Health Care and Homelessness

2014 Data Linkage Study

South Carolina data analysis performed by: Revenue and Fiscal Affairs Office, Health and Demographics, with funding supported by Richland County Community Development Department

Report prepared by: United Way of the Midlands, in partnership with the South Carolina Coalition for the Homeless

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United Way of the Midlands

South Carolina Coalition for the Homeless

Linking together. Breaking the cycle.

Introduction

Understanding health care needs and usage among people who are homeless is critically important, and health records reveal useful information for all segments of the homeless population: illnesses and disabling health conditions are primary risk factors for death among people living on the street; lack of health insurance compels people to seek care from emergency departments rather than a local doctor's office; and costly health charges accumulated by the homeless population could, in theory, be redirected to more cost-effective health care programs.

The Homeless Management Information Database (HMIS) supplies a data cohort that, through analysis, informs understanding of health care consumption and challenges among people experiencing homelessness in South Carolina. SC maintains a statewide HMIS database operated by four geographically oriented continuums of care (CoCs). HMIS collects personal information from clients receiving homeless services, including demographic information, military service, educational attainment, and disability information.

HMIS also makes distinctions among the homeless population: data for those who are homeless but living in shelter (emergency or transitional housing) is added and updated regularly throughout the year. Those who are unsheltered, including people living on the street, in a vehicle, or in an abandoned structure, may or may not have their information captured in HMIS. If they do, it is either from the annual point-in-time count survey conducted on one night each year or from a non-housing service record such as a meal or visit to a drop-in day center. Additionally, HMIS identifies a small group of people who are chronically and continuously homeless and meet the federal government's chronic homeless definition[1]. This population often lives on the street in poor health and is among the most vulnerable of all people experiencing homelessness.

Methodology

In January 2014 the South Carolina Coalition for the Homeless (SCCH) began a cohort data linkage study. HMIS database administrators from each of the state's four homeless continuums of care (CoCs)[2] extracted six years of client data with no exclusion criteria. Client data was securely uploaded to South Carolina's state data warehouse, housed at the Revenue and Fiscal Affairs Office (RFA) Health Demographics division. Statisticians at RFA matched HMIS records to Medicaid and hospital records through a sophisticated linking algorithm using unique personal identifiers. RFA's analysis was guided by specific research questions submitted by SCCH. The six year HMIS cohort included 40,774 unique individuals, and of these individuals, 32,951 people (80%) had a match to some kind of health record.

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[1] The US Department of Housing and Urban Development (HUD) has defined chronic homelessness as the condition of an individual or family with a disability who has been continuously homeless for one year or more, or who has had at least 4 episodes of homelessness in the past 3 years that cumulatively equal one year or longer.

[2] At the beginning of this project, each CoC maintained its own HMIS system, resulting in four distinct data extracts. In October, 2014, South Carolina completed a statewide integration project. All four CoCs, in addition to the SC 2-1-1 helpline, now share the same HMIS database, improving efficiency and coordination potential for future research projects.

Because this is an aggregate cohort study, a hospital visit or Medicaid covered procedure may have occurred before or after someone was homeless. For example, someone may have stayed in emergency shelter in 2009, secured permanent housing later that year, and visited the emergency department in 2012. Results for this person would be included in the aggregate data reported, even though the person was not homeless at the time of his emergency visit. However, health conditions caused or aggravated by homelessness do not always immediately resolve once someone obtains housing. Likewise, major health events and extended hospital stays often trigger homelessness, either due to insurmountable medical debt or the loss of one's home during a long hospital stay. It is for these reasons that the study was designed to be as inclusive as possible, since homelessness and health care are intrinsically linked.

Results

Among a wealth of data obtained, SCCH is highlighting three distinct points that demonstrate some of the greatest needs in South Carolina:

1. People who are homeless are accumulating inordinate medical charges.

Tables 1-3 show medical charges to homeless persons after emergency, inpatient and outpatient care between 2010 and 2012. In just three years, 32,951 people with matches to the hospital dataset[3] accumulated over $1 Billion ($1,058,259,006) in hospital charges. Furthermore, a third of these charges, or approximately $342 Million, were billed to people without insurance. Table 4 reports hospital charges in addition to all claims billed to Medicaid (i.e. doctor's and clinic visits), and total charges including these services amount to more than **$1.6 Billion** ($1,624,875,307). In all actuality, charges are likely even higher than the numbers reported, as these figures only include people experiencing homelessness who received services and were documented in HMIS. Individuals experiencing homelessness in non-metro counties with fewer homeless service providers, or individuals who received services from one of the small number of service providers not participating in HMIS, may not be included in the HMIS dataset.

