Do emergency Medicaid programs improve post-discharge health care access for trauma patients? A statewide mixed-methods study

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BACKGROUND: Hospital presumptive eligibility (HPE) emergency Medicaid programs offset patient bills at hospitalization and can provide long-term Medicaid coverage. We characterized postdischarge outpatient health care utilization among HPE Medicaid trauma patients and identified patient access facilitators and barriers once newly insured. We hypothesized utilization would be increased among HPE trauma patients compared with other HPE patients, but that challenges in access to care would remain.

METHODS: We performed a convergent mixed methods study of California HPE beneficiaries using a 2016 to 2021 customized statewide longitudinal claims dataset from the Department of Health Care Services. We compared adults 18 years and older with a diagnosis to other HPE patients. Patients were tracked for 2 months postdischarge to evaluate health care utilization: outpatient specialist visits, emergency room (ER) visits, readmissions, and mental health. Thematic analysis of semistructured interviews with HPE Medicaid patients aimed to understand facilitators and barriers to access to care (n = 20).

RESULTS: Among 199,885 HPE patients, 39,677 (19.8%) had a primary diagnosis of trauma. In the 2 months postdischarge, 40.8% of trauma vs. 36.6% of nontrauma accessed outpatient specialist services; 18.6% vs. 17.2% returned to ED, 8.4% vs. 10.2% were readmitted; and 1.4% vs. 1.8% accessed mental health services. In adjusted analyses, trauma HPE patients had 1.18 increased odds of accessing outpatient specialist services ($p < 0.01$). Patients cited HPE facilitators to accessing care: rapid insurance acquisition, outpatient follow-up, hospital staff support, as well as ongoing barriers to access (HPE program information recall, lack of hospital staff follow up postdischarge, and difficulty navigating a complex health care system).

CONCLUSION: Hospital presumptive eligibility Medicaid is associated with higher rates of outpatient specialist visits and fewer readmissions following injury, suggesting improved trauma patient access. Opportunities to improve appropriateness of health care utilization include more robust and longitudinal education and engagement with HPE Medicaid patients to help them navigate newfound access to services. (*J Trauma Acute Care Surg.* 2025;98: 219–227. Copyright © 2024 American Association for the Surgery of Trauma.)

LEVEL OF EVIDENCE: Prognostic and Epidemiological; Level III.
KEY WORDS: Hospital presumptive eligibility; outpatient services; access to care; readmissions; mental health; primary care.

Access to timely and appropriate health care services is a cornerstone of effective trauma management, significantly influencing patient outcomes and recovery. However, access to care remains a persistent challenge for trauma patients across all phases of the care continuum, particularly among those who are uninsured.[1,2] Preinjury, uninsured patients are at risk of deferring routine or preventative care due to the prohibitive cost, leading to delays in diagnosis and exacerbation of underlying health conditions. At the time of injury, timely treatment at a trauma center can be impacted by other social determinants of health including geography and transportation.[3,4] As injured patients progress toward recovery and discharge, postacute health services access remains variable among the uninsured. Disparities in resource allocation disproportionately affect uninsured trauma patients. Difficulty in scheduling appointments and navigating the complex health care landscape further contributes to the overall difficulty in obtaining timely treatment.

The hospital presumptive eligibility (HPE) emergency Medicaid program represents a crucial intervention aimed at mitigating these barriers and improving health care access for uninsured patients. Established to provide temporary emergency Medicaid coverage (up to 60 days) for individuals who meet eligibility criteria at the time of hospitalization, HPE recipients are encouraged to subsequently enroll in full Medicaid to sustain coverage.[5–7] Injured trauma patients have been shown to be among the highest utilizers of HPE programs, as they are more commonly uninsured and frequently require access to postacute outpatient services.[7–10] Hospital presumptive eligibility programs have been shown to increase access to other inpatient facilities such rehabilitation centers while reducing uncompensated care for hospitals and relieving trauma patient financial hardship associated with high out-of-pocket cost medical bills.[11] Less is known about HPE's ability to facilitate access to postinjury *outpatient* health care utilization, including preventative care, outpatient specialist and primary care visits and postinjury mental health services.

