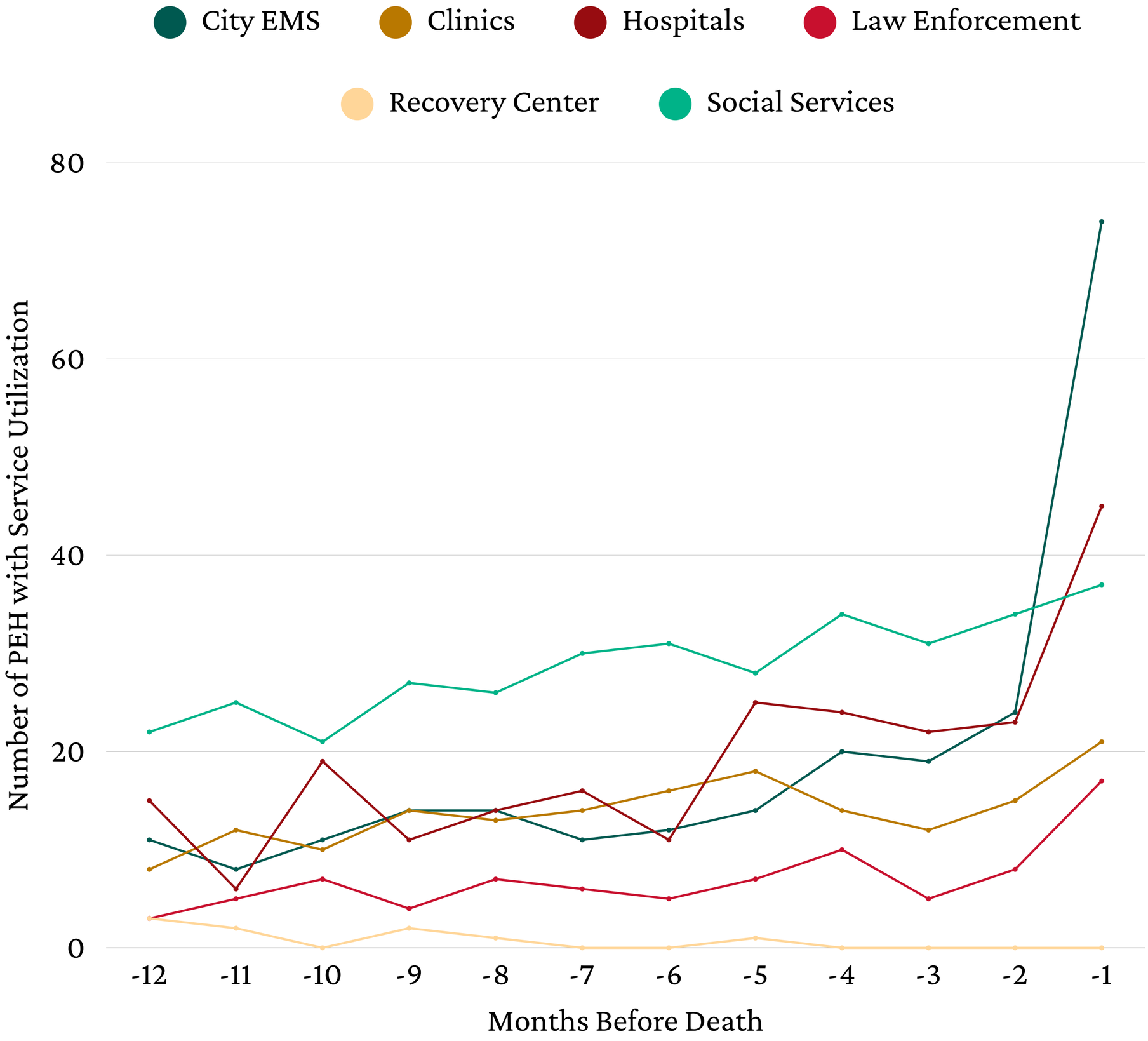


Figure 14 displays monthly service utilization by service sector during the 12 months prior to death for those who died in 2021 and 2022. Social services consistently had among the highest number of users each month, showing an overall increase over the 12-month period. City EMS and hospital utilization remained relatively steady throughout most of the year but rose substantially in the final month before death. Clinic engagement and law enforcement encounters showed similar levels of utilization with moderate fluctuations over time. Recovery center services had the fewest users overall, with no interactions at all within the last four months prior to death for any decedent. Overall, service utilization across nearly all sectors increased closer to the time of death, suggesting heightened system interaction in individuals' final months. Our service records, however, were not able to exclude last interaction resulting in death.

PCIC Service Utilization of PEH Decedents by Service Sector*

Table 5. Count of PEH Using PCIC Services and Median Utilization per Person (PP) Within a Year Before Death by Service Sector

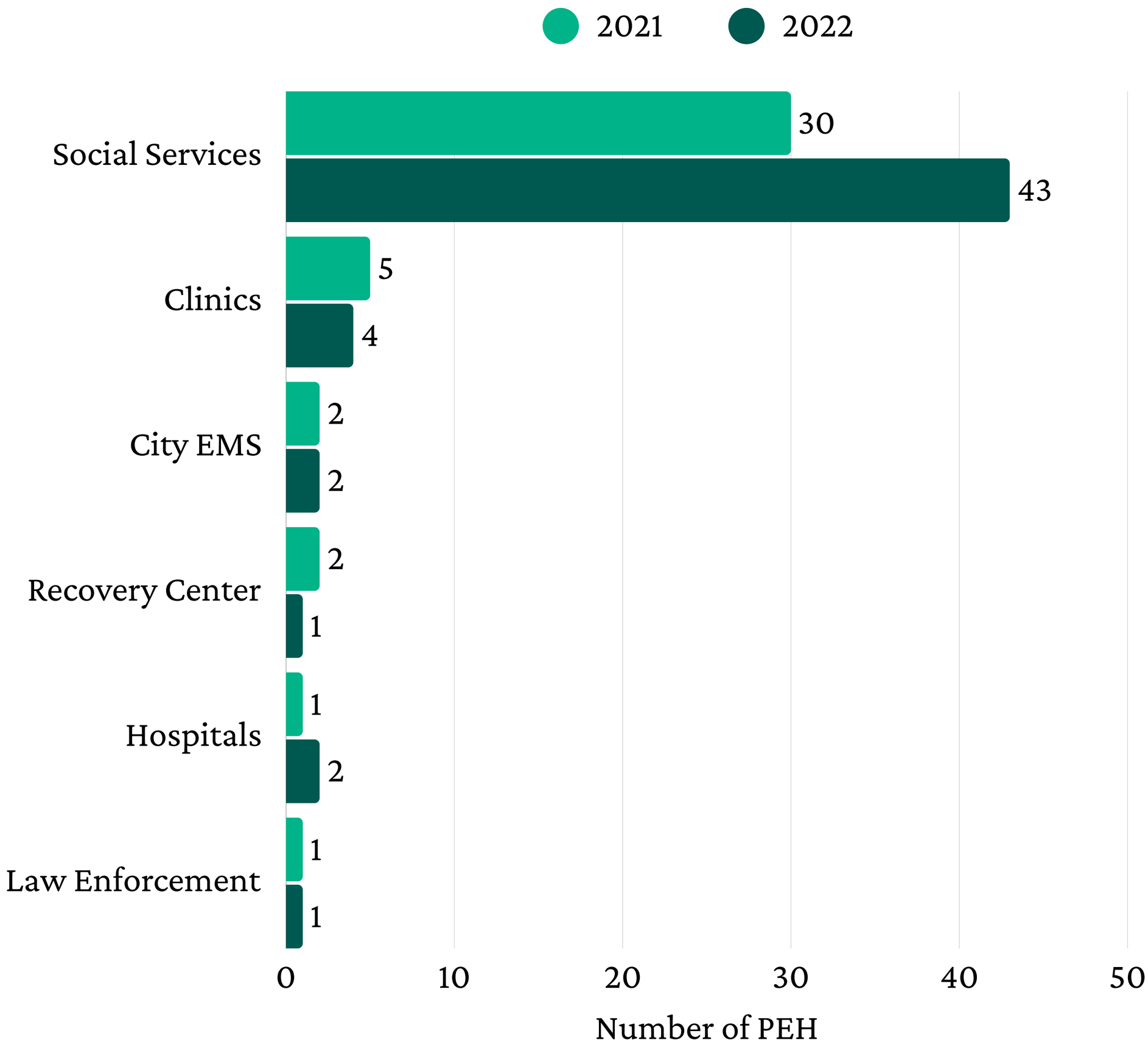
Service Sector	2021		2022	
	Number of people	**Median Utilization PP**	Number of people	**Median Utilization PP**
City EMS	45	2	78	1.5
Hospitals	39	1	65	2
Law Enforcement	26	1	38	1
Clinics	25	5	37	4
Social Services	19	30	37	43
Recovery Center	4	2	4	1
Total	**75**	**4**	**124**	**5**

Note: People can have services in multiple service sectors

Table 5 summarizes PCIC service utilization within a year of death by service sector for 2021 and 2022. The number of decedents utilizing services increased across most sectors between 2021 and 2022, with the largest numbers observed for city EMS (from 45 to 78 individuals) and hospitals (from 39 to 65 individuals). Although the number of encounters with law enforcement and clinics also rose, the proportion of users accessing these services declined. In 2021, 37% of users engaged with law enforcement services, compared to 30% in 2022. Similarly, clinic service utilization decreased from 33% of users in 2021 to 30% in 2022.

Median PCIC Service Utilization of PEH per Person by Service Sector*

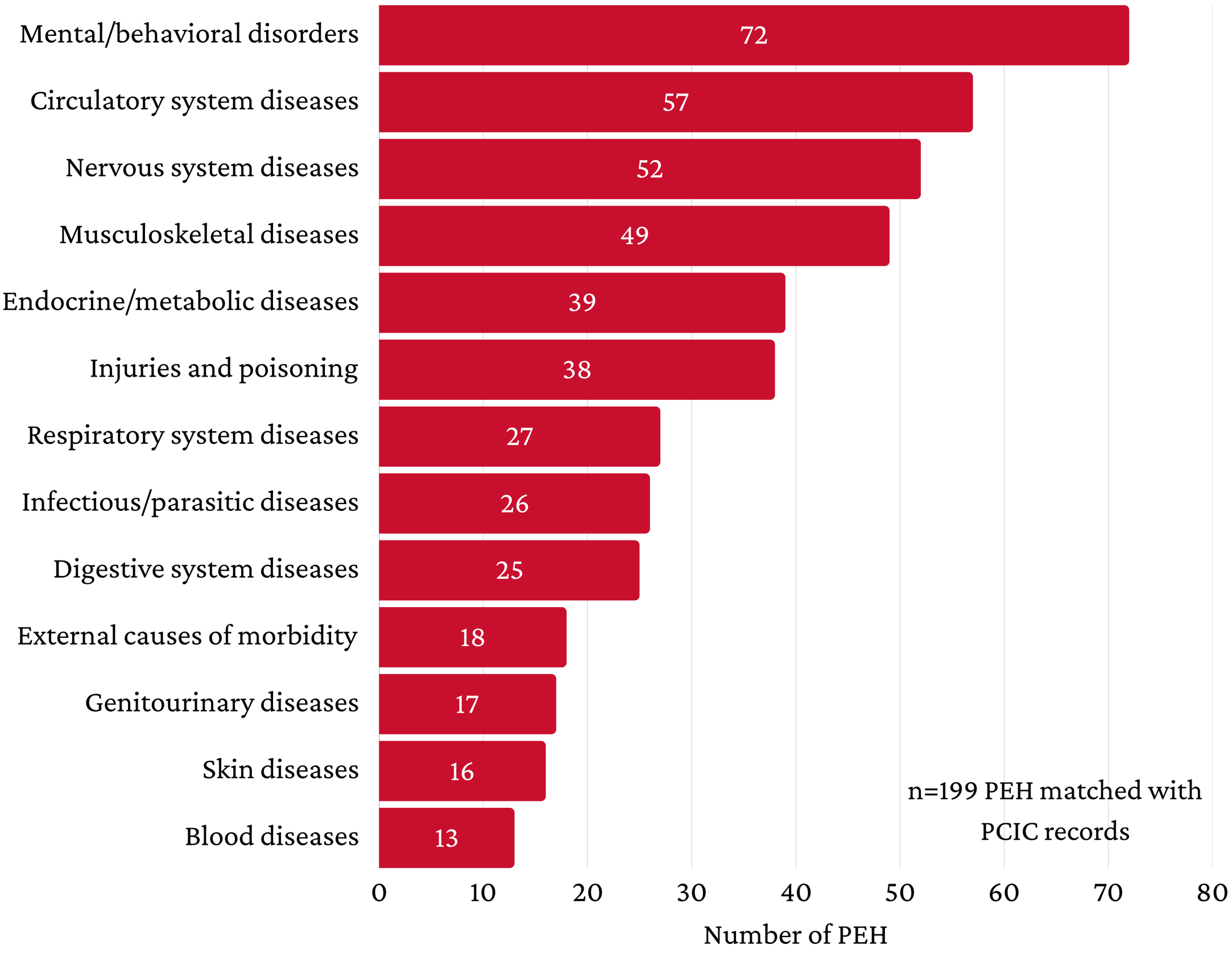
Figure 15. Median PCIC Utilization per Person by Service Sectors



The figure illustrates the median PCIC service utilization per person among PEH by service sector for the years 2021 and 2022. The median number of service utilizations per person varied by sector, with social services standing out as the most utilized sector in both years. Social service utilization had a notable increase from a median of 30 in 2021 to 43 in 2022. Clinic use slightly decreased from a median of 5 to 4, while city EMS remained consistent at 2. Other sectors, including recovery centers, hospitals, and law enforcement, saw minimal to no change, maintaining relatively low utilization levels. Overall, the data highlights growing engagement with social services, indicating its central role in supporting this population.

