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Patients with Substance Use Disorders Receiving Continued Care in Skilled Nursing Facilities following Hospitalization

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Abstract

Background: As hospitals in the US face pressures to reduce lengths of stay, healthcare systems are increasingly utilizing skilled nursing facilities (SNFs) to continue treating patients stable enough to leave the hospital, but not to return home. Substance use disorder (SUD) can complicate care of patients transferred to SNFs. The objective of this paper is to understand SNF experiences for this population of patients with comorbid SUD transferred to SNFs and examine care experiences in these facilities.

Methods: This secondary mixed-methods analysis focuses on SNF experiences from a clinical trial of patient navigation services for medically-hospitalized adults with comorbid opioid, cocaine, and/or alcohol use disorder. This study compared baseline assessments and medical record review for participants (N=400) with vs. without SNF transfer, and analyzed semi-structured qualitative interviews with a subsample of 15 participants purposively selected based on their transfer to a SNF.

Results: Over 1 in 4 participants had a planned discharged to a SNF (26.8% sub-acute, 3.3% acute). Compared to participants with other types of discharge, participants discharged to a SNF had longer initial hospitalizations (4.9 vs. 11.8 days, p<.001), and were more likely to be White (38.6% vs. 50.8%; p=0.02), female (38.9% vs. 52.5%; p=0.01), have opioid use disorder (75.7% vs. 85.0%, p=0.03), and be hospitalized for infection (43.6% vs. 58.3%; p=0.007), and less likely to have worked prior to hospitalization (24.3% vs. 12.5%; p=0.006). Qualitative narratives identified several themes from the SNF experience, including opioid analgesic dosing issues, challenges to the use of opioid agonist treatment of OUD, illicit opioid dealing/use, and limited access to addiction recovery support services during and following the SNF stay.

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Conclusions: SNFs are a common disposition for patients in need of subacute services following hospitalization but may be ill-equipped to properly manage patients in need of new or continuing SUD treatment.

Introduction

In the United States skilled nursing facilities (SNFs) provide in-patient rehabilitation care and are subject to numerous federal and state regulations.¹ SNFs play an important role in the healthcare system, with acute and sub-acute rehabilitation facilities providing a disposition for patients who are stable enough to be discharged from the hospital, but not stable enough to go home. On average, anywhere from 10-20% of patients discharged from hospitals are sent to a SNF for rehabilitation before returning home.²⁻⁵ Unfortunately, it can be difficult for patients with a history of substance use disorder (SUD) to access SUD treatment and recovery support services due to stigma, confusion surrounding government regulations, and a lack of SUD programming, such as addiction counseling or recovery support groups, in SNFs.⁵

Increasingly, hospitals have been recognized as critical settings in which to initiate or ensure continuity of medication treatment for opioid use disorder.⁶⁻⁹ However, hospitalized patients with OUD who are discharged to SNFs face multiple barriers to initiating and continuing treatment. Federal regulations allow individuals with opioid use disorder (OUD) who were treated with methadone prior to hospital admission to continue receiving their medication during hospitalization and in SNFs (21CFR Part 1306.07);¹⁰ however, some SNFs deny admission to patients being treated with methadone for OUD, or do not provide adequate continuity of methadone dosing due to state regulations or the misinterpretation of federal regulations and best practice guidelines.⁵ In other instances, the SNF may not accept a patient because it is unable to provide the methadone and the patient's opioid treatment program (OTP) is unwilling to deliver it to the facility.