In this mixed-methods study, we aimed to characterize postdischarge outpatient health care utilization among newly insured HPE trauma patients and elicit ongoing patient-identified facilitators and barriers access to care. We hypothesized that outpatient healthcare service utilization following inpatient admission would be increased among HPE trauma patients as compared with other HPE patients, but that barriers to access would remain.

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METHODS

Quantitative Analysis

Data Source

We analyzed Department of Healthcare Services (DHCS) claims and eligibility records of hospitalized adult patients granted HPE from 2016 to 2021 in California.

Cohort

We included all adult inpatients aged 19 years to 64 years with a hospital HPE claim in the first week of coverage. We excluded the following: children as well as adults 65 years or older,

patients with inpatient mortality, no documented discharge, HPE enrollment longer than 6 months, or more than one HPE enrollment per year prior to 2020 or greater than two enrollments per year 2020 to 2021, as these exceeded the maximum allowed HPE coverage periods during those times (Supplemental Digital Content, Fig. 1, http://links.lww.com/TA/E147). We compared injured to noninjured patients using International Classification of Diseases (ICD) version 10 codes (injury: M9910-M9919; S01.0-S09.9; S11.0-S19.9; S21.0-S29.9; S31.0-S39.9; S41.0-S42.9; S44.0-S49.9; S51.0-S52.9; S54.0-S59.9; S61.0-S62.9; S64.0-S69.9; S71.0-S72.9; S74.0-S79.9; S81.0-S82.9; S84.0-S89.9; S91.0-S92.9; S94.0-S99.9; T07-T32.9; T79).

Outcome

Our primary outcome was healthcare utilization in the 2 months following discharge after HPE acquisition: outpatient specialist care, inpatient readmissions, emergency room visits, primary care visits, preventive care including colonoscopy and mammogram, and mental health care. Outpatient and inpatient care were defined by claim type. Emergency room visits were identified from Current Procedural Terminology (CPT) codes 99281-99285 or revenue codes 0451-0459 and 0981; primary care by provider taxonomy; colonoscopy, mammogram, and mental health care via CPT and Healthcare Common Procedure Coding System codes.[12–15] Colonoscopy and mammogram were assessed only for patients for whom screening was recommended by the United States Preventive Services Task Force.[16–18] A 2-month period was chosen as HPE is intended as temporary coverage and lasts for 2 months unless a Medicaid application has been filed and has not yet been approved or denied.

Covariates

Covariates were identified *a priori* and included year HPE was received, sex, ethnicity, age, language, discharge day type (weekday/weekend), surgery during admission (yes/no), hospital length of stay, discharge disposition, and HPE-granting hospital bed size and ownership.

Statistical Analysis

We assessed unadjusted differences in patient demographic and clinical characteristics and HPE-granting hospital characteristics between injured and noninjured HPE inpatients using χ^2 tests. In adjusted analysis, we modeled access to each type of service with logistic regression models, including all covariates of interest. Data were analyzed with Stata SE v 17.0. This study was approved by our university's Institutional Review Board (IRB protocol 69697), following STROBE guidelines created for the reporting of observational studies (Supplemental Digital Content, Table 1, http://links.lww.com/TA/E147).

Qualitative Methods

We performed a thematic analysis of semistructured 1:1 interviews with HPE patients to understand facilitators and barriers to postinjury access to care (n = 20). A sample size of 20 participants was found to be sufficient in reaching thematic saturation (i.e., no occurrence of new insights) and this sample size is also consistent with previous studies that found using empirical interview data often reached saturation between 9 and 30 interviews.[19–21] Patients (trauma and nontrauma) were recruited from a large, single Level I trauma center in California. These patients were screened by financial counselors at the time of hospitalization through the emergency department and identified as being uninsured. The full screening and enrollment process has been previously described in detail.[7,22,23] If a determination of HPE eligibility was made, patients were granted temporary Medicaid coverage lasting up to 60 days from the time of injury. In addition, patients were counseled by social workers and case managers and provided the opportunity to apply for ongoing Medicaid to take effect by the end of their HPE eligibility period.