Top Health Conditions of PEH Who Utilized PCIC Services Before Death*

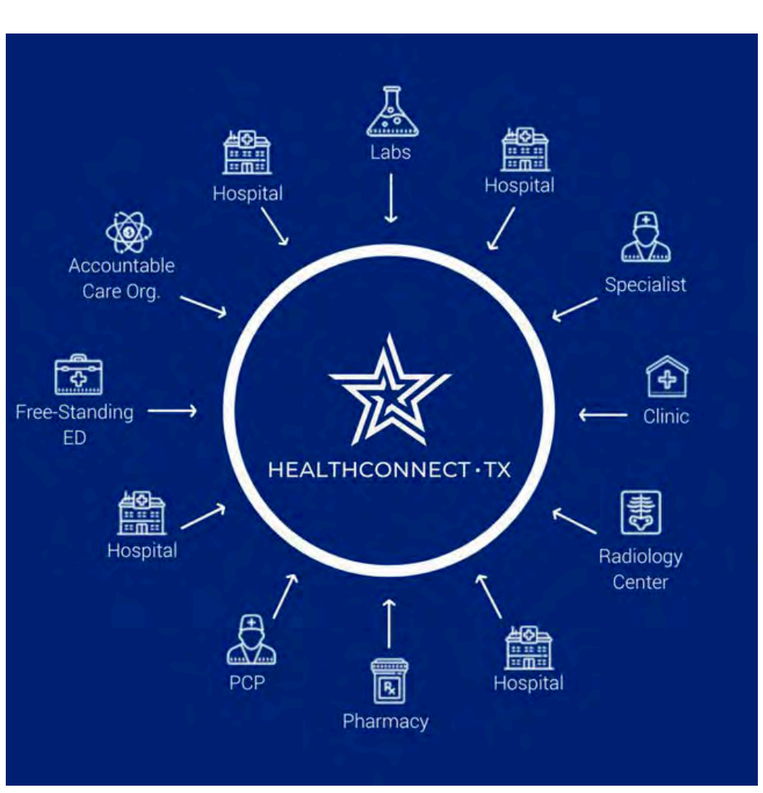
Figure 16. Count of PEH With Most Common Diagnosed Health Conditions Within a Year Prior to Death

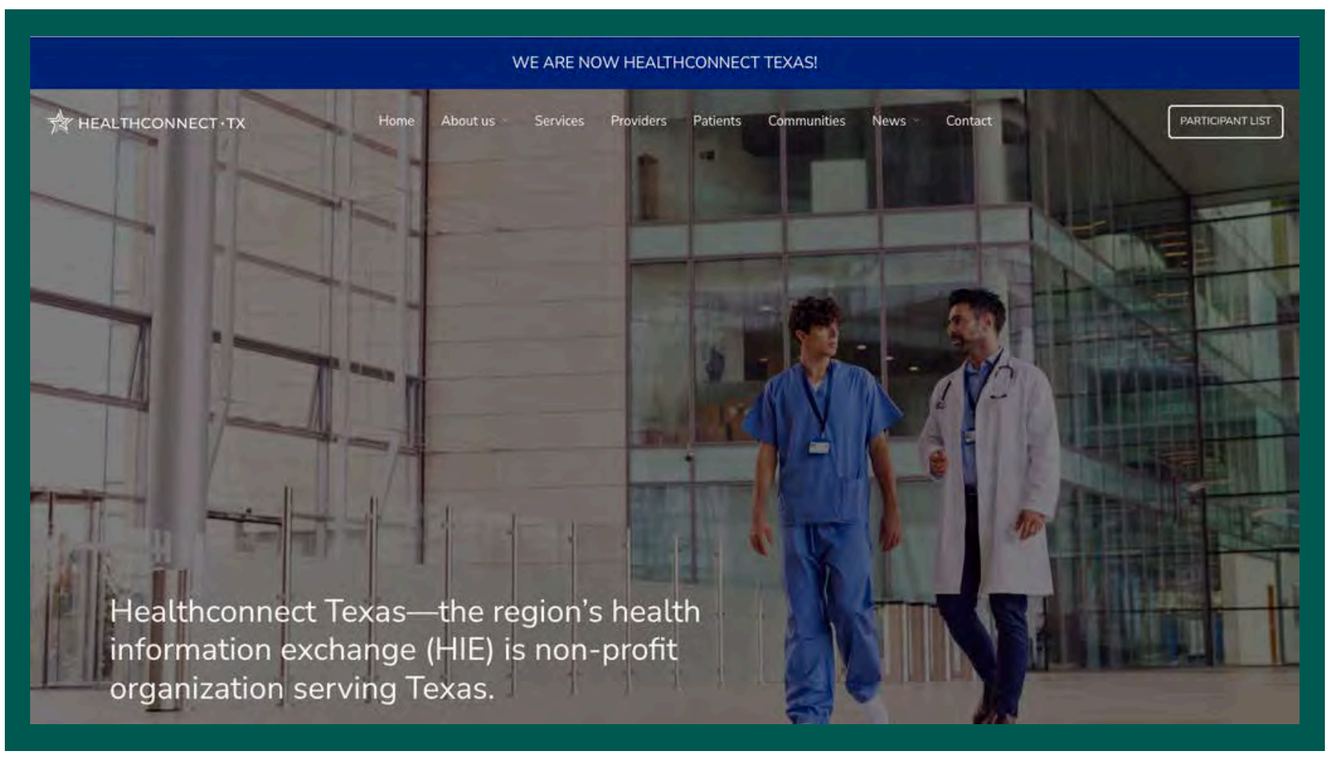


The figure shows most common health conditions diagnosed among PEH who accessed PCIC services within a year prior to their death [6]. Among the 199 PEH who utilized services, mental and behavioral disorders were the most common diagnoses, affecting 72 individuals. These include conditions such as substance use disorders, mood disorders, and other psychiatric conditions. Diseases of the circulatory system were the second most common, reported in 57 individuals, and may encompass conditions such as hypertension, heart failure, and other cardiac-related issues. This was followed by nervous system diseases (n=52), musculoskeletal diseases (n=49) and endocrine/metabolic diseases (n=39). The distribution highlights the complex interplay between mental, neurological, and chronic physical health issues in end-of-life care for this population.

Healthconnect Texas (HTX)

Healthconnect Texas is the largest non-profit health information exchange (HIE) serving Texas, dedicated to enhancing clinical integration across the care continuum. HIEs serve as a warehouse for administrative data collected on healthcare system clients in order to improve care coordination. By connecting disparate electronic record systems across hospitals, health systems, integrated delivery networks, community clinics, and service providers, HTX has developed a robust ecosystem encompassing over 2,500 care venues and enabled the exchange of clinical information. This network represents 95% of the region's largest hospitals and health systems, with a data repository reflecting over 23 million unique patients. The integration of health information aims to improve health care delivery by enhancing patient safety, improving quality, saving time, reducing costs, and increasing efficiencies.





HTX Service Utilization of PEH Before Death (All Time)

Table 6. HTX Service Utilization Among PEH of All Time

	2021 n(%)		**2022** n(%)		**2023** n(%)	
Users	111	62%	148	62%	187	77%
Non-users	68	38%	90	38%	55	23%
Total PEH Deaths	179	100%	238	100%	242	100%

Figure 17. Percent with Service Use in 2021

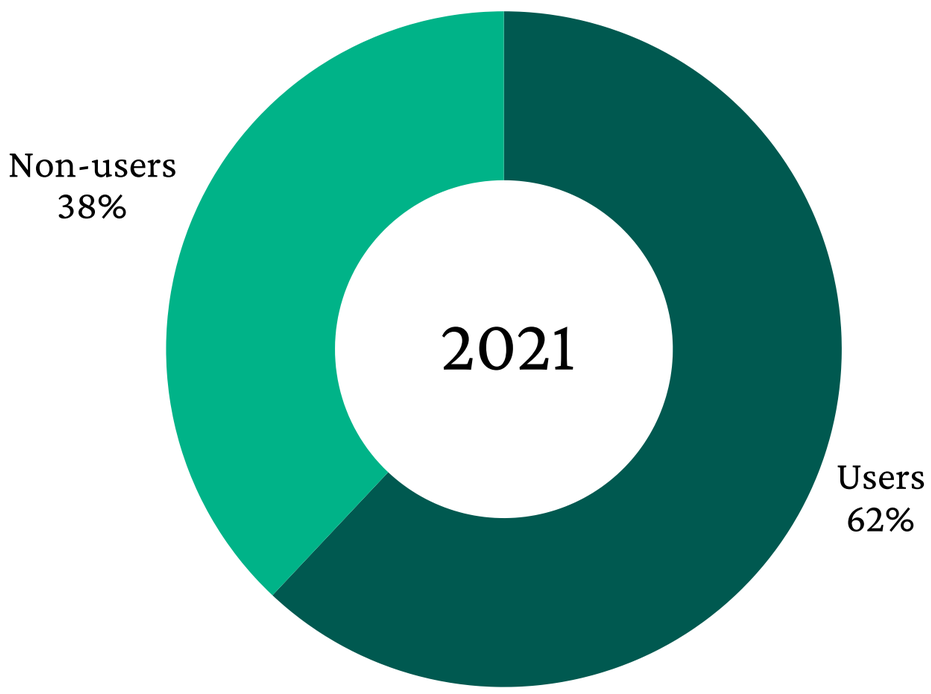


Figure 18. Percent with Service Use in 2022

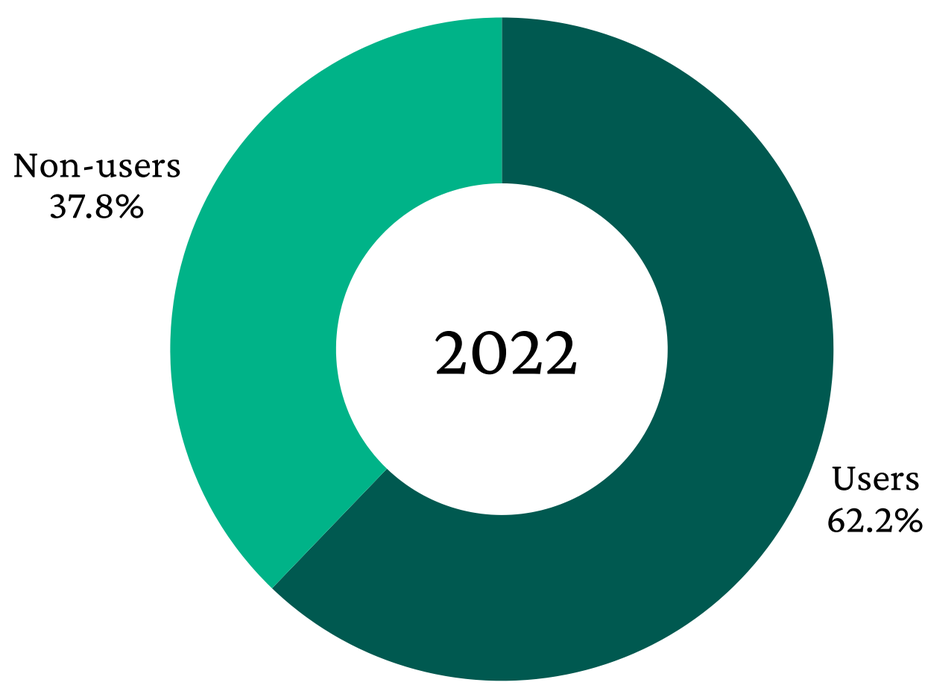
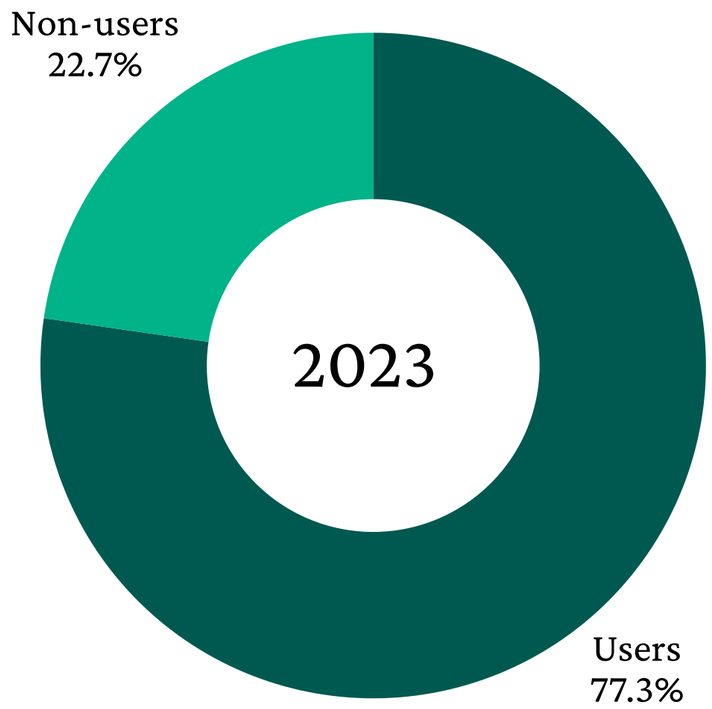


Figure 19. Percent with Service Use in 2023



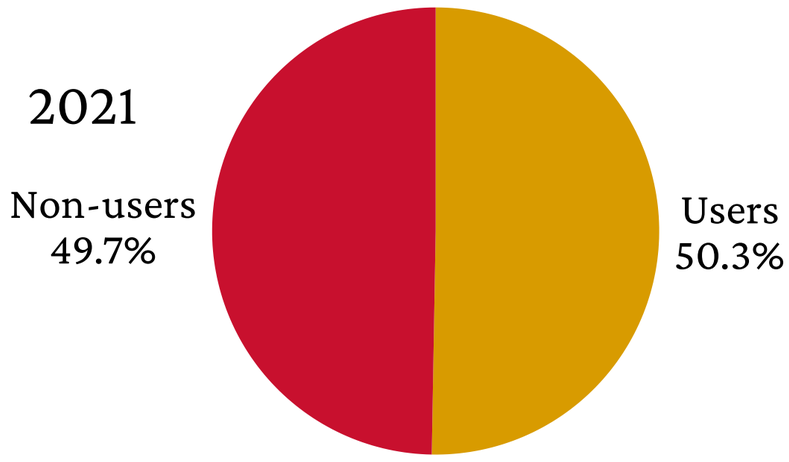
Counts of healthcare service utilization of providers reflect PEH who have had any record of medical service utilization through providers in the HTX network, prior to death. HTX service utilization increased from 2021 to 2023, from 62% up to 77%, but total deaths among persons experiencing homelessness also increased over time from 179 in 2021 to 242 in 2023.

HTX Service Utilization of PEH Before Death (One Year Before Death)

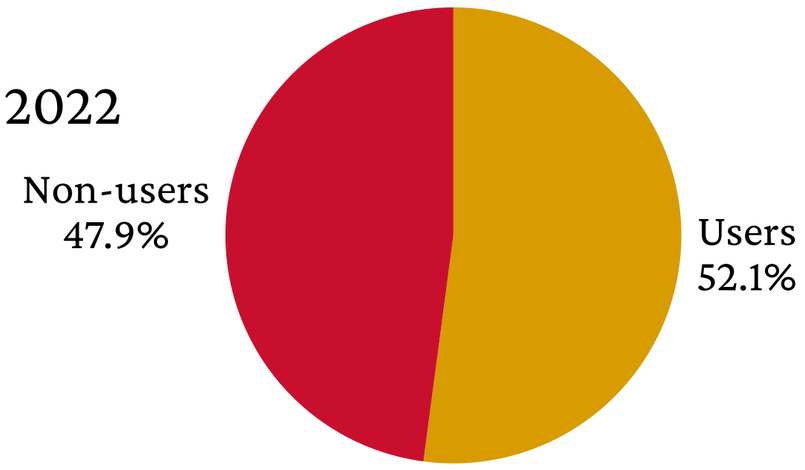
Table 7. HTX Service Utilization Among PEH Within a Year Before Death

	2021		2022		2023	
Users	90	50%	131	55%	163	67%
Non-users	89	50%	107	45%	79	33%
Total PEH Deaths	179	100%	238	100%	242	100%