The situation for those transferred to SNFs for post-acute care is exacerbated by regulations that prevent these facilities from beginning methadone treatment themselves,¹⁰ as well as only allowing facilities to continue treatment that was delivered during the preceding hospitalization if the patient was already enrolled in an opioid treatment program. This can cause hospital clinicians to hesitate starting methadone treatment unless they have an agreement with an opioid treatment program to enroll the patient in its program during hospitalization, as doing so can complicate discharge planning. Without OTP admission, patients who initiated methadone treatment during hospitalization typically have to taper off their medication before transfer to a SNF, putting patients at a higher risk for withdrawal, craving, relapse, and leaving against medical advice. Those who cannot taper off methadone are left with limited options: either remain in the hospital longer, despite otherwise being ready for discharge; transition to another opioid for pain management (which may also help with craving and withdrawal), or be discharged without proper post-acute care.⁵ Buprenorphine treatment is a logical alternative to methadone treatment, but SNFs may not have clinicians with an X waiver to prescribe buprenorphine for OUD treatment.¹¹ Moreover, many hospitalized patients may be receiving opioid agonist analgesics, which can

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make buprenorphine initiation more complicated due to risk of precipitated withdrawal if providers are not familiar with approaches to switching medications.¹²

Some SNFs refuse to admit patients with opioid and other SUDs, and certain types of home care treatments may not be accessible to these individuals. Those with a history of injection drug use (IDU) may not be allowed to use indwelling intravenous catheters by healthcare facilities and infusion companies, because they could be used to inject illicit drugs. Patients with OUD, regardless of IDU status, are often rejected from SNFs.¹³ The complexity of the regulations could even lead facilities to erroneously believe they are prohibited from caring for patients receiving methadone treatment.^{5, 13} Combining the unfamiliarity with the methadone treatment regulations with the lack of knowledge about the treatment of SUDs in SNFs can present a serious challenge for staff and patients.^{5, 14}

The present secondary analysis uses mixed-methods data to examine SNF experiences and patient characteristics among participants recruited into a study of patient navigation services to avoid rehospitalization.^{15, 16}

Methods

The parent study, Navigation Services to Avoid Rehospitalization (NavSTAR),¹⁶ was a parallel two-group randomized controlled trial comparing a patient navigation (PN) intervention to treatment-as-usual (TAU) for hospitalized patients with comorbid SUDs in a large Baltimore City hospital. The study was approved by the University of Maryland and Friends Research Institute Institutional Review Boards and all participants provided informed consent.

Participants were 400 hospitalized adult patients who met DSM-5 diagnostic criteria for opioid, cocaine, and/or alcohol use disorder. Potential participants were identified by staff of the hospital's addiction consultation liaison team and then formally assessed for eligibility by the study research assistants (RA). At the index hospitalization, RAs administered the Addiction Severity Index-Lite¹⁷ to obtain the participant's age, race, sex, and employment and housing status, along with the modified World Health Organization Composite International Diagnostic Interview items mapped to DSM-5 criteria for opioid, cocaine, and alcohol use disorder. The hospitals' electronic health record was used to classify chief medical problem at discharge according to major disease categories based on the Medical Dictionary for Regulatory Activities (medDRA). Discharge to a SNF was determined via review of the hospital's electronic health record and the regional health information exchange.¹⁵

A sub-sample of participants were selected using purposive sampling based on sex, age, race, type of SUD, and hospital discharge disposition. Participants in this subsample completed a semi-structured qualitative interview approximately 3-months post-discharge from their index hospitalization as part of the study's process evaluation. In total, 30 participants completed qualitative interviews. Participants with SNF experiences were oversampled to examine this phenomenon and its impact on the study's main outcomes, including rehospitalization and SUD treatment entry and recovery, in greater detail, resulting

in 15 participants with SNF experiences completing qualitative interviews (50% of the qualitative sample; 6 from the PN arm and 9 from the TAU arm).

Data Analysis

The full sample of 400 participants was stratified according to SNF discharge status. Associations between discharge to a SNF and participant characteristics (including age, race, sex, hospital length of stay, education, employment, housing status, and DSM-5 diagnostic criteria for opioid, cocaine, and/or alcohol use disorder) were examined using likelihood ratio χ^2 tests of independence for categorical variables and independent samples t-tests for continuous variables.