Sampling and Participant Selection

Participants were identified for possible interview by our hospital financial counselors who maintained secure lists of HPE approved patients. Working with hospital social worker and case managers, eligible patients were identified by daily review of inpatient lists (Monday to Friday). Those who were already discharged in under 24 hours, or critically ill without the ability to consent or participate in an interview were excluded. Patients were consented by our study team and all but two invited patients agreed to participate (Supplemental Digital Content, Fig. 2, http://links.lww.com/TA/E147).

Interview Process

Authors W.H., A.G., E.M., and L.M.K. conducted the interviews between June and September 2023, in English or Spanish (with the use of interpreter services) based on the participant's preference. The diverse research team had background medical knowledge and were trained to perform qualitative interviews. Two spoke fluent Spanish; a hospital-provided translator was present for the interviews conducted by the two interviewers who were not fluent. The PI has extensive experience working with uninsured and minority patient populations. Our reflexive process also included frequent meetings to review assumptions and cross-check conclusions as a team.

The semistructured interview guide was developed based on the Andersen Framework of Health Services Utilization and questions focused on postinjury access to care and insurance status. These interviews were recorded with participant consent, cross-checked and deidentified, and transcribed verbatim. Interviews conducted in Spanish were translated by a third-party service.

Data Coding and Analysis

We began with deductive codes and added inductive codes through iterative discussion-based consensus of emergent themes.[24] Themes were confirmed through triangulation among researchers and a search for disconfirming evidence, of which there was none. Initial coding was performed by three coders using the aims of the interview guide. Emergent codes were identified and discussed among team members to decide on inclusion into the final codebook. The final codebook was applied to all transcripts once consensus was achieved among all team members.[25,26] Coding and analysis were completed in NVivo 14 (QSR International, Melbourne, Australia). Interrater reliability was assessed using the Kappa score calculated by NVivo.

TABLE 1. Comparison of Trauma HPE Patients vs. Nontrauma HPE Patients, 2016–2021

	Nontrauma HPE Patients (n = 160,208, 80.2%)		Trauma HPE Patients (n = 39,677, 19.8%)		Total HPE Patients (N = 199,885, 100%)		
	n	Percentage (%)	n	%	N	%	*p*
Year							<0.001
2016	27,120	16.9%	6,817	17.2%	33,937	17.0%	
2017	27,035	16.9%	6,863	17.3%	33,898	17.0%	
2018	27,185	17.0%	6,810	17.2%	33,995	17.0%	
2019	27,035	16.9%	6,715	16.9%	33,750	16.9%	
2020	28,182	17.6%	6,586	16.6%	34,768	17.4%	
2021	23,651	14.8%	5,886	14.8%	29,537	14.8%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Sex							<0.001
F	57,894	36.1%	7,829	19.7%	65,723	32.9%	
M	102,314	63.9%	31,848	80.3%	134,162	67.1%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Ethnicity							<0.001
White	26,421	16.5%	8,303	20.9%	34,724	17.4%	
Hispanic	57,365	35.8%	13,382	33.7%	70,747	35.4%	
No Response	51,130	31.9%	11,246	28.3%	62,376	31.2%	
Black	8,017	5.0%	2,290	5.8%	10,307	5.2%	
Asian or Pacific Islander	6,713	4.2%	1,334	3.4%	8,047	4.0%	
Alaskan Native or American Indian	541	0.3%	199	0.5%	740	0.4%	
Other Race/Ethnicity	10,021	6.3%	2,923	7.4%	12,944	6.5%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Language							<0.001
English	97,809	61.1%	27,565	69.5%	125,374	62.7%	
Spanish	52,549	32.8%	10, 099	25.5%	62,648	31.3%	
Asian Language	1,561	1.0%	306	0.8%	1,867	0.9%	
Other Non-English Language	942	0.6%	171	0.4%	1,113	0.6%	
No Response	7,347	4.6%	1,536	3.9%	8,883	4.4%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Age							<0.001
19–26	20,031	12.5%	7,849	19.8%	27,880	13.9%	
27–44	62,553	39.0%	17,100	43.1%	79,653	39.8%	
45–64	77,624	48.5%	14,728	37.1%	92,352	46.2%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Surgery during admission							<0.001
0	75,871	47.4%	12,707	32.0%	88,578	44.3%	
1	84,337	52.6%	26,970	68.0%	111,307	55.7%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Discharge disposition							<0.001
To services	7,299	4.6%	3,998	10.1%	11,297	5.7%	
Discharge to home	152,909	95.4%	35,679	89.9%	188,588	94.3%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Discharge day							<0.001
Weekday	123,761	77.3%	31,452	79.3%	155,213	77.7%	
Weekend	36,447	22.7%	8,225	20.7%	44,672	22.3%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Length of stay							<0.001
1	143	0.1%	41	0.1%	184	0.1%	
2–3	70,394	43.9%	15,290	38.5%	85,684	42.9%	
4–7	61,628	38.5%	13,957	35.2%	75,585	37.8%	
8+	28,043	17.5%	10,389	26.2%	38,432	19.2%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Hospital ownership							<0.001
Investor	32,918	20.5%	6,164	15.5%	39,082	19.6%	
Public	33,109	20.7%	9,134	23.0%	42,243	21.1%	
Nonprofit	94,181	58.8%	24,379	61.4%	118,560	59.3%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	