Figures 20. Percent of Service Users Within a Year Before Death in 2021

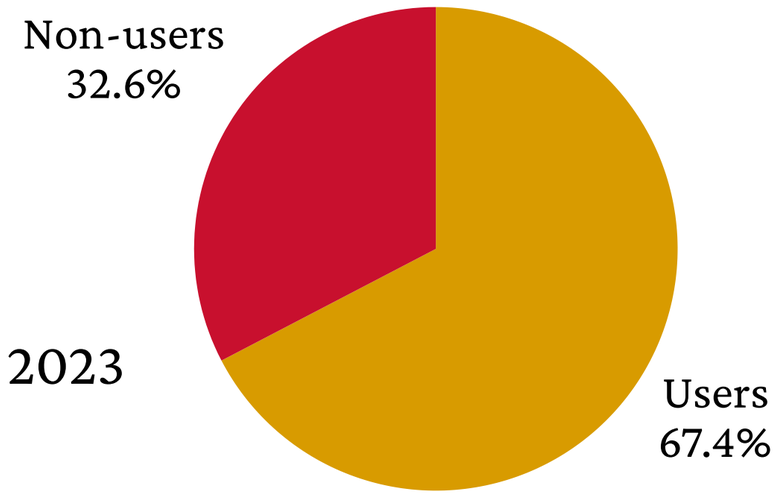


Figures 21. Percent of Service Users Within a Year Before Death in 2022



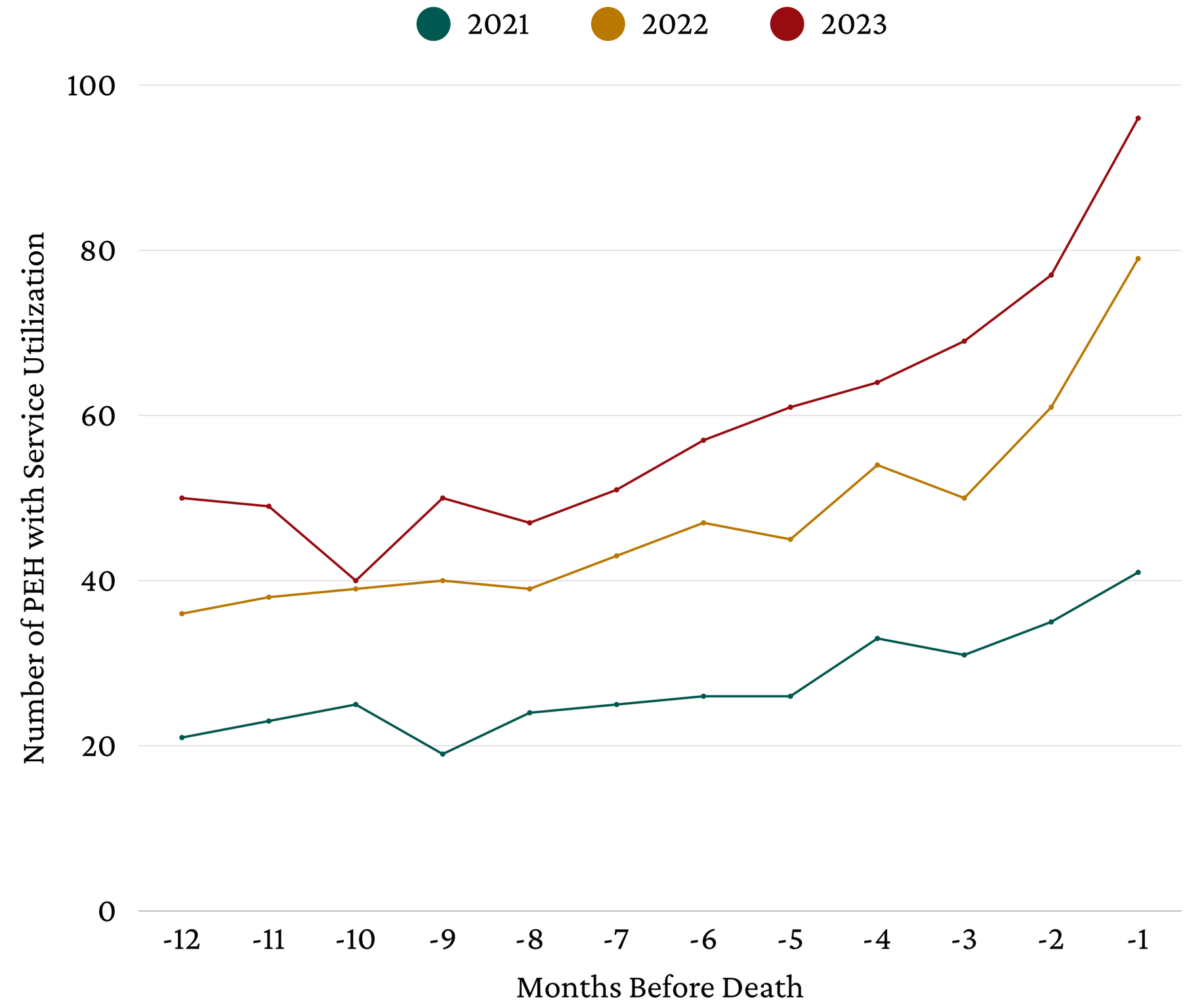
The table and figures show HTX service utilization among PEH between 2021 and 2023. In 2021, 50% of decedents had used HTX services within a year of death, while 50% had not. By 2022, the proportion of service users increased to 52%, and by 2023, the proportion of service users further increased to 67%, indicating greater engagement with HTX services prior to death in more recent years.

Figures 22. Percent of Service Users Within a Year Before Death in 2023



Number of PEH Who Utilized HTX Services Before Death by Death Year†

Figure 23. Monthly HTX Service Utilization Among Decedents in the 12 Months Prior to Death, 2021–2023

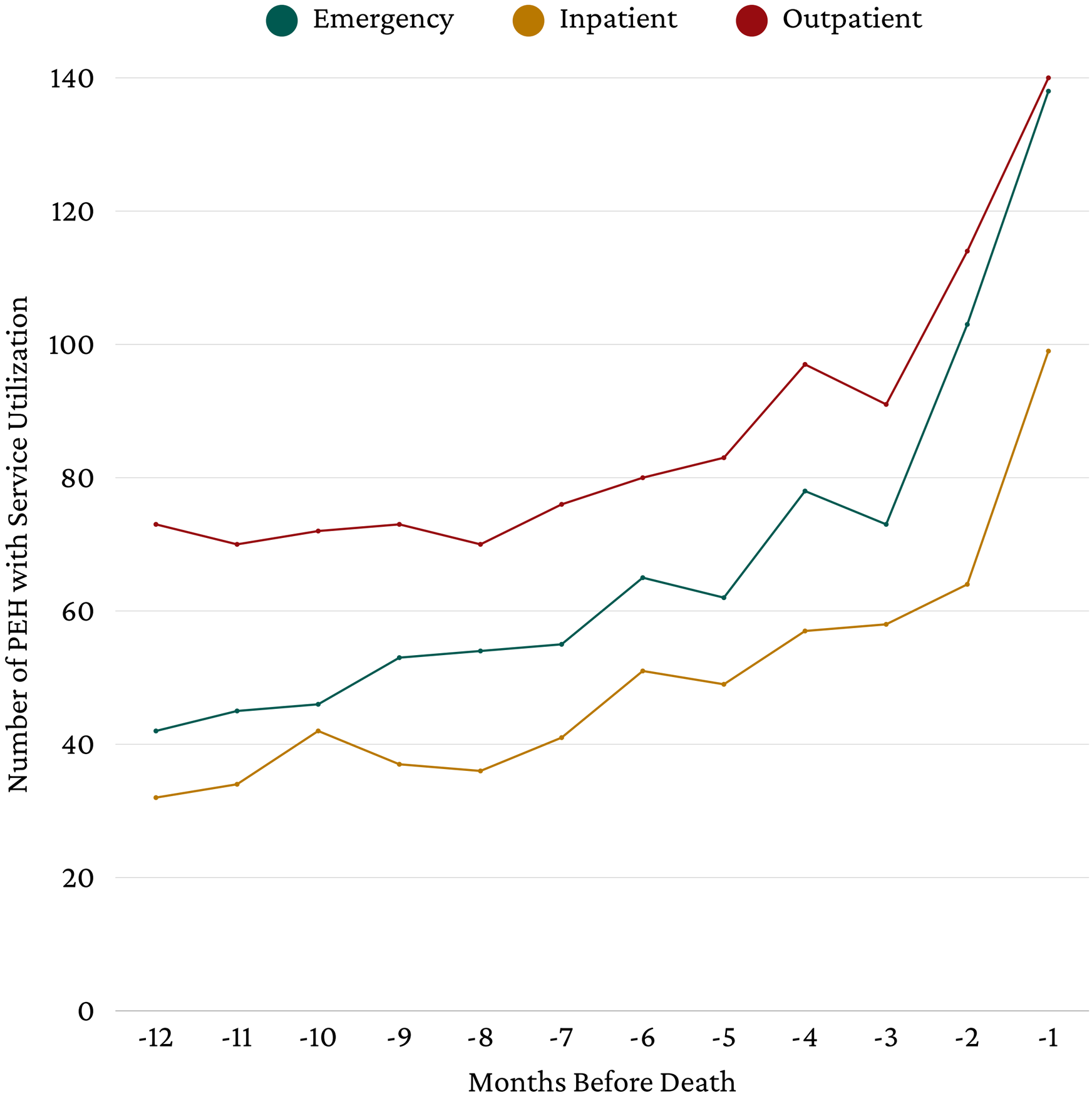


The figure shows service utilization among PEH who accessed HTX services within 12 months prior to death, by year of death. The data reveal two key trends. First, there is a clear increase in the number of PEH accessing HTX services in more recent years, suggesting either improved outreach, expanded service availability, or a growing need among this population. Second, the figure shows that a greater proportion of individuals utilized services closer to their death dates over time, reflecting heightened engagement with health care systems in the final months of life. This trend may indicate a need to enhance system responsiveness to acute health needs among PEH through tailored interventions, targeting the unique challenges faced by this population. It's important to note that the final encounter resulting in death is included in the data, which likely inflates the spike and may confound interpretation of true engagement trends.

† Only includes data from PEH who used HTX services within one year prior to death (n=384); excludes any non-users

Number of PEH Who Utilized HTX Services Before Death by Visit Type†

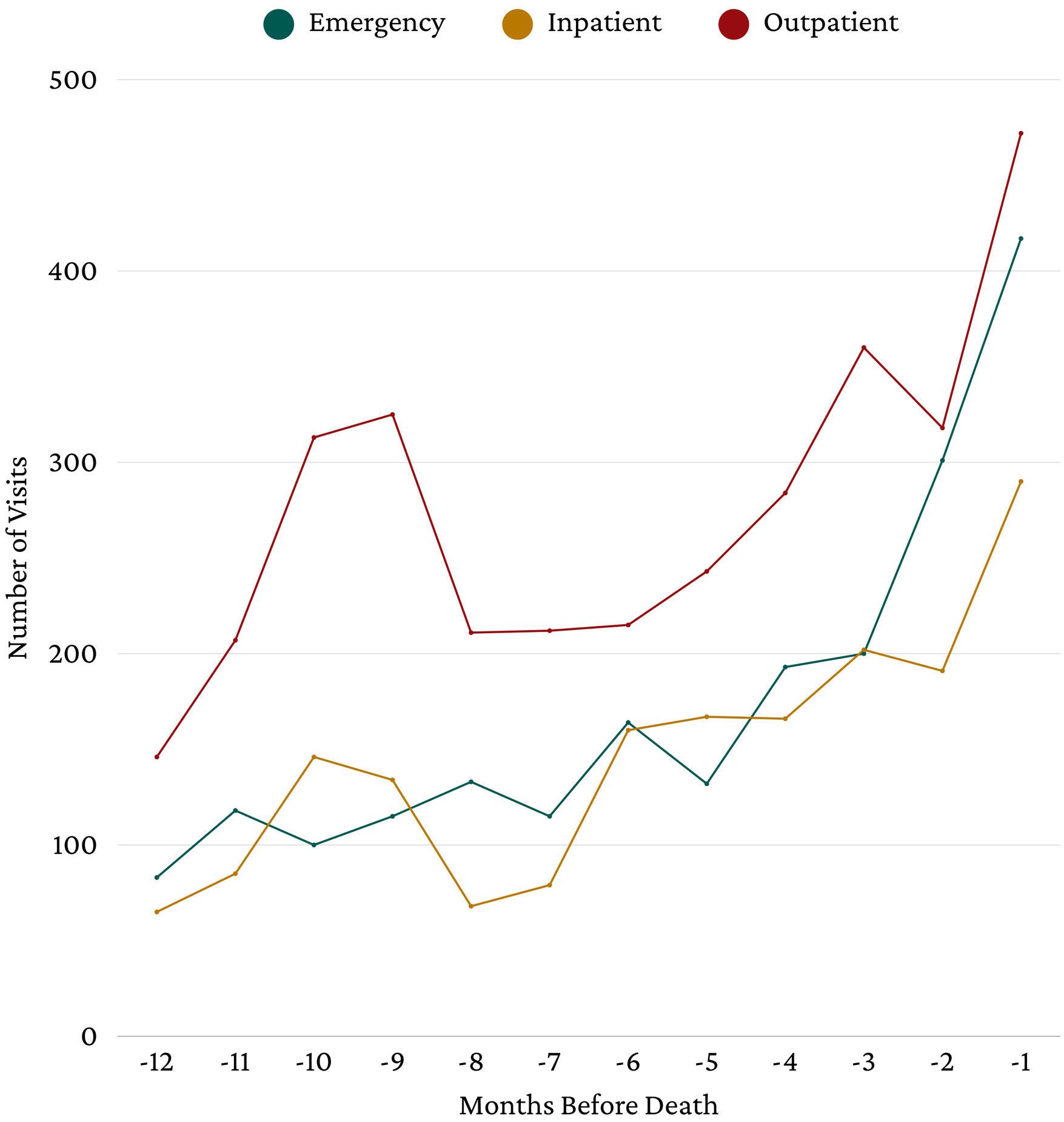
Figure 24. Monthly HTX Service Utilization Among Decedents in the 12 Months Prior to Death by Visit Type, 2021–2023



The figure displays HTX service interactions among PEH in the 12 months preceding death, by visit type. Outpatient services were the most commonly utilized across the entire period, consistently exceeding both inpatient and emergency department visits. This pattern suggests that, despite housing instability, many individuals were engaging with routine or non-acute health care settings. Additionally, the data show an upward trend in service utilization as individuals neared death. This may reflect a growing burden of health issues requiring more frequent care, or improved identification and referral of high-risk individuals by service providers.