Qualitative interviews for the 15 participants with SNF experiences were recorded, transcribed, and analyzed using a content analysis approach^{18, 19} and Atlas.ti software version 8.4. As we have done previously,²⁰⁻²³ two independent coders analyzed the data separately, met to discuss their coding schemas, and reconciled differences until consensus was reached.

Results

SNF discharge following hospitalization

Among the full sample of 400 participants, over one quarter had a planned discharge to a SNF. Participants' hospital discharge status was as follows: 53.3% were discharged home, 30.0% were discharged to a SNF (3.3% and 26.8% acute and sub-acute rehabilitation, respectively), 9.0% left the hospital against medical advice, and 7.5% were discharged to congregant living in a shelter, group home, transitional house, or residential addiction treatment facility.

Participant characteristics stratified by SNF discharge are shown in Table 1. Participants discharged to a SNF had longer mean length of hospitalization compared to participants discharged elsewhere (11.8 vs. 4.9 days; p<0.001). Compared to participants with non-SNF discharge, participants discharged to a SNF were more likely to be White (50.8% vs. 38.6%; p=0.02) and female (52.5% vs. 38.9%; p=0.01). Participants discharged to a SNF were less likely to have worked for pay in the 30 days prior to hospitalization (12.5% vs. 24.3%; p=0.006) compared to those not discharged to a SNF. Although there were no significant differences between participants with SNF and non-SNF discharges in the proportion that met criteria for cocaine use disorder, participants discharged to SNF were less likely than those discharged elsewhere to meet criteria for alcohol use disorder (27.5% vs. 38.6%; p=0.03), but more likely to meet criteria for opioid use disorder (85.0% vs. 75.7%; p=0.03). Infections were (by far) the most common medical problem in the sample and were over-represented in discharges to SNF. Compared to participants not discharged to a SNF, participants discharged to SNF were more likely to have an infection as their chief medical problem at discharge (58.3% vs. 43.6%; p=0.007), and less likely to have a gastrointestinal problem (3.3% vs. 8.6%; p=0.045).

SNF Experiences

Inadequate analgesic treatment for patients with SUDs.—Participants with SUDs who were discharged to a SNF from the hospital often reported gaps in the continuity of their care, particularly with respect to receiving opioid analgesics to manage pain. Difficulties reported included receiving different pain medications than expected, receiving insufficient doses, or not receiving their medications at all.

Participant A [a Black female]. "I was on methadone [in the hospital], and they [the SNF] didn't have that. I was getting oxycodone, five milligram tablets. They didn't have that. The only thing they had was my Bactrim and a Motrin and that didn't curve [*sic*] the pain I was going through."

As this participant indicated, problems in care often seemed to revolve around the receipt of opioid analgesics even when other medications, such as antibiotics, were being provided. Despite this apparent bifurcation, problems concerning the receipt of opioid analgesics in some cases became an impediment to receiving adequate care for their other medical problems, as some such patients left the SNF against medical advice.

Participant B [a Black female]. "...I think I was in the hospital about seven or eight days. I left there and went to [SNF] and I was there for like two weeks. And the medication they were giving me, it wasn't working. I was feeling worse than I was when I came in there. And they stopped giving me the pain medicine. I still had the staples in my back and I was discharged. (*Interviewer):* "Okay, so you were in [SNF] for about two weeks and discharged. Were they ok with you leaving or...?" (*Participant):* "No." (*Interviewer):* "So it just wasn't working for you so you kind of left?" (*Participant):* "Yeah."

This participant stated she had a follow-up appointment with her physician a few days after leaving the SNF and had the staples removed from her back, but she refused to return to the SNF to complete her rehabilitation.

One participant felt that she was being negatively judged as "drug seeking" by the nursing staff when she requested stronger pain medications after having her opioid analgesics decreased in the SNF.