Continued next page

TABLE 1. *(Continued)*

	Nontrauma HPE Patients (n = 160,208, 80.2%)		Trauma HPE Patients (n = 39,677, 19.8%)		Total HPE Patients (N = 199,885, 100%)		
	n	Percentage (%)	n	%	N	%	*p*
Hospital licensed beds							<0.001
1–199	38,953	24.3%	6,466	16.3%	45,419	22.7%	
200–299	27,232	17.0%	6,717	16.9%	33,949	17.0%	
300–499	65,495	40.9%	17,339	43.7%	82,834	41.4%	
500+	28,528	17.8%	9,155	23.1%	37,683	18.9%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Outpatient care							<0.001
0	101,616	63.4%	23,476	59.2%	125,092	62.6%	
1	58,592	36.6%	16,201	40.8%	74,793	37.4%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
ED visits							<0.001
0	132,574	82.8%	32,311	81.4%	164,885	82.5%	
1	27,634	17.2%	7,366	18.6%	35,000	17.5%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Inpatient readmissions							<0.001
0	143,877	89.8%	36,332	91.6%	180,209	90.2%	
1	16,331	10.2%	3,345	8.4%	19,676	9.8%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
MH visits							<0.001
0	157,302	98.2%	39,110	98.6%	196,412	98.3%	
1	2,906	1.8%	567	1.4%	3,473	1.7%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Primary care visit							<0.001
0	128,158	80.0%	32,386	81.6%	160,544	80.3%	
1	32,050	20.0%	7,291	18.4%	39,341	19.7%	
Total	160,208	100.0%	39,677	100.0%	199,885	100.0%	
Mammogram, eligible patients							0.063
0	18,988	98.60%	2,672	99.10%	21,660	98.70%	
1	262	1.40%	25	0.90%	287	1.30%	
Total	19,250	100.00%	2,697	100.00%	21,947	100.00%	
Colonoscopy, eligible patients							0.003
0	58,859	99.60%	11,060	99.80%	69,919	99.60%	
1	259	0.40%	27	0.20%	286	0.40%	
Total	59,118	100.00%	11,087	100.00%	70,205	100.00%	

As part of the analysis, coders met regularly to discuss and resolve any discrepancies. Themes were created by grouping emerging themes that recurred across multiple interviews, providing a comprehensive understanding of the facilitators and barriers to postinjury access to care. We achieved thematic saturation (i.e., emergence of no new ideas per and across participants).[19,27,28] Qualitative data analysis software was used (QSR International NVivo12, Melbourne, AU).