Linkage analysis also confirms that a small minority consume the majority of health resources. Table 4 displays the distribution of health charges by percentile, demonstrating the concentration of service use by a small group: just 5% of the homeless population is responsible for nearly half of all Medicaid charges; 50% of the population accumulated 97% of charges.

The chronically homeless – those who have a disability and are homeless for one continuous year and/or four or more discrete times – often live on the street and face great health challenges as a result. Table 5 is similar to Table 4 but includes only those who meet the chronically homeless definition in HMIS. Just 213 people were responsible for $175 Million in charges over three years. This amounts to approximately $274,000 per person per year, more than 39 times greater the average annual South Carolina per capita healthcare cost of $6,323.

[3] The denominator used to calculate percentages in this paper varies between the total number of people in the HMIS cohort (40,774) and the total number of people with matches to health data (32,951). While it is possible that a small number of people did not have a single health encounter in three years, the predominant reason why someone would not match is because incomplete demographic information was collected in HMIS or recorded at the hospital.

Providing housing to chronically homeless street-dwelling individuals will greatly offset healthcare costs, as both national and local data indicate that health care costs and visits among the chronically homeless population are significantly reduced once an individual has obtained housing. South Carolina's Mental Illness Recovery Center Inc. (MIRCI) has analyzed housing's impact on healthcare costs and shown that after being enrolled in MIRCI's supportive housing for one year, inpatient treatments for formerly homeless persons dropped by 38% and emergency department visits dropped by 36%.

Table 1. Three Year (2010-2012) Emergency Room Charge Total among Six Year (2007-2012) HMIS Cohort

Primary Expected Payer	Number of Discharges	Total Charges	Average Charges
Total	151,646	$321,757,285	$2,122
Insurance	15,113	$32,936,844	$2,179
Medicaid	50,110	$95,290,059	$1,902
Medicare	18,519	$45,065,986	$2,433
Selfpay/Indigent	67,904	$148,464,396	$2,186

Table 2. Three Year (2010-2012) Inpatient Charge Total among Six Year (2007-2012) HMIS Cohort

Primary Expected Payer	Number of Discharges	Total Charges	Average Charges
Total	19,675	$631,285,742	$32,086
Insurance	2,086	$64,056,145	$30,708
Medicaid	8,177	$234,937,773	$28,732
Medicare	3,992	$158,819,651	$39,784
Selfpay/Indigent	5,420	$173,472,173	$32,006

Table 3. Three Year (2010-2012) Outpatient Charge Total among Six Year (2007-2012) HMIS Cohort

Primary Expected Payer	Number of Discharges	Total Charges	Average Charges
Total	13,374	$105,215,979	$7,867
Insurance	2,348	$18,366,902	$7,822
Medicaid	5,022	$42,634,812	$8,490
Medicare	2,642	$24,018,631	$9,091
Selfpay/Indigent	3,362	$20,195,635	$6,007

Table 4. Three Year (2010-2012) Medicaid and Hospital Charge Distribution among Six year (2007-2012) HMIS Cohort

Group	Total Users	Total Charges	% of Total Charges
The top 5 % of Users	1,648	$751,921,699	46.27%
The top 10 % of Users	3,296	$1,001,076,404	61.61%
The top 50 % of Users	16,476	$1,550,253,773	95.41%
The top 100 % of Users	32,951	$1,624,901,007	100.0%

Table 5. Three Year (2010-2012) Cumulative Charge Distribution among Chronically Homeless population in Six Year (2007-2012) HMIS Cohort

Group	Chronic Homeless Users	Charges	% of Total Charges	% of Total Users
The top 5 % of Chronic Homeless	213	$175,119,721	10.78%	0.65%
The top 10 % of Chronic Homeless	426	$245,384,792	15.10%	1.29%
The top 50 % of Chronic Homeless	2128	$424,737,617	26.14%	6.46%
The top 100 % of Chronic Homeless	4255	$451,983,186	27.82%	12.91%

2. Single homeless adults need health insurance, and all people experiencing homelessness need more appropriate health care.