Participant C [a White female]. "...all I know is my leg keeps on swelling up like a pumpkin. And she [nurse practitioner] decreased my methadone by fifteen milligrams. Then she decreased my Dilaudid by two milligrams. I'm in extreme pain and she basically told me I was not in pain, I was uncomfortable, and that she was going to prescribe some Ibuprofen along with the remaining Dilaudid I was getting, which is only four milligrams. And considering how much I was using it really doesn't touch my pain. And it's like, if you're a junkie or a drug addict in their eyes, they don't want to give you anything. And they think that you're not in pain and you're just drug seeking and it's like, no, I'm in real pain."

Given the adversarial, rather than collaborative, way in which patients and staff sometimes approached managing pain with opioid medications, particularly in patients with high opioid tolerance due to co-morbid OUD, it is not surprising that some patients left the SNF against

medical advice. Unfortunately, that was not the only way patients reacted to having opioid medications curbed.

Filling the void.—Many participants mentioned a lack of recovery-focused programming in addition to insufficient opioid medications, which created a market for substances coming into the SNFs from the community, as well as the exchange or sale of medications among SNF patients. When asked about her SNF experience, Participant D [a White female] simply said:

"Not very good. There's a lot of illegal substances in and out of that building."

Participant E [a White female] witnessed similar problems in her SNF.

"And I hate to say it, it's easier to get heroin in there than it is your own pain medicine and I'm prescribed every four hours. And I kid you not, like three rooms on both sides of me, I can get heroin twenty-four hours a day." *(Interviewer):* "These are from other patients and stuff?" *(Participant):* "Other patients and there was a staff member also that was bringing it in."

Despite his disdain for other residents breaking the rules by bringing in drugs, Participant F found an opportunity to gain from the chaos and needs around him.

"I'm seeing all this stuff go on and I'm like, that's not me, that's not in my character, that's not what I want to be, that's not what I inspire to be. But at the same time, I was able to sell my pain pills. 'Cause I was on methadone and they were giving me oxycontin, fifteen milligram pills every four hours so I was able to start collecting those even though they were really against it. They didn't want it going on but it was going on, and so I started selling the pain pills."

Preparing for discharge.—Participants with SUD and chronic, as well as acute, health problems often require assistance with discharge planning, and hospitals are allocating considerable resources to this care transition, knowing it can often make the difference in readmission rates and in the health of their patients. Participants who transitioned to SNFs following hospitalization frequently mentioned shortcomings in the SNF's assistance with discharge planning, despite the fact their needs in the community were still ample and their capacity to prepare for discharge into the community was limited. When asked to describe his months-long stay at the SNF, Participant F [*a White male*], who was not in the patient navigator arm of the study, replied:

"At first it was just restful. I just needed the rest and to regain my health and everything like that. And then I started feeling kind of a critical spirit coming over me 'cause I just felt like, I wanted to figure out how I wanted to start living again but I just couldn't. And I was asking my social worker 'if you could help me get I.D.' 'That's not my job.' And I'm like, 'but you're my social worker you're supposed to do, like, social work, like connecting me to these people to help me do something for myself and like you won't even give me a phone number? Like, can I get some help here?' And for months it was the same thing. Like I couldn't even get a sit down with a social worker or anything.

Discussion

Discharge to a skilled nursing facility is a common disposition for hospitalized patients with co-morbid substance use disorders.²⁴ In this sample of 400 medical patients with co-morbid alcohol, cocaine, and/or opioid use disorder in a large hospital in Baltimore City, nearly one-third of participants were discharged directly to a SNF – the second most common discharge disposition. Our findings shed light on an important setting and population ripe for further study, as it addresses both areas of interest for NIH's Helping to End Addiction Long-term Initiative (HEAL Initiative): understanding, managing, and treating pain; and improving treatment for opioid misuse and addiction.²⁵