RESULTS

Quantitative Analysis

Among 199,885 inpatients granted HPE in the analysis, 39,677 (19.8%) were injured trauma patients. A greater proportion of injured patients were male (80.3% vs. 63.9%, $p < 0.001$), White (20.9% vs. 16.5%, $p < 0.001$), primarily English-speaking (69.5% vs. 61.1%, $p < 0.001$), and younger (aged 19–26: 19.8% vs. 12.5%, $p < 0.001$) compared with noninjured patients (Table 1). In addition, more injured patients had surgery during their admission (68.0% vs. 52.6%, $p < 0.001$), were discharged to services vs. home (10.1% vs. 4.6%, $p < 0.001$), had longer lengths of stay (8+ days 26.2% vs. 17.5%, $p < 0.001$), received HPE at a nonprofit (61.4% vs. 58.8%) or publicly owned hospital (23.0% vs. 20.7%) ($p < 0.001$), and at a larger hospital (500+ licensed beds: 23.1% vs. 17.8%, $p < 0.001$).

In unadjusted analysis, a greater proportion of injured patients accessed outpatient specialist care visits (40.8% vs. 36.6%, $p < 0.001$), although trauma patients were slightly less likely to have had a primary care visit within 2 months of hospital discharge (18.4% vs. 20.0%, $p < 0.001$). Although more HPE trauma patients visited the emergency room (18.6% vs. 17.2%, $p < 0.001$) in the 2 months following their HPE inpatient stay compared with noninjured patients, injured HPE patients had overall fewer inpatient readmissions (8.4% vs. 10.2%, $p < 0.001$). Compared with noninjured HPE patients, HPE trauma patients accessed mental health services less often (1.4% vs. 1.8%, $p < 0.001$). Among eligible-aged patients, trauma HPE patients were less likely to receive a screening colonoscopy than nontrauma HPE patients (0.2% vs. 0.4%, $p = 0.003$). There was no difference in screening mammography rates between groups. Proportions of HPE trauma vs. HPE

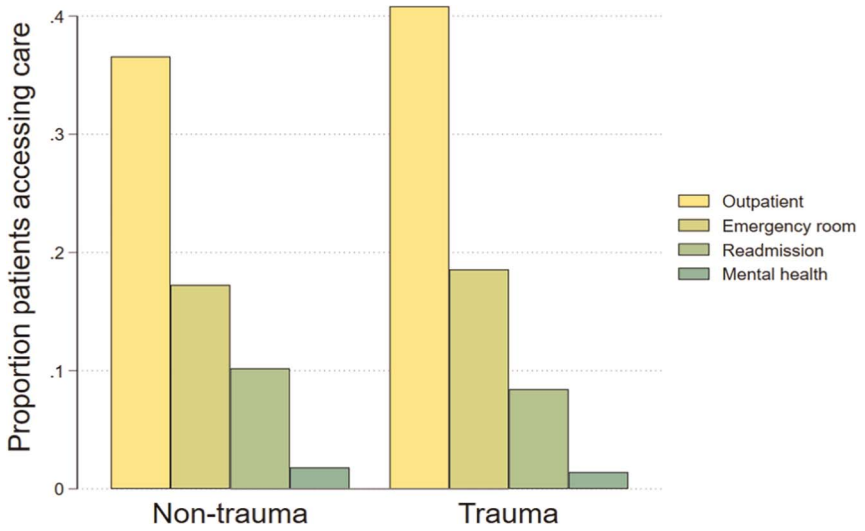

Figure 1. Proportion of HPE trauma vs nontrauma patients accessing different types of outpatient services.

nontrauma patients accessing outpatient care are described in Figure 1.

Similarly, in adjusted analysis, injured patients had significantly higher odds of accessing outpatient specialist services (aOR, 1.18; 95% CI, 1.16–1.21) and the emergency room (aOR, 1.10; 95% CI, 1.07–1.14), and significantly lower odds of readmission (aOR, 0.72; 95% CI, 0.69–0.75), primary care (aOR, 0.85; 95% CI, 0.83–0.88), mental health care (aOR, 0.77; 95% CI, 0.70–0.84), and screening colonoscopy (aOR, 0.58; 95% CI, 0.39–0.87) compared with noninjured patients (Table 2).