Number of Visits Among PEH Who Utilized HTX Services Before Death by Visit Type†

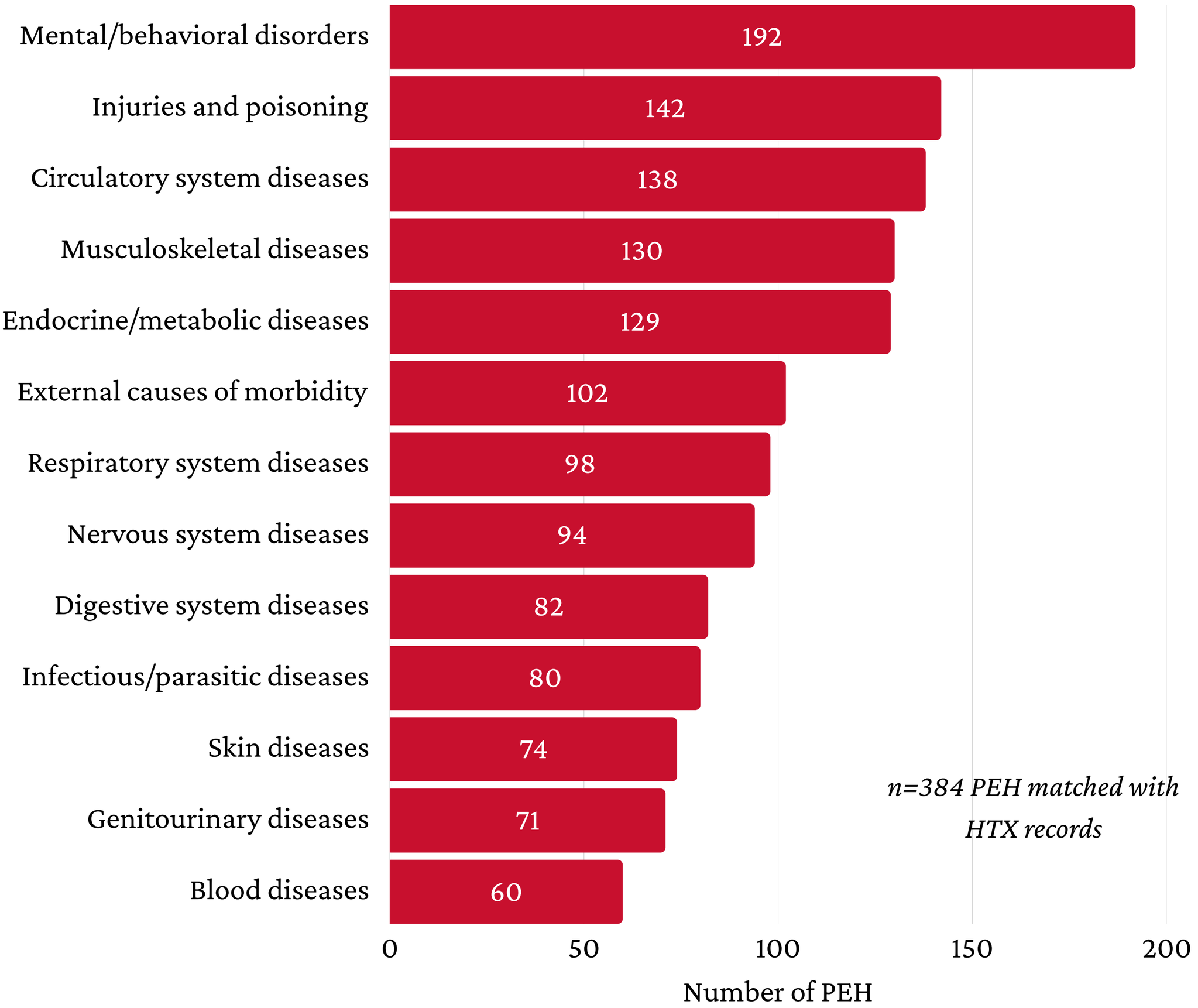
Figure 25. Monthly Visits to HTX Services Among Decedents in the 12 Months Prior to Death by Visit Type, 2021–2023



The figure shows the number of documented visits to HTX services by PEH in the 12 months preceding death. Outpatient visits consistently outnumbered both inpatient and emergency department visits throughout the 12-month period. This trend suggests that outpatient care may have been the most accessible or frequently utilized point of contact within the health care system for this population. It may also reflect on the high prevalence of chronic diseases as opposed to more episodic or crisis-driven conditions among PEH. The lower frequency of inpatient and emergency visits may indicate barriers to acute care access

Top Health Conditions of PEH Who Utilized HTX Services Before Death†

Figure 30. Count of PEH With Most Common Diagnosed Health Conditions Within a Year Prior to Death



The figure presents the most common health conditions diagnosed among PEH who utilized HTX services within a year before death [6]. Mental and behavioral disorders accounted for the highest number of diagnoses, affecting half (192 individuals) of decedents, and underscoring the severity of substance use and mental health issues. Injuries and poisoning (142), circulatory system diseases (138), and musculoskeletal diseases (130) followed, indicating significant overlap between physical health concerns and trauma-related conditions. Other common categories included metabolic disorders, respiratory diseases, and external causes such as accidents or violence.

Top Health Conditions of PEH Who Utilized HTX Services Before Death by Visit Type†

Figure 31. Count of PEH With Most Common Diagnosed Health Conditions Related to Outpatient Service Within a Year Prior to Death

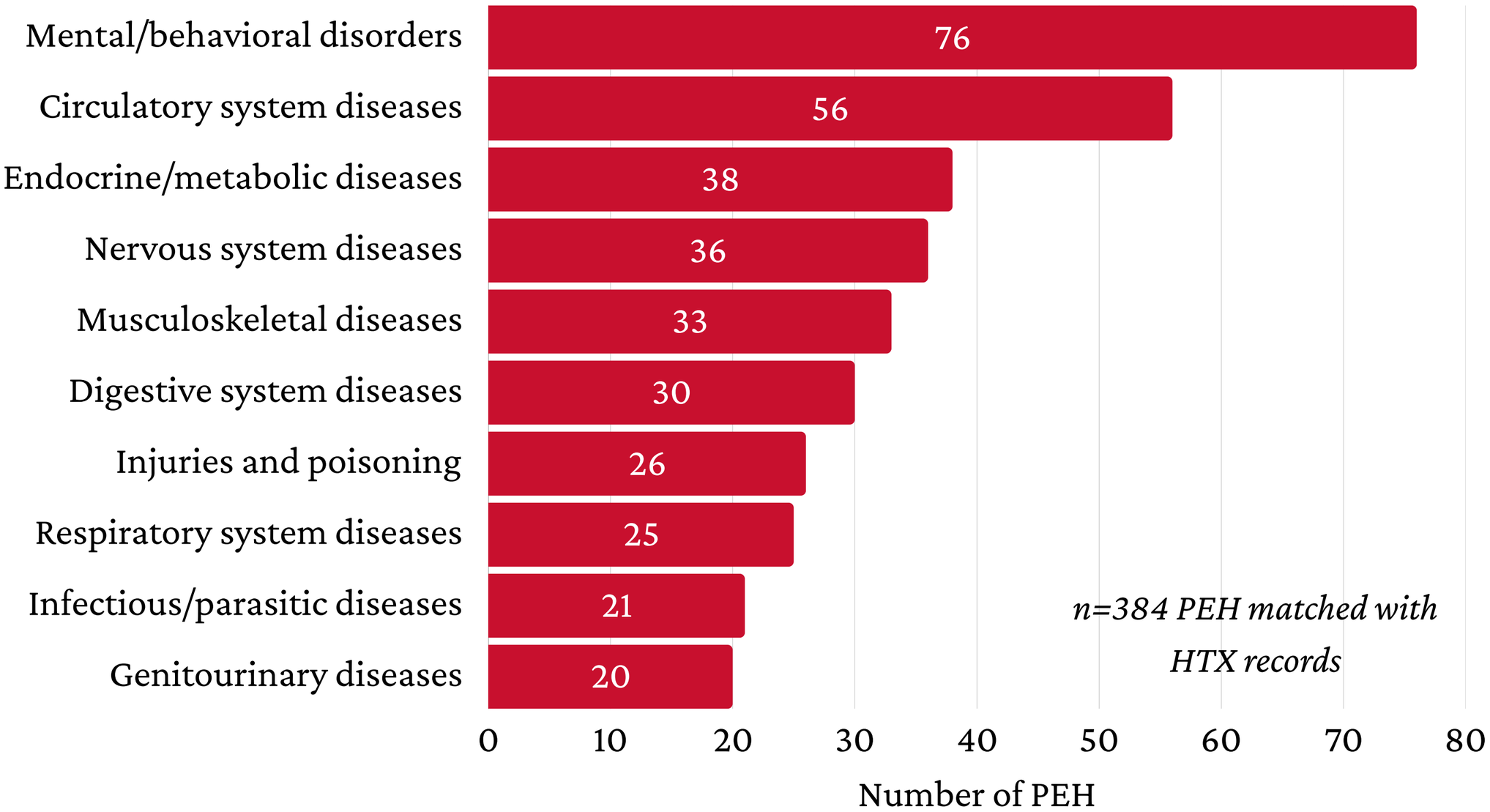
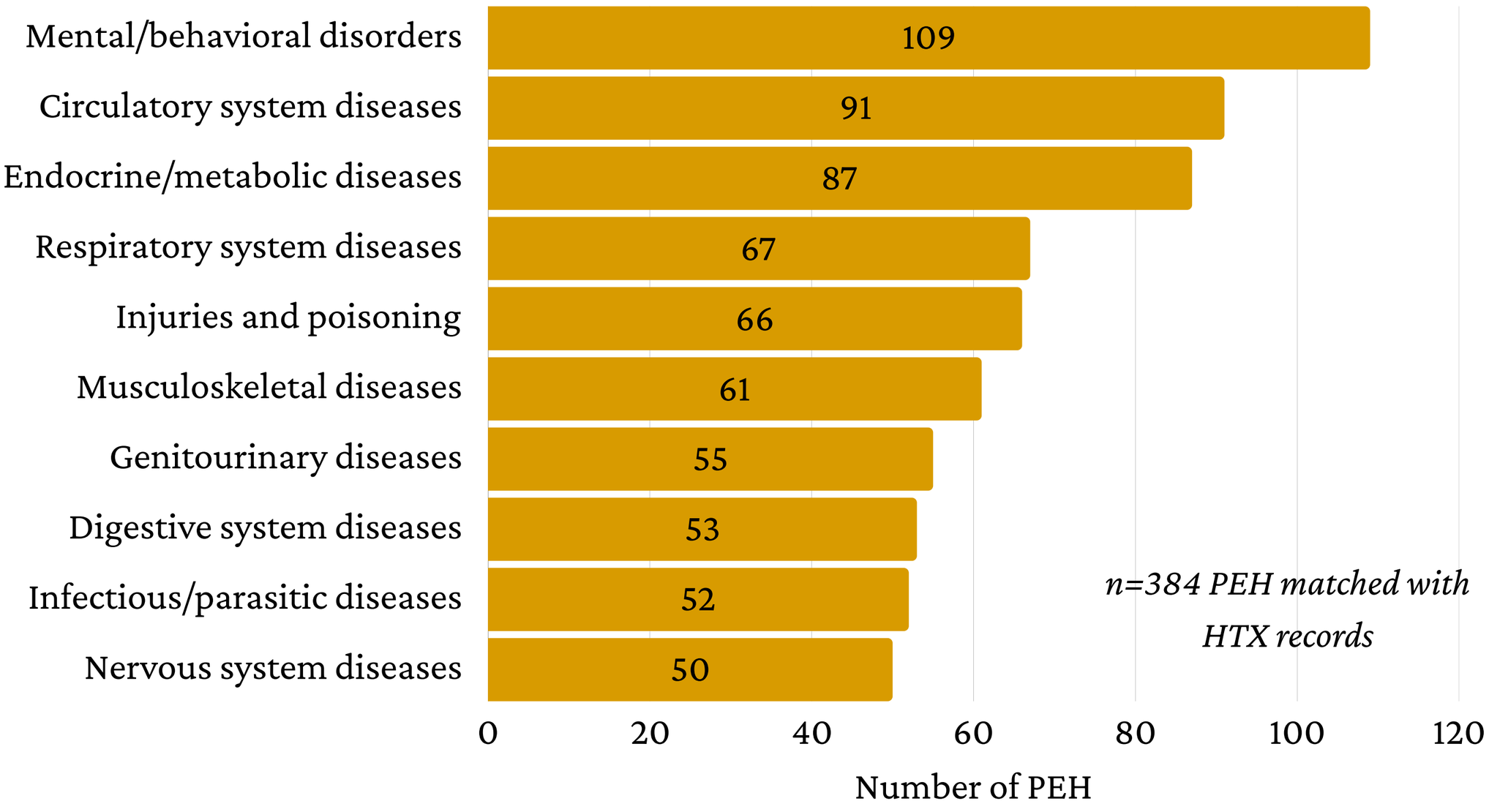
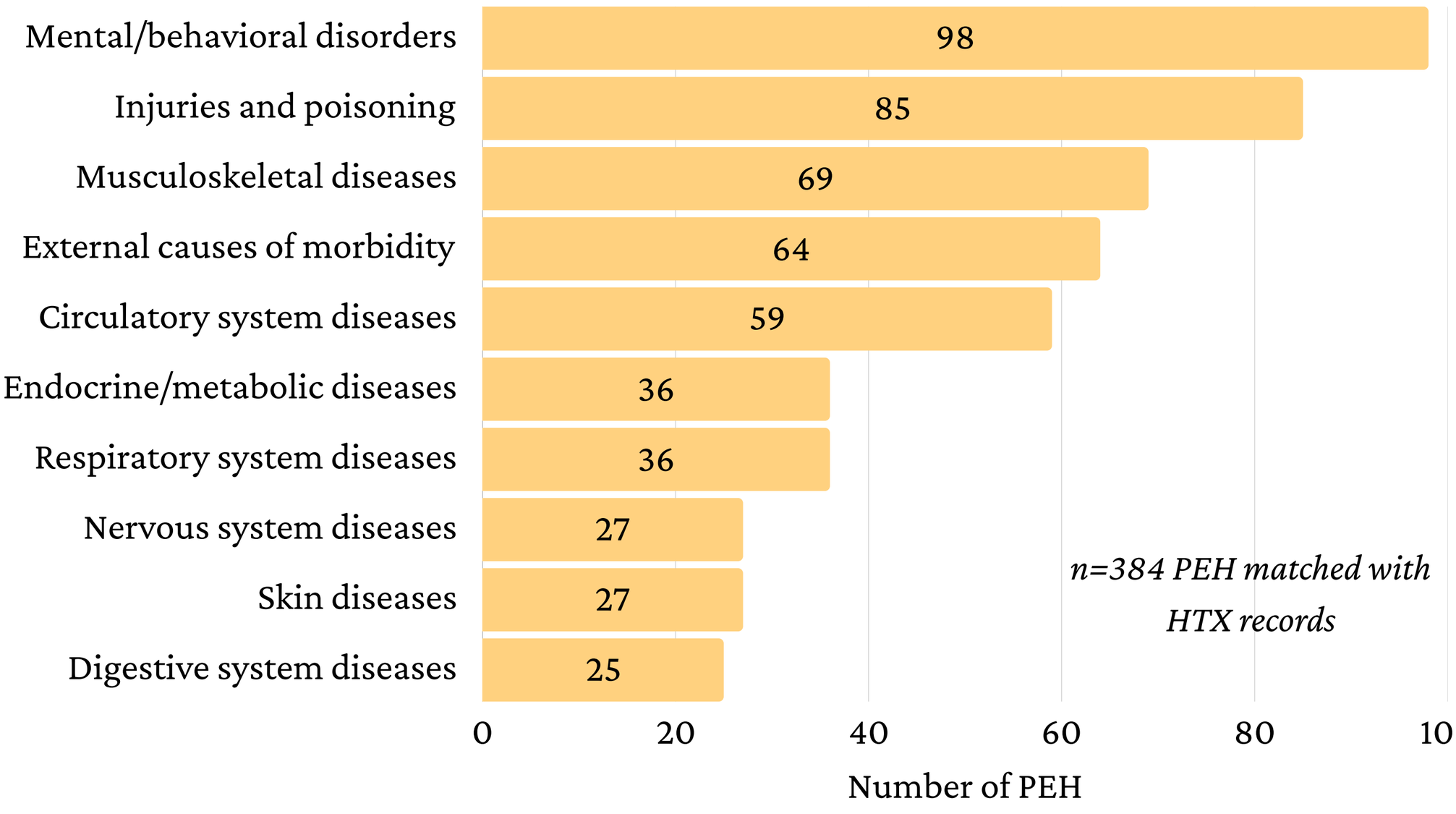


Figure 32. Count of PEH With Most Common Diagnosed Health Conditions Related to Inpatient Service Within a Year Prior to Death