Study participants with OUD were significantly more likely to be transferred to SNFs than those with cocaine or alcohol use disorders. This is likely because sequelae of intravenous drug use, including endocarditis, osteomyelitis, and severe soft tissue infections are common reasons for hospitalization for individuals who inject opioids, often requiring 4-8 weeks of intravenous antibiotics. Indeed, infections were common in this sample, and were significantly overrepresented among SNF discharges. Participant interviews revealed numerous challenges in providing opioid agonist maintenance treatment with methadone or buprenorphine for those with OUD in SNFs, including medication changes for OUD treatment as well as insufficient pain management. Participant interviews revealed challenges in pain control with very little use of complementary means of pain management such as acupuncture, mindfulness, or physical therapy. Some participants complained of inadequate pain control and under-dosing of opioid analgesics, with little ability to be reassessed by a provider in a timely manner in order to have dosages adjusted. Given that many SNFs may not have daily coverage by a provider with experience in addiction medicine, this can present a problem for patients with concurrent OUD and pain. Ultimately the treatment received by patients in the first several days of care in a SNF, and likely the trajectory of care from that point onward, is dictated by the hospital providers who initiate treatment and develop the discharge care plan. Better understanding of SUD populations and use of effective pain and OUD medications would benefit patients as they move across both treatment systems.

The ability to provide methadone or buprenorphine maintenance treatment during a SNF stay is further complicated by the fact that, because the majority of SNFs do not possess independent controlled substance authority (unlike hospitals), the prescribing of any controlled substances (including opioids) falls under the individual practitioner's DEA registration. Although methadone can be legally prescribed and administered for the treatment of pain,¹⁰ and does not require the patient to be admitted to an OTP when used for pain, many SNFs will not prescribe methadone for pain to a patient who also has OUD.

Buprenorphine and methadone can be used to treat pain (off-label) and OUD in patients with these co-occurring disorders. Not providing methadone or buprenorphine to jointly manage pain and treat OUD is a lost opportunity for both patients and the SNFs, as it creates an environment in which these treatment needs are sometimes being filled by the diversion of opioid medications amongst patients and the influx of illicit opioids from the community. Given the complex regulations and additional restrictions on OUD treatment

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with methadone and buprenorphine, it is not surprising that some providers in SNFs would exhibit hesitation in addressing OUD head-on.

The ability of sub-acute care facilities to dispense/administer controlled substances is a complicated matter at the federal and state levels. The ability of any facility or individual practitioner to be involved with the "closed system of drug distribution" established under the Comprehensive Drug Abuse Prevention and Control Act of 1970 (The Controlled Substances Act)(CSA) requires registration with the DEA.²⁶ This registration is issued in accordance with the "business activity" of that entity. Acute care hospitals register as a "hospital/clinic" which allows them to store and administer controlled substances. Pertinent to the treatment of OUD, the CSA allows "a physician or authorized hospital staff to administer or dispense narcotic drugs in a hospital to maintain or detoxify a person as an incidental adjunct to medical or surgical treatment of conditions other than addiction…"¹⁰ Thus, the hospital is allowed to administer methadone to a patient with OUD already on an OTP (rather than requiring the program to deliver the doses) or give methadone to a patient not already on an OTP.

Sub-acute nursing facilities are also able to register with the DEA as a "hospital/clinic" but only if the specific state grants such facilities independent controlled substance authority. Currently, some states do not grant SNFs such authority, so they are defined by the DEA as "Long Term Care Facilities (LTCF)" and, as such, do not fall under the above-mentioned exception to the CSA to allow methadone to be administered. However, even in states that do permit SNFs the authority to register with the DEA as a "hospital/clinic", the SNFs often do not do so because of the additional storage, security, record keeping and reporting requirements of facilities with this designation. These federal and state regulations can serve as a barrier to SNFs that wish to provide continued methadone or buprenorphine maintenance to their patients. Buprenorphine can be prescribed/administered to patients in a SNF if the prescribing practitioner obtains the required X waiver, but many SNFs do not have such a provider.