Qualitative Patient Stakeholder Interviews

We interviewed 20 patients who presented to the hospital uninsured and were approved for HPE during their hospitalization. Respondents were 65% male (n = 13) and median age of 48 years, representing a broad variety of clinical diagnoses including trauma and nontrauma diagnoses. We achieved thematic saturation by completion of these 20 interviews, indicating that no new themes were identified with each additional interview. Analysis revealed two emergent themes: HPE benefits and facilitators for accessing care (rapid access to insurance, outpatient follow-up, hospital staff support), as well as ongoing challenges or barriers to access (HPE program information recall, lack of hospital staff follow up postdischarge, and difficulty navigating a complex healthcare system).

TABLE 2. Mixed Effect Logistic Regressions of Access to Each Type of Service Postdischarge for HPE Trauma Patients

	aOR	95% CI	*p*
Outpatient specialist services	1.18	1.16–1.21	<0.001
Inpatient readmissions	0.72	0.69–0.75	<0.001
Emergency department visits	1.1	1.07–1.14	<0.001
Mental health services	0.77	0.70–0.84	<0.001
Primary care visits	0.85	0.83–0.88	<0.001
Screening mammogram	0.78	0.52–1.19	0.248
Screening colonoscopy	0.58	0.39–0.87	0.009

HPE Benefits and Facilitators of Access to Care: Rapid Access to Insurance

Patient stakeholders described HPE as a rapid and straightforward means of securing insurance coverage. The process was "clearly explained," "questions and signing papers was brief," and "the phone call to determine eligibility was short." (Patients 2, 7, 15) Several even reported that they were approved for HPE the same day or even within hours. Patients with positive experiences remarked "there was nothing they would change about the process" (Patient 4). The securing of insurance coverage following hospitalization was emphasized as critical, with one trauma patient citing that insurance "lifts the burden of worrying about how to pay for medical care" (Patient 16). This patient noted how, without insurance, they would be required to calculate "how many days of work I must complete to meet my financial obligations" (Patient 16). Further, patients stated that the acquisition of insurance lifts the bias of being treated differently based upon insurance status. "They always ask you, 'do you have insurance'? Then you say no and sometimes they don't even want to attend to you due to that" (Patient 12).

HPE Benefits and Facilitators of Access to Care: Outpatient Follow-Up

With the alleviated financial burden of having insurance, patients understood that HPE now allows them to access specific healthcare services after discharge. One participant specifically noted that "HPE will help me be able to follow up with my surgeon" (patient 3) and other care providers.

HPE Benefits and Facilitators of Access to Care: Hospital Staff Support

Another HPE facilitator of access to care was the support that patients received from hospital staff involved in the HPE enrollment process. Respondents mentioned that most HPE paperwork and forms were completed for them: "Our experience has been really easy just because the finance team was able to come and assist us .... and they basically handled the whole process for us" (Patient 5). One participant also mentioned that it was

helpful that the HPE education was offered in their native language (Spanish). In-person education regarding HPE relieved patients from having to call or search for complicated information alone, particularly when they were focused on recovering from illness. The attention received was" kind and cordial," "supportive," and patients described being "educated and counseled during a stressful situation where mental faculties may not be operating at their best" (Patient 10).

HPE Ongoing Barriers of Access to Care: HPE Program Information Recall

There was a widespread lack of ability among participants to concretely recall and answer specific questions about their HPE coverage. Nearly all respondents could not recall the name of the program as HPE; they referred to the coverage as "emergency Medicaid." There was extreme variation among answers when participants were asked how long the HPE coverage lasted, what expenses would be covered by HPE, and if they knew about the option of enrolling in long-term Medicaid coverage and how to obtain it. One patient noted, "Is this good insurance? Bad insurance? What does it cover? What are the limits?' I don't really know" (Patient 15). There were also several participants who noted that when hospital staff explained HPE during admission, they were distracted by pain or under the influence of medication, thereby limiting their information recall.

HPE Ongoing Barriers of Access to Care: Lack of Hospital Staff Follow-Up Postdischarge

Although HPE could mitigate the barrier of being uninsured, several participants expressed that there is a lack of ongoing information about HPE and once enrolled, they were unable to reach Medicaid representatives for questions: "The financial officer in hospital was professional" but there were challenges subsequently contacting a HPE Medicaid representative. "They said they would call me back, but it's been 3 or 4 days without hearing anything each time I call" (Patient 16).