Top Health Conditions of PEH Who Utilized HTX Services Before Death by Visit Type†

Figure 33. Count of PEH With Most Common Diagnosed Health Conditions Related to Emergency Service Within a Year Prior to Death

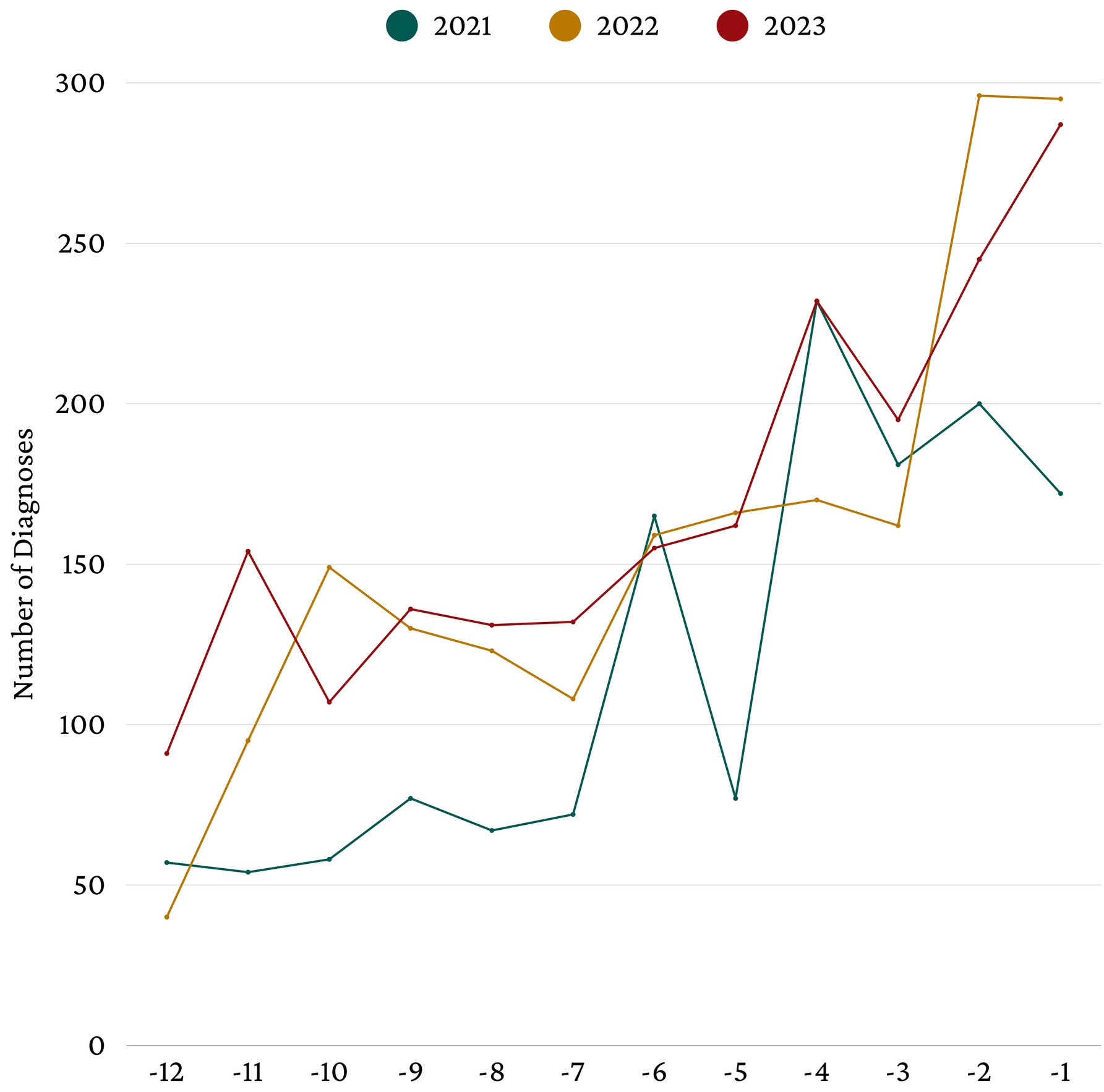


Figures 31-33 present the most common health conditions diagnosed among PEH who accessed HTX services within a year before their death, stratified by visit type [6]. Across all three settings, mental and behavioral disorders emerged as the most frequent diagnoses, indicating a critical and pervasive burden of mental health challenges and/or substance use among this population. Circulatory and endocrine/metabolic diseases also appear prominently across all visit types, suggesting chronic physical health issues were prevalent regardless of the care setting, while nervous system and digestive conditions were more commonly seen in outpatient and inpatient settings than in emergency care.

Inpatient visits showed the broadest spread of conditions, with higher overall counts, possibly reflecting the complex and severe nature of illnesses requiring hospitalization. Emergency visits had particularly high counts for injuries and poisoning, pointing to acute health crises and external causes of harm as common conditions near the end of life.

Number of ICD-10 Diagnoses Among PEH Who Utilized HTX Services Before Death†

Figure 34. Monthly Diagnoses with HTX Services Among Decedents in the 12 Months Prior to Death, 2021–2023



The figure presents the number of documented ICD-10 diagnoses among PEH within 12 months prior to their death. ICD-10 codes are standardized diagnostic codes used by health care providers to classify and record diseases, conditions, and health-related issues. It reveals an upward trend in diagnoses from 2021 to 2023, with 2022 and 2023 showing noticeably higher counts. This pattern suggests an increase in health care engagement and service utilization among PEH in more recent years. Furthermore, the concentration of diagnoses intensifies as individuals near death, indicating a surge in medical encounters in the final months of life. This aligns with findings from pages 19 and 20, which illustrate a similar increase in service utilization and number of visits during this critical period.

Top ICD-10 Diagnoses Associated With Causes of Death Among PEH Who Utilized HTX Services†

Figure 35. Count of PEH With Most Common ICD-10 Diagnoses Within One Year Prior to CVD Deaths, Including F and Z Codes

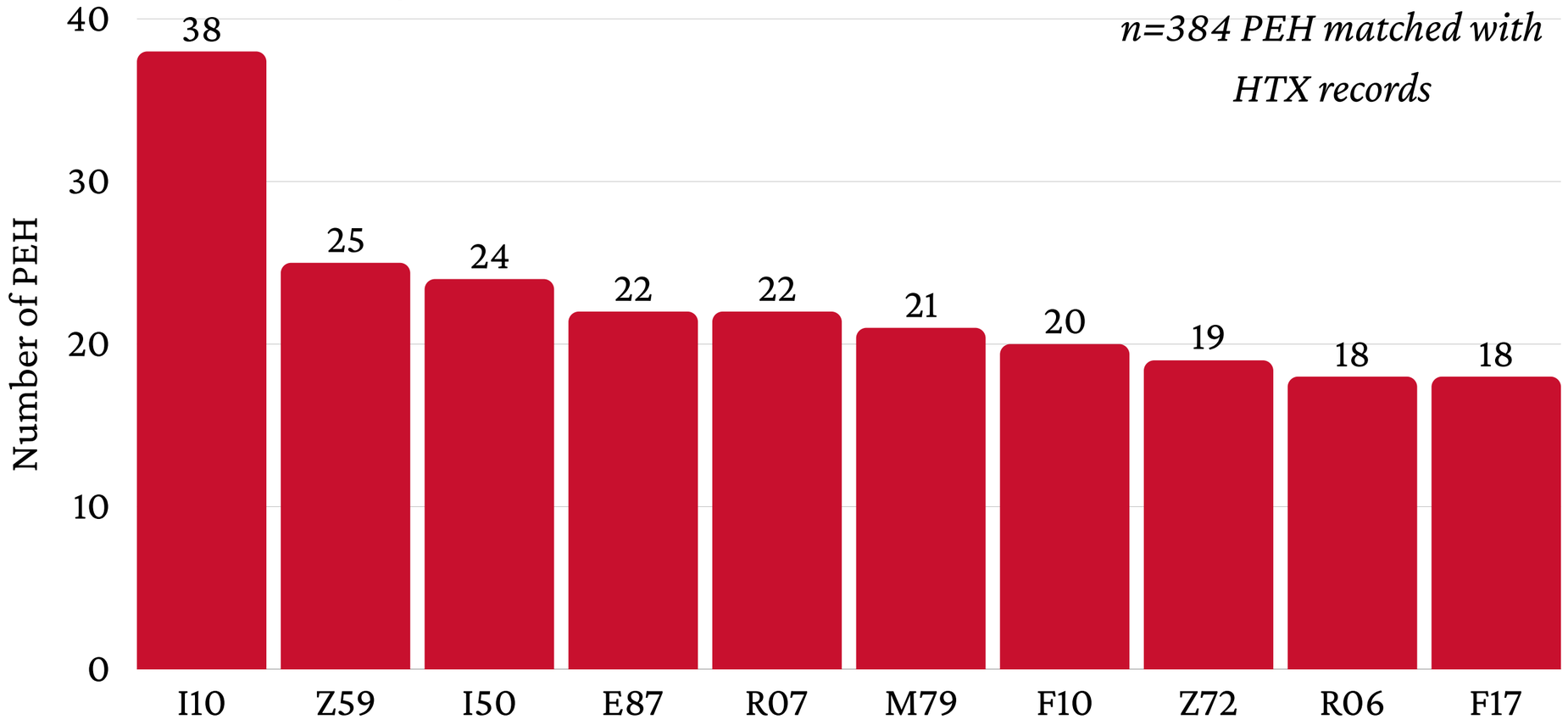
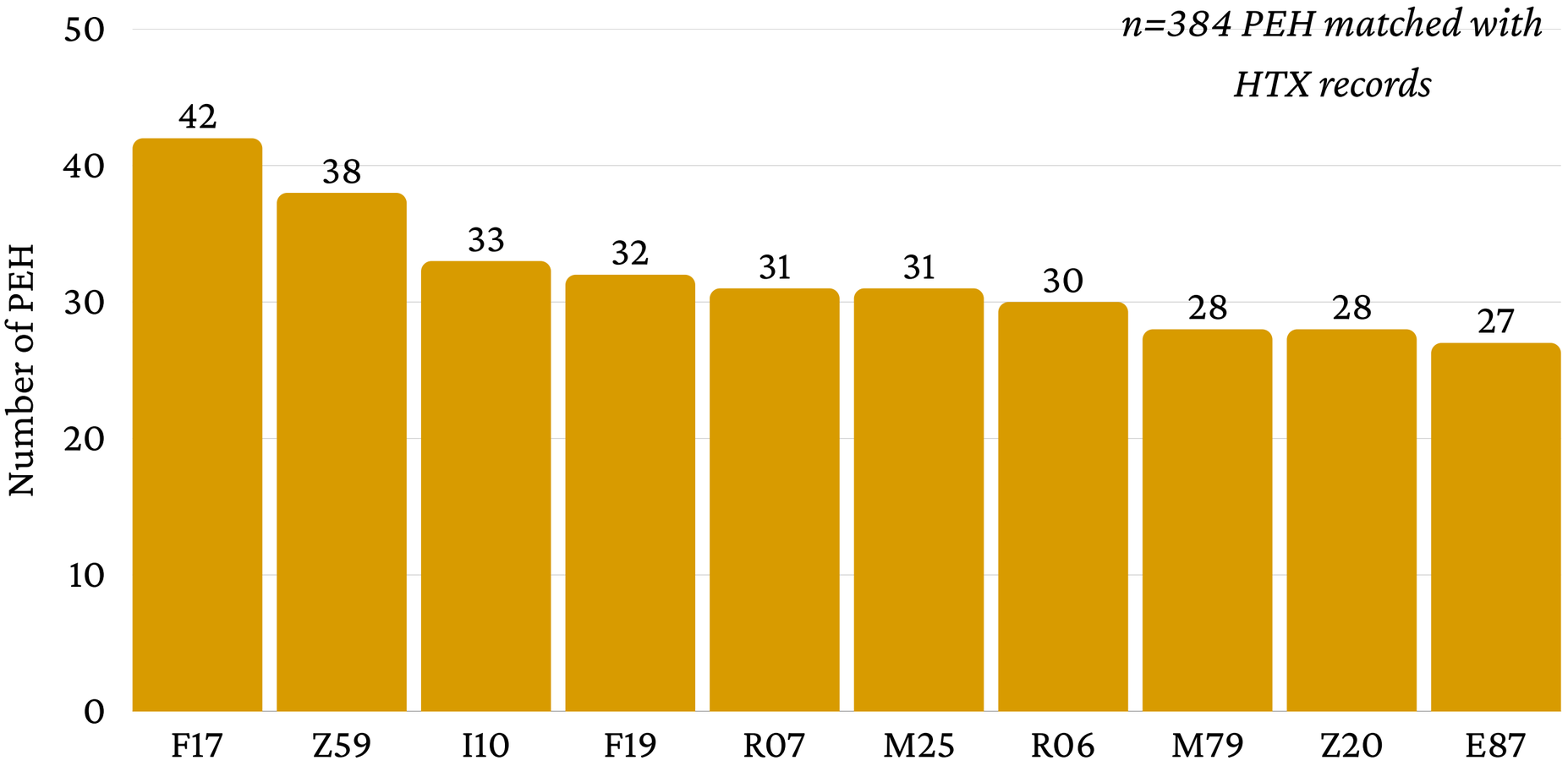


Figure 36. Count of PEH With Most Common ICD-10 Diagnoses Within One Year Prior to Acute Toxicity Deaths, Including F and Z Codes



The two figures show the most common diagnosis categories between deaths related to CVD and acute toxicity. Across the two types of death, I10 (essential hypertension) appears frequently, most notably in CVD-related deaths, where it tops the list with 38 cases. Z59 (housing instability) is also prevalent, appearing as the second most common diagnosis in both figures. For acute toxicity deaths, mental and behavioral disorders such as F17 (nicotine dependence) and F19 (multiple drug use) are prominent, highlighting the widespread use of substances among the homeless population. All ICD-10 codes are defined in the glossary.