Table 6 shows the Medicaid enrollment rates among people who are homeless by age and gender, while Table 7 shows the proportion of people experiencing homelessness who have had either an emergency room or inpatient visit. Just over half (52.3%) of the total homeless population is enrolled in Medicaid, but as Table 6 illustrates, there are significant disparities according to gender and age. Adults without dependent children do not qualify for Medicaid coverage in SC unless they have a disabling health condition, and single men are largely ineligible for coverage. Men 35-61 years old comprise the largest proportion of people experiencing homelessness, yet they are the least likely to be insured by Medicaid, with coverage rates as low as 18% for men ages 35-44 and 22% for men ages 45-61. Coverage spikes for both men and women ages 62 and older, likely due to an increased prevalence of disabling conditions in an older population.

Table 6. Three Year Medicaid Enrollment among HMIS Sample

Gender	HMIS Sample, including non-matches	Proportion of HMIS clients enrolled in Medicaid
Female	**20,574**	**12,974 (63.1%)**
0-4 years	1,055	85% enrolled
5-12 years	2,941	83% enrolled
13-18 years	1,696	83% enrolled
19-24 years	1,872	77% enrolled
25-34 years	4,094	67% enrolled
35-44 years	3,638	52% enrolled
45-61 years	4,469	37% enrolled
62+	722	54% enrolled
Male	**19,913**	**8,183 (41.1%)**
0-4 years	1,098	87% enrolled
5-12 years	3,021	83% enrolled
13-18 years	1,651	83% enrolled
19-24 years	1,298	44% enrolled
25-34 years	2,210	19% enrolled
35-44 years	2,761	18% enrolled
45-61 years	6,856	22% enrolled
62+	933	35% enrolled
Total	**40,487**	**21,157 (52.3%)**

Table 7 notably shows that the majority of people, regardless of age or gender, are receiving some type of care in the emergency room. More than sixty percent of children under 18 have had at least one emergency department visit, and nearly three-quarters of adult women and two-thirds of adult men have received care in the emergency room.

Table 7. Three Years of Emergency Department and Inpatient Visits among HMIS Sample

Gender	HMIS Sample	HMIS clients with one ED visit	HMIS clients with one Inpatient visit
Female	**20,574**	**15,512 (75.4%)**	**8,179 (39.8%)**
0-4 years	1,055	68% match	73% match
5-12 years	2,941	68% match	15% match
13-18 years	1,696	63% match	11% match
19-24 years	1,872	81% match	53% match
25-34 years	4,094	77% match	55% match
35-44 years	3,638	82% match	25% match
45-61 years	4,469	76% match	38% match
62+	722	76% match	53% match
Male	**19,913**	**14,060 (70.6%)**	**5,644 (28.3%)**
0-4 years	1,098	71% match	73% match
5-12 years	3,021	72% match	17% match

13-18 years	1,651	67% match	8% match
19-24 years	1,298	72% match	14% match
25-34 years	2,210	73% match	21% match
35-44 years	2,761	72% match	26% match
45-61 years	6,856	70% match	35% match
62+	933	65% match	45% match
Total	**22,975**	**14,707 (64.0%)**	**4,840 (21.1%)**

3. Both Adults and Children who are homeless need better access to preventive care.

Preventive care is important to both children and adults. Medicaid records distinguish between preventive care and treatment for conditions that could have been prevented, and even among adults who are enrolled in Medicaid and have access to preventive services, nearly three-quarters of the population do not show any preventive claims, while almost all adults enrolled in Medicaid had treatment claims. And while Medicaid enrollment rates for children are between 83 and 87 percent, 30% of children, even those who are insured, are not receiving preventive care.

Table 8. Preventive and Treatment Claims among homeless people enrolled in Medicaid, 2010-2012

Population	**Preventive Claims**	**Treatment Claims**
Children	6,479 (70.0%)	8,986 (95.9%)
Adults	3,239 (28.8%)	11,136 (98.9%)

Denominator = children and adults enrolled in Medicaid with at least one claim between 2010-2012

This report is the first in a series of reports on service utilization by people who are homeless in South Carolina. It is based partially on aggregate data obtained from the South Carolina Department of Health and Human Services but does not necessarily represent the official findings of SCDHHS. For more information, contact Lauren Angelo Duck at langelo@uway.org or 803-733-5108.

Erratum

Subject	Revised Date
A methodology inconsistency in defining the HMIS cohort was discovered and corrected. Statisticians unintentionally worked with two differently sized cohorts: one group that was homeless at any point over a period of three years and another group that was homeless at any point over a period of six years. All information was reanalyzed using the six year cohort, and the tables reflect the updated information for anyone who experienced homelessness between 1/1/2007 – 12/31/2012.	June 2015