HPE Ongoing Barriers of Access to Care: Difficulty Navigating a Complex Healthcare System

Despite newly acquired insurance, one of the main ongoing barriers in access was uncertainty regarding how to navigate a complex healthcare system. Patients described being unsure about how and where to access certain types of care. As uninsured patients had previously deferred care and limited their interactions with the healthcare system, they emphasized a lack of knowledge around seeking specialized care, difficulty obtaining appointments and language barriers as ongoing limitations despite now being insured. Some patients also considered themselves previously "fairly healthy and never needed to access the level of medical care currently required." One patient summarized, "I'm not very familiar with the whole healthcare systems. So, I'm really just Googling and asking friends where should I even start? Who do I reach out to?" (Patient 12).

DISCUSSION

This study is one of the first mixed-methods analyses to investigate postdischarge healthcare utilization among HPE patients, with the goal of gaining a deeper understanding of the facilitators and ongoing barriers in access to outpatient care. Previous studies have described that HPE insurance acquisition at the time of inpatient admission for injury is associated with increased access to postdischarge care within other facilities; for example, inpatient rehabilitation centers, skilled nursing facilities, and long-term acute care.[22] This study highlights that HPE trauma patients are also more likely to rapidly access specialist outpatient appointments within the first 60 days of their discharge. Overall, 40% of HPE trauma patients completed outpatient specialist visits and approximately 18% saw a primary care physician within 2 months of discharge. In our adjusted analyses, we found that HPE trauma patients had significantly higher odds of accessing outpatient specialist services (aOR, 1.18), suggesting that patients secure rapid follow-up with care providers who treated them during their hospitalization and obtain efficient follow-up upon hospital discharge.

However, barriers remain in accessing mental health appointments (aOR, 0.77), primary care visits (aOR, 0.85) and preventative screening procedures such as colonoscopy and mammography. Reasons for lower rates of primary and preventative care among HPE trauma patients within the first 2 months of discharge are likely multifactorial. Hospital presumptive eligibility approval among trauma patients is higher (2.2 times greater odds) among those with an Injury Severity Score greater than 15.[22] In this cohort, it is likely that patients spend the first 2 months postdischarge focused on specialist visits related to their significant injury, rather than seeking out preventative care. Trauma patients continue to disproportionately be impacted by delays in care and even failure to access necessary services, independent of sociodemographic factors and injury severity.[9] Across all HPE patients, access to primary care and mental health was low, as there is an ongoing healthcare workforce shortage in these areas, with mean appointment wait-times of 20 days or longer.[29] Screening procedures (e.g. colonoscopy, mammography) only occur at defined intervals based upon screening consensus guidelines, and were unlikely to have occurred within our 2-month follow-up period.[16–18] Qualitative patient interviews also underscored the difficulties of navigating a complex healthcare system which was new to patients now that they were insured. Patients described a sense of overwhelm, citing a feeling of not knowing where to start when it comes to scheduling new provider appointments and understanding what types of care they should be seeking. This is supported by our findings that postdischarge ED utilization remained higher for HPE trauma patients than nontrauma patients, likely because trauma patients default to the ED as a known site for receiving timely care.[30] Future study should investigate the longer term impacts of HPE Medicaid on health services utilization.

Our study also highlights that patients associate HPE with alleviating financial burdens and reducing uncertainty about affording necessary medical care. They understand that HPE coverage would offset medical costs associated with their injury. This is critical, as hospital bills have been identified as one of the biggest contributors to direct costs and subjective psychological burden of cost strain, which culminates in financial toxicity.[31–33] Further, we demonstrated reductions in readmissions among HPE trauma patients (aOR, 0.72), which would translate to hospital cost savings. Neiman et. al. found that readmissions cost approximately $8,000 per patient.[34] These findings build upon

prior mixed-methods studies demonstrating significant reductions in uncompensated care costs and increases in net Medicaid revenue for HPE participating hospitals.[11] Hospital financial stakeholders report reductions of bad debt, improved patient satisfaction and community benefit associated with access to care.