Top ICD-10 Diagnoses by Visit Type Among PEH Who Utilized HTX Services†

Figure 38. Count of PEH With Most Common ICD-10 Diagnoses Related to Outpatient Services Within One Year Prior to Death, Including F and Z Codes

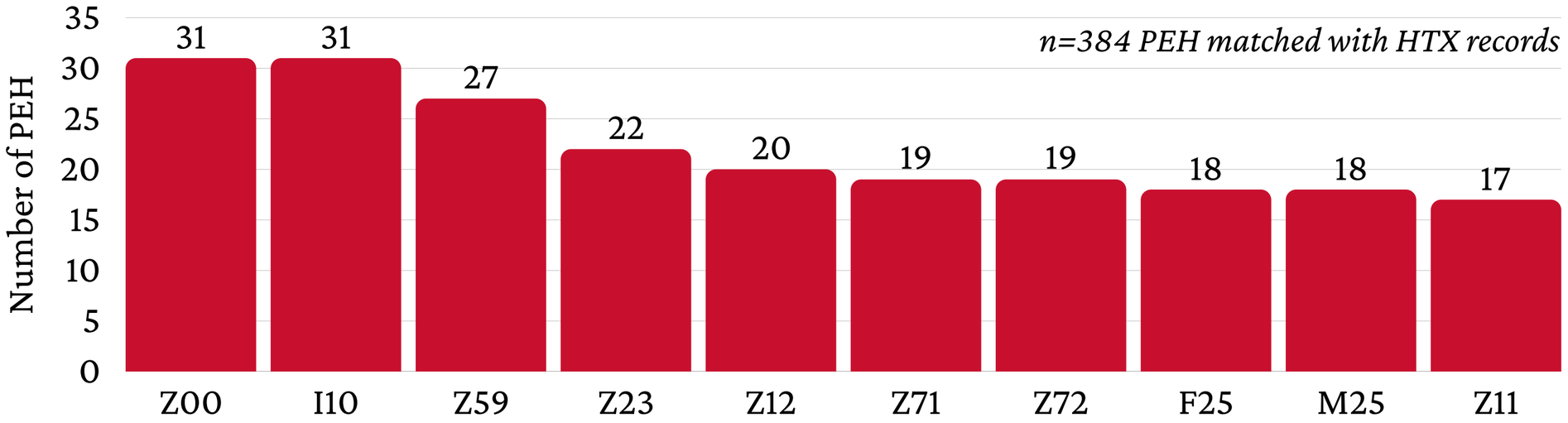


Figure 39. Count of PEH With Most Common ICD-10 Diagnoses Related to Inpatient Services Within One Year Prior to Death, Including F and Z Codes

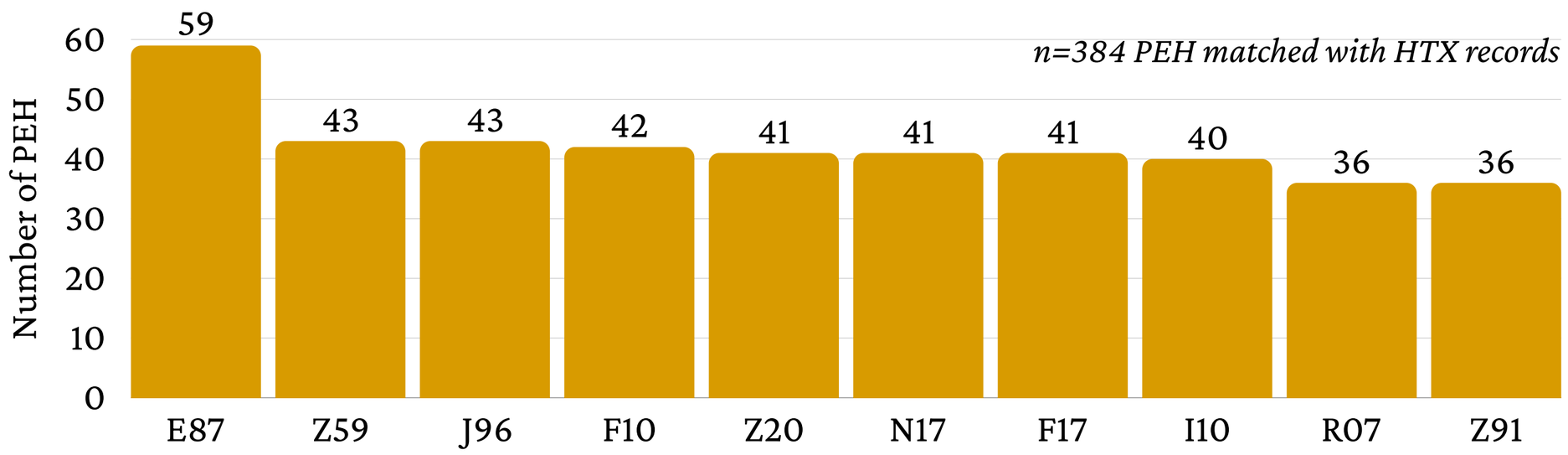
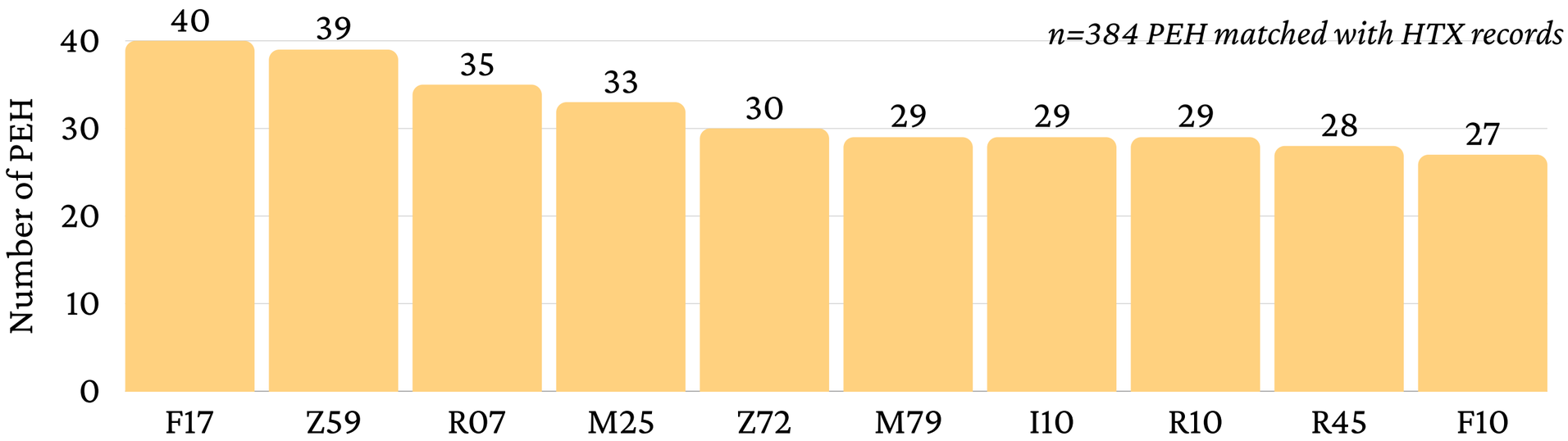


Figure 40. Count of PEH With Most Common ICD-10 Diagnoses Related to Emergency Services Within One Year Prior to Death, Including F and Z Codes



The three figures display the most common diagnostic categories across outpatient, inpatient, and emergency department visits among PEH under HTX. After hypertension (I10), outpatient visits were most frequently associated with social concerns (Z codes), mental and behavioral health conditions, including schizoaffective disorders (F25) listed in the top 10. Inpatient hospital visits listed fluid and electrolyte imbalance (E87) as the most common concern, but were also more often linked to severe acute conditions like respiratory failure (J96) and acute kidney failure (N17). Emergency department visits reflected a broad range of presenting issues, including joint disorders (M25), soft tissue disorders (M79), emotional distress (R45), and abdominal or pelvic pain (R10).

Glossary of Acronyms

PEH	People Experiencing Homelessness
HCIFS	Harris County Institute of Forensic Sciences
HMIS	Homeless Management Information System
EMS	Emergency Medical Service
PCIC	Patient Care Information Center
HTX	Healthconnect Texas
HHS	Houston Health System
SJMCm	St. Joseph Medical Center Midtown
UTH	University of Texas Health
MHIE	Memorial Hermann Information Exchange
HMH	Houston Methodist Hospital
HHH	Healthcare for the Homeless Houston
HFD	Houston Fire Department
HCAWU	HCA Houston Healthcare West
HCANW	HCA Houston Healthcare Northwest

Glossary of ICD-10 Codes [7]

E87	Other disorders of fluid, electrolyte and acid-base balance
F10	Alcohol related disorders
F10.10	Alcohol abuse, uncomplicated
F10.129	Alcohol abuse with intoxication, unspecified
F11	Opioid related disorders
F14	Cocaine related disorders
F14.10	Cocaine abuse, uncomplicated
F17	Nicotine dependence
F17.200	Nicotine dependence, unspecified, uncomplicated
F17.210	Nicotine dependence, cigarettes, uncomplicated
F19	Other psychoactive substance related disorders
F19.10	Other psychoactive substance abuse, uncomplicated
F20	Schizophrenia
F20.9	Schizophrenia, unspecified
F25	Schizoaffective disorders
F25.0	Schizoaffective disorder, bipolar type
F29	Unspecified psychosis not due to a substance or known physiological condition
F31.9	Bipolar disorder, unspecified
F32	Depressive episode
F39	Unspecified mood (affective) disorder
F41	Other anxiety disorders
G89	Pain, not elsewhere classified
I10	Essential (primary) hypertension
I46	Cardiac arrest
I50	Heart failure
J96	Respiratory failure, not elsewhere classified
L03	Cellulitis and acute lymphangitis
M25	Other joint disorder, not elsewhere classified
M54	Dorsalgia
M79	Other and unspecified soft tissue disorders, not elsewhere classified
N17	Acute kidney failure

Glossary of ICD-10 Codes [7]

R06	Abnormalities of breathing
R07	Pain in throat and chest
R10	Abdominal and pelvic pain
R41	Other symptoms and signs involving cognitive functions and awareness
R45	Symptoms and signs involving emotional state
R53	Malaise and fatigue
R99	Ill-defined and unknown cause of mortality
T14	Injury of unspecified body region
Z00	Encounter for general examination without complaint, suspected or reported diagnosis
Z00.00	Encounter for general adult medical examination without abnormal findings
Z03	Encounter for medical observation for suspected diseases and conditions ruled out
Z11	Encounter for screening for infectious and parasitic diseases
Z12	Encounter for screening for malignant neoplasms
Z12.11	Encounter for screening for malignant neoplasm of colon
Z20	Contact with and (suspected) exposure to communicable diseases
Z20.822	Contact with and (suspected) exposure to COVID-19
Z23	Encounter for immunization
Z59	Problems related to housing and economic circumstances
Z59.0	Homelessness
Z71	Persons encountering health services for other counseling and medical advice, not elsewhere classified
Z72	Problems related to lifestyle
Z72.0	Tobacco use
Z76	Persons encountering health services in other circumstances
Z76.0	Encounter for issue of repeat prescription
Z86	Personal history of certain other diseases
Z87.891	Personal history of nicotine dependence
Z91	Personal risk factors, not elsewhere classified
Z91.14	Patient's other noncompliance with medication regimen

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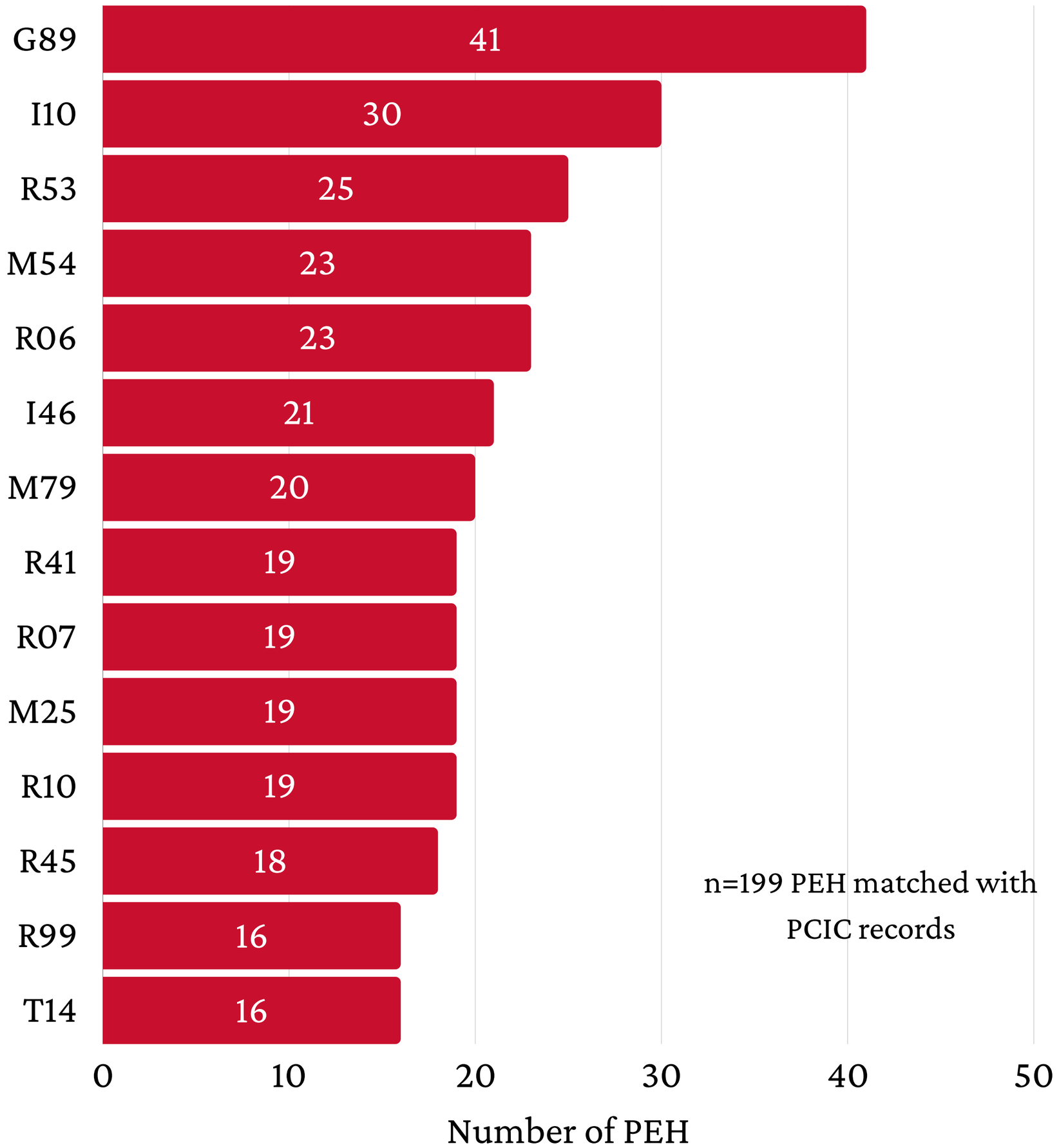
Top ICD-10 Diagnoses of PEH Who Utilized PCIC Services Before Death*

Figure 41. Count of PEH With Most Common Diagnosed ICD-10 Codes Within a Year Prior to Death Excluding Diagnoses with F and Z Codes



The figure presents the most common ICD-10 diagnoses among PEH who utilized PCIC services within a year prior to their death, excluding diagnoses with F and Z codes. Among 199 PEH, the most frequent diagnosis is G89 (pain, not elsewhere classified), affecting 41 individuals, which may suggest a high burden of poorly managed or persistent pain. Hypertension (I10) follows with 30 individuals, indicating prevalent cardiovascular risk. Other common conditions include malaise and fatigue (R53), back pain (M54), and abnormalities of breathing (R06), reflecting general bad health conditions or living environments.