With the combined patient, hospital and system service utilization and cost-savings benefits of HPE, there is incentive to invest in longitudinal resources to ensure program success. Patients struggle with recalling HPE coverage specifics beyond their initial encounters with hospital staff (case managers, social workers, financial councilors) and Medicaid representatives, and would benefit from follow-up assistance. Although this can be very time intensive at the individual patient level, there are programmatic opportunities to enhance care coordination and patient education, while minimizing the added strain to an already overburdened healthcare system.[11,35]

Steps can be taken to improve educational materials and information dissemination about HPE benefits both in-hospital and after-discharge. As HPE trauma patients experienced improved access to outpatient specialist visits, these encounters can be leveraged as important touchpoints to reinforce the importance of sustaining insurance through Medicaid and assist with other physician referrals. On a broader level, patient support mechanisms such as nurse and social-worker led comprehensive interdisciplinary transitional care programs have shown promise in ensuring health care continuity for patients postdischarge.[36] Investing in these transitional care programs carries the potential to more effectively address insurance sustainment and related social determinants of health as a whole which may be barriers to outpatient health care access. A recent scoping review of such programs for injured patients demonstrated a 13% reduction in ED utilization and 75% improved outpatient appointment follow-up adherence.[36] Finally, policy initiatives aimed at extending the duration of HPE coverage or facilitating more seamless transitions to long-term Medicaid enrollment could mitigate some of the above identified challenges. These efforts are particularly pertinent in ensuring continuity of care and reducing healthcare disparities among vulnerable patient populations.

There were several limitations to our study. We performed a retrospective review of statewide HPE claims data for our quantitative analysis and our study was limited to California, where HPE eligibility criteria in among the most inclusive in the country. Hospital presumptive eligibility differs across states and is typically more restricted in non-Medicaid expanded states. Our analysis of postdischarge outpatient health services utilization only spanned two months, given this was the maximum duration of HPE for approved recipients. As we performed our dataset within a customized HPE-specific claims dataset, were unable to compare utilization among HPE recipients and those who remained uninsured at the time of discharge. Existing registries and administrative multipayer datasets do not allow for detailed HPE-specific outcomes analysis. They document "expected payer status" at the time of discharge, and therefore HPE patients are grouped with other Medicaid recipients. A separate study is also required to evaluate whether differences in outpatient healthcare utilization exist among those who subsequently enrolled in full-scope Medicaid vs. those who did not.

It is also possible that our qualitative interviews did not represent the perspectives of all HPE patients, although we did achieve thematic saturation for this study. As with all qualitative work, our findings describe the specific experiences of those interviewed and are not meant to be generalized to an entire population. Every attempt to mitigate bias was made by ensuring a varied sample based on age, sex, and clinical diagnosis. We ensured that we had two interviewers from different backgrounds and who followed a structured interview guide.

CONCLUSION

This mixed-methods study provides valuable insights regarding the impact of HPE on healthcare utilization among uninsured trauma patients. While HPE facilitates trauma patient access to outpatient specialist care and reduces readmissions, challenges persist in navigating referrals to primary care, mental health services and preventative procedures. Addressing these challenges requires collaborative efforts among healthcare stakeholders to optimize the transition of injured patients from the acute inpatient setting to outpatient health services. There is an opportunity to provide more robust ongoing education and longitudinal support regarding the HPE program and surrounding the opportunities for primary preventative care. This will enable newly insured trauma patients to better navigate and engage with the healthcare services and resources available to them postdischarge.

AUTHORSHIP

L.M.K. participated in the literature search, study conception and design, data collection and coding, data analysis, data interpretation, writing. K.A. participated in the study design, data analysis, data interpretation. Z.C. and K.D. participated in the data collection and coding, data analysis, data interpretation. A.G. and W.H. participated in the literature search, data collection and coding. P.C. participated in the data collection, critical revision. A.M. participated in the study conception and design, data analysis, data interpretation, critical revision. T.W. participated in the study conception and design, data interpretation, critical revision.

DISCLOSURE

Conflict of Interest Statement: Author Disclosure forms have been supplied and are provided as Supplemental Digital Content (http://links.lww.com/TA/E148).
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