Top ICD-10 Diagnoses of PEH Who Utilized PCIC Services Before Death by F and Z Codes*

Figure 42. Count of PEH With Most Common Diagnosed ICD-10 F Code Diagnoses

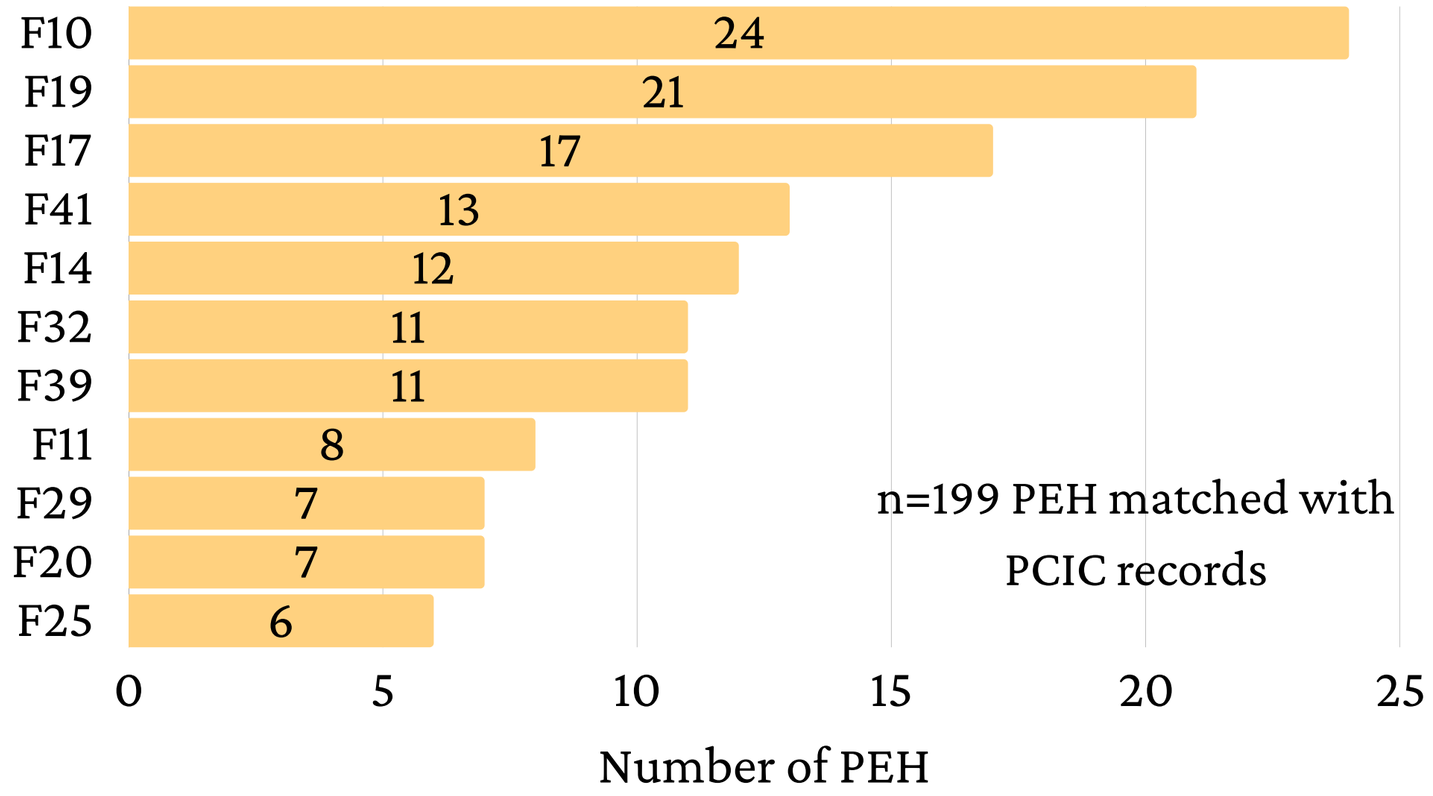
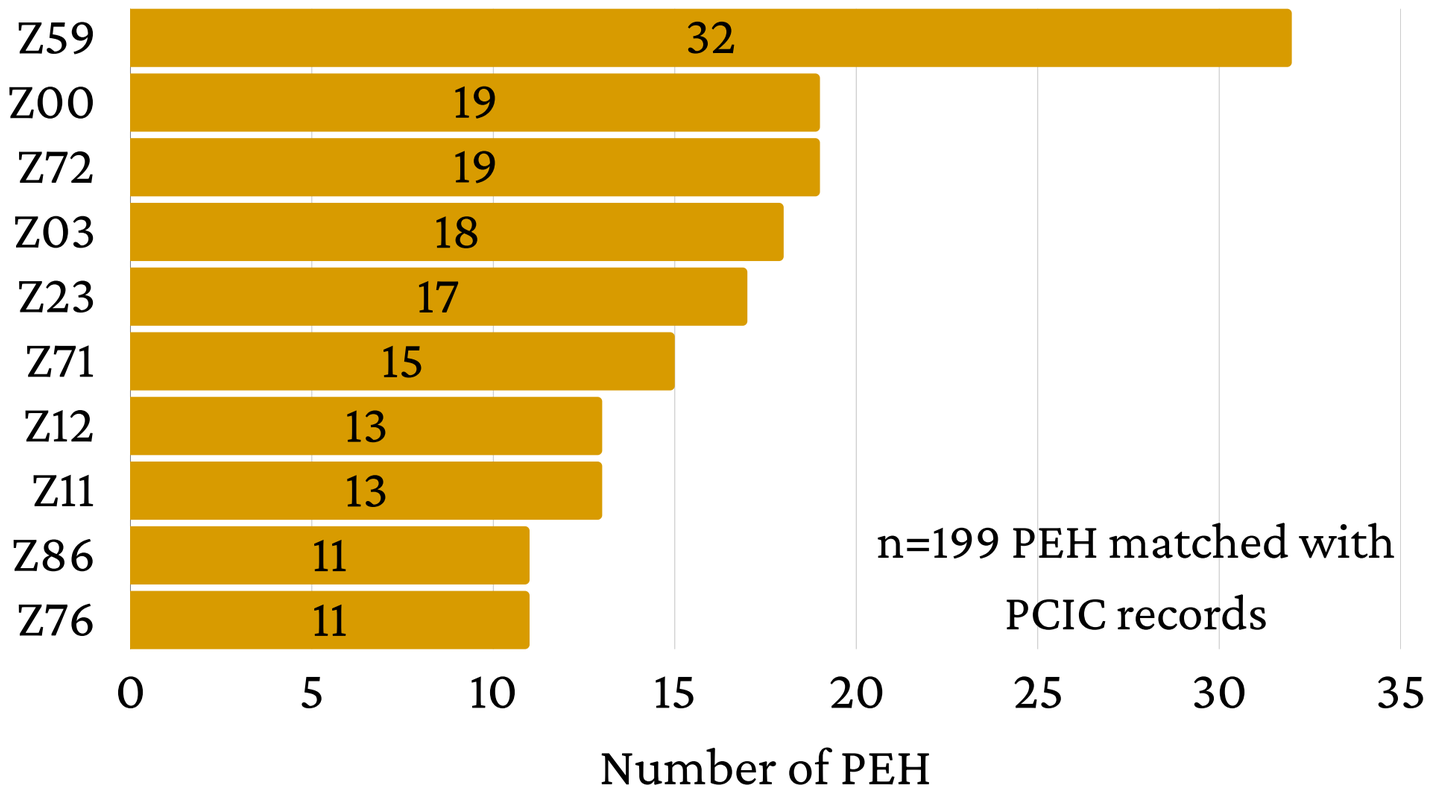


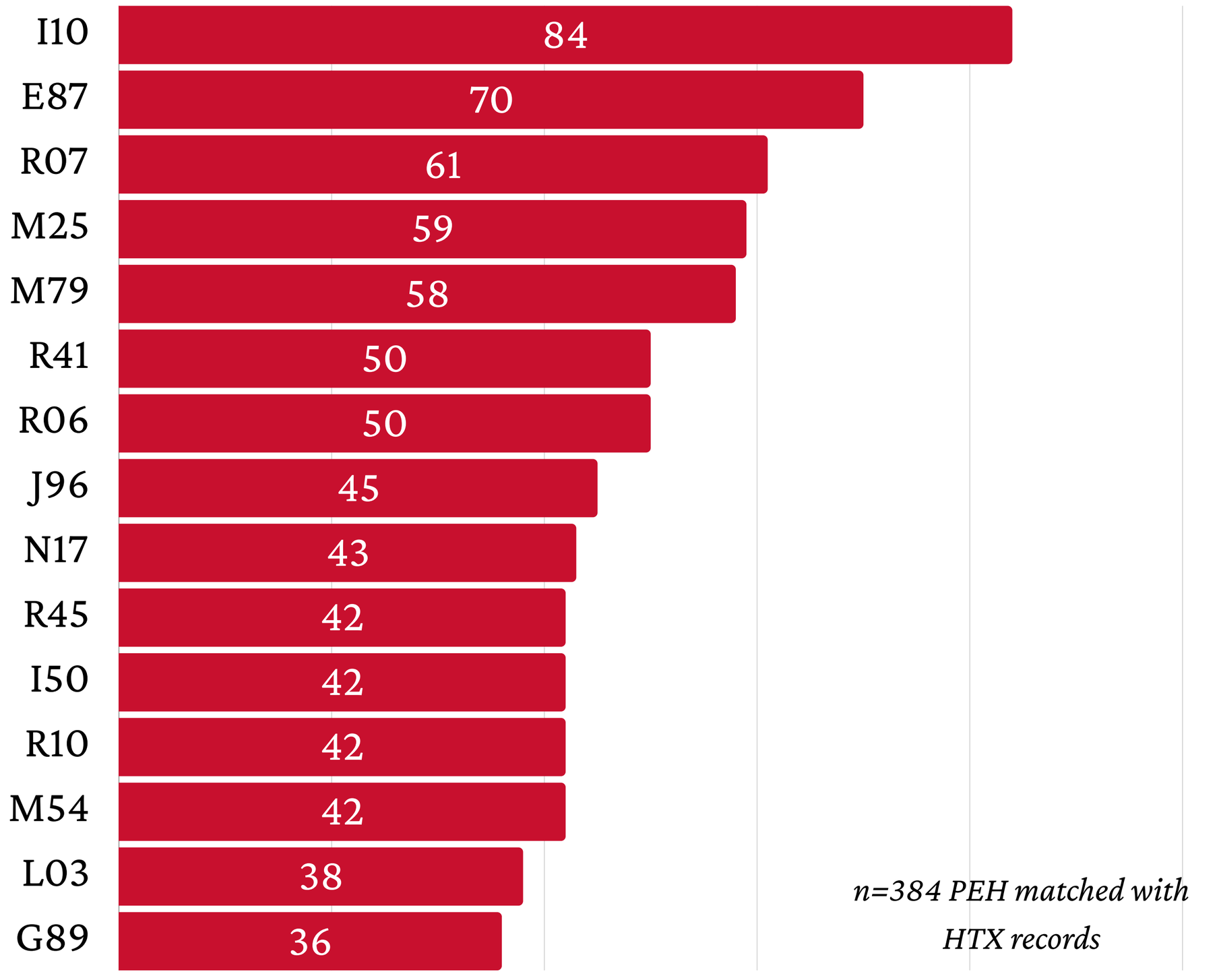
Figure 43. Count of PEH With Most Common Diagnoses ICD-10 Z Code Diagnoses



The first figure presents data on the most common ICD-10 F category diagnoses (mental and behavioral disorders) among PEH who accessed PCIC services within a year prior to their death. F10 (alcohol-related disorders) was the most prevalent, affecting 24 individuals, followed by F19 (other psychoactive substance use disorders) with 21 individuals. This highlights a significant burden of substance use disorders within this population. Other common F code diagnoses included schizophrenia-related disorders (F20, F25) and mood disorders (F32, F39), indicating a wide range of mental health challenges. The second figure presents data on the most common ICD-10 Z category diagnoses (Factors Influencing Health Status and Contact with Health Services). As expected, Z59 (problems related to housing and economic circumstances) was the most frequent, reported for 32 individuals. Other highly reported Z codes included Z00 (general medical examination) and Z72 (problems related to lifestyle). Together, these patterns underscore the interplay of clinical and social vulnerabilities faced by PEH near the end of life.

Top ICD-10 Diagnoses of PEH Who Utilized HTX Services Before Death†

Figure 44. Count of PEH With Most Common Diagnosed ICD-10 Codes Within a Year Prior to Death Excluding Diagnoses with F and Z Codes



The figure presents the most frequent diagnoses among PEH who utilized HTX services within a year prior to their death, excluding diagnoses with F and Z codes. Many diagnoses were linked to hypertensive CVD, the leading natural cause of death among PEH. I10 (essential hypertension) was the most prevalent, affecting 84 individuals, over one-fifth of the 384 decedents. Other diagnoses, such as heart failure (I50), abnormalities of breathing (R06), and respiratory failure (J96), were also commonly linked to CVD-related deaths. Metabolic disorder E87 (disorders of fluid, electrolyte, and acid-base balance) and symptom code R07 (pain in throat and chest) followed after I10. There are also several musculoskeletal (M25, M79) and mental health-related (R41, R45) diagnoses, emphasizing the complexity and comorbidity in this population.

Top ICD-10 Diagnoses of PEH Who Utilized HTX Services Before Death by F and Z Codes†

Figure 45. Count of PEH With Most Common Diagnosed ICD-10 F Code Diagnoses

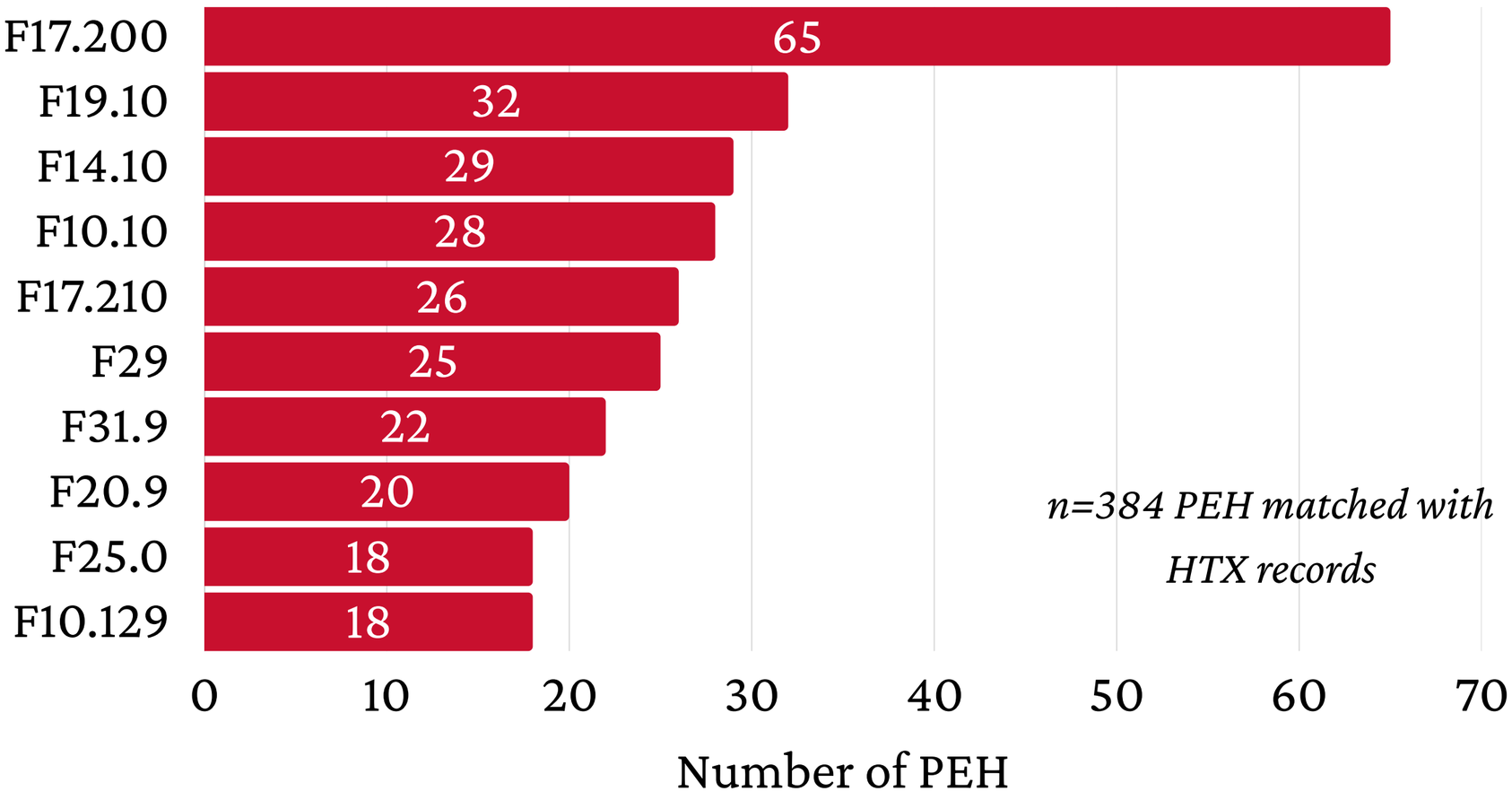
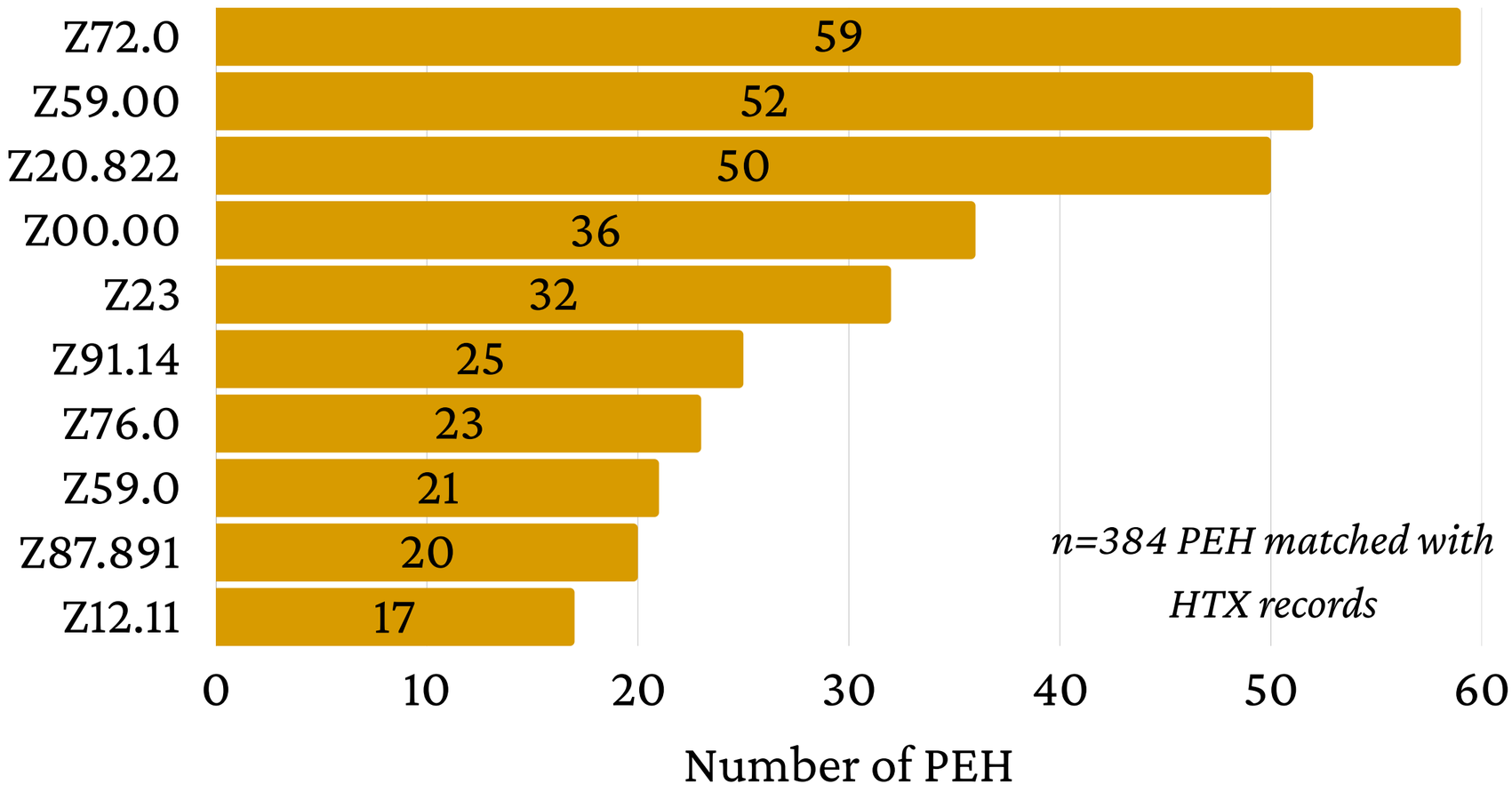


Figure 46. Count of PEH With Most Common Diagnosed ICD-10 Z Code Diagnoses



The first figure presents data on the most common ICD-10 F category diagnoses (mental and behavioral disorders) among PEH who accessed HTX services within a year prior to their death. Many diagnoses were related to toxicity, the leading non-natural cause of death among PEH, with diagnoses such as alcohol abuse (F10.10), cannabis abuse (F12.10), cocaine abuse (F14.10), and nicotine dependence (F17.200). The second figure presents data on the most common ICD-10 Z category diagnoses (Factors Influencing Health Status and Contact with Health Services). Unsurprisingly, homelessness (Z59.00, Z59.0) and contact with COVID-19 (Z20.822) are top diagnoses among PEH.

Top Facilities Visited by PEH Who Utilized HTX Services Before Death†

Figure 26. Top facilities across all service types

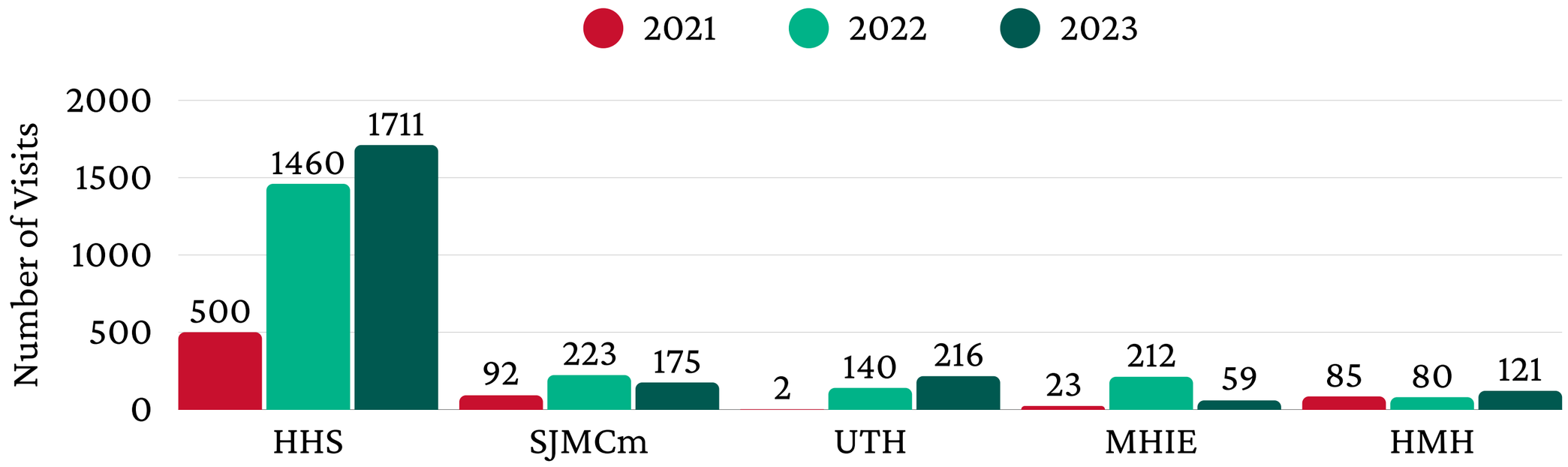
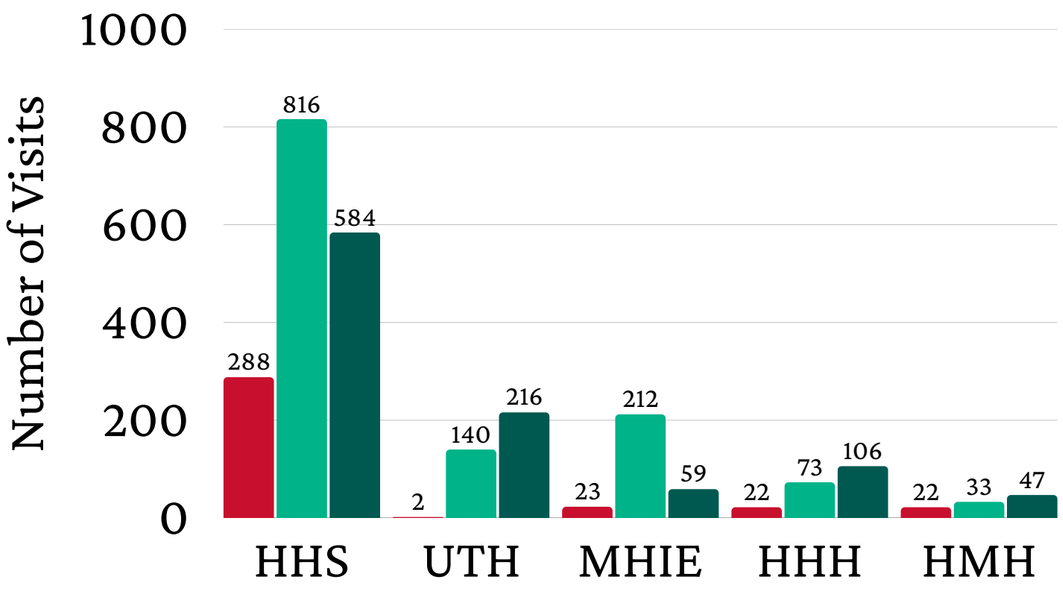


Figure 27. Top Facilities by Outpatient Visits

Figure 28. Top Facilities by Emergency Visits



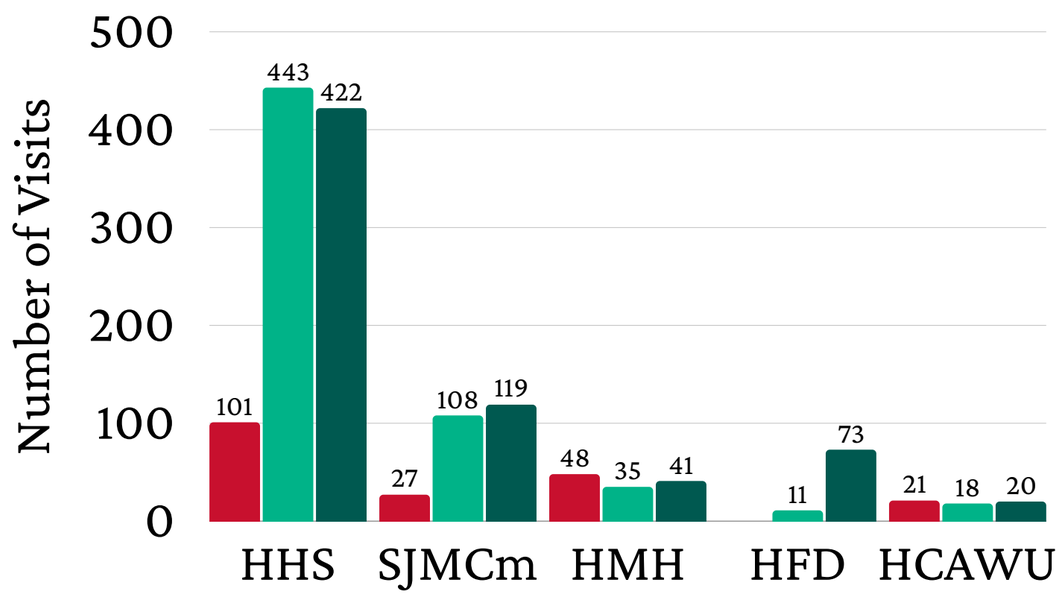
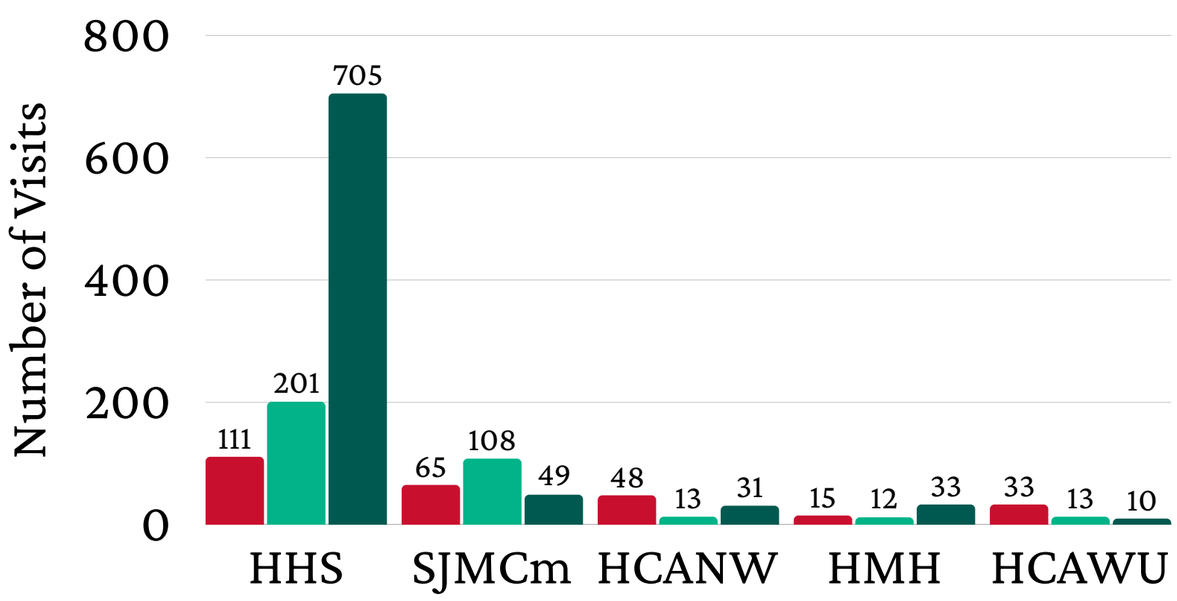


Figure 29. Top facilities by Inpatient Visits

The figures show the top facilities visited by PEH within 12 months prior to their death between 2021 and 2023. Across all three years, HHS consistently emerged as the most frequently visited facility by PEH across all types of health care encounters. This highlights HHS's central role in providing comprehensive care to this underserved population.



Similar to HHS, HMH also provided all three types of service for PEH. While UTH and MHIE provided only outpatient services to the PEH, SJMCm provided mostly emergency and inpatient services to the PEH, indicating its critical role in addressing acute and urgent health needs.

Patient Care Intervention Center

HEALTHCONNECT·TX

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UNIVERSITY OF HOUSTON

Center for Addictions Research and Cancer Prevention
HEALTH Research Institute

HARRIS COUNTY INSTITUTE OF FORENSIC SCIENCES

Humana Integrated Health System Sciences Institute
University of Houston