As hospitals play a more central role in managing OUD and initiating medication treatment it is imperative that regulations surrounding OUD treatment in SNFs be clarified for the SNF providers in order to remove ambiguity and promote seamless continuity of care. Not doing so could put not just the patients but also the health care organizations at risk, as SNFs may be found to be in violation of the Americans with Disabilities Act (42 U.S.C. §§ 12181-89).^{27, 28}

Beyond OUD diagnoses, other patient demographics, such as patient race and sex, were associated with a greater likelihood of SNF entry. White participants had a greater likelihood of being transferred to a SNF from the hospital than Black participants, highlighting potential issues of disparate access to health care. Additional research concerning ways to overcome racial disparities in health-care continuity, such as SNF admission following hospitalization, is warranted. It is not clear why women in our study sample were more likely than men to be transferred to a SNF from the hospital. Women are known to be more adherent to medical care than men²⁹ and it is possible that women were more likely than the men to agree to go to a SNF and less likely to leave the hospital against medical advice.

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SNFs have been identified as a part of our healthcare system where gaps and barriers exist to provide effective treatment of patients with OUD.⁵ Participant interviews in the present study highlight a number of challenges. First, there are organizational issues in dealing with the potential for illicit drug use and sales within the building. These challenges include how to manage access of visitors who might bring in drugs, how to monitor patients who leave the premises, properly observing opioid analgesic dose administration, urine drug testing, and management of staff who might divert medications or sell illicit drugs. This is complicated by the fact that patients in SNFs have certain rights related to visitors, searches (of person, room, and property), and freedom to leave the facility that are more lenient than in an acute care hospital, as the SNF is generally considered the patient's "home" while they are there. Conversely, these sub-acute health care settings also represent important opportunities to enhance quality care for this patient population. While in SNFs, patients with OUD may be amenable to starting SUD treatment, which can include withdrawal management and stabilization on OUD medications, as well as behavioral approaches and continued discharge planning to prepare patients for a safe transition to home. Finding ways to effectively utilize SNFs as an opportunity to engage individuals in SUD treatment is an important area for future research that could have implications for improving patients' prognosis, as well as reducing avoidable utilization of high-cost hospital services which are associated with SUDs.24, 30, 31

Optimizing SNF care for patients with SUDs may ultimately require changes in regulations regarding treating OUDs during SNF admission, as well as changing SNF culture, reducing stigma, and modifying staff training to promote understanding of addictions. There is a clear need to implement alternative models of care that target both addiction treatment and post-acute medical services.^{13, 14, 32}

Limitations

Limitations with this secondary analysis include that it did not examine the role of type or severity of medical diagnoses at the time of the hospitalization, so we cannot definitively speak to how different participants discharged to a SNF were from those discharged elsewhere. We also have limited data on the care participants received inside the SNFs, such as medication delivery and SNF discharge dispositions, and we do not have data addressing the participants' satisfaction with care received at the hospital, so the views regarding things like insufficient pain management may actually extend beyond SNF care. With regards to information obtained from the qualitative interviews, we were not able to conduct similar interviews with SNF staff, so their perspective is not represented in this paper. Finally, because SNFs are private facilities, there are organizational differences across SNF locations. Participants in our study were medically complex, largely low-income, and primarily covered by Medicaid, which may have limited the quality of the sub-acute facilities where participants received care.^{33, 34}

Conclusions

The complex health needs of people with SUDs require that the continuum of care available include better quality addiction and pain management care at skilled nursing facilities upon hospital discharge. This study found that different patient characteristics are associated with

discharge to SNFs following hospitalization and characterized some of the experiences and challenges faced by people with SUDs who receive services in these settings. Much work remains to be done to better equip SNFs for the task of better addressing the needs of patients with SUDs, including building expertise (or at least understanding of) SUDs amongst the staff, expanding OUD medication capacity, and reducing stigma related to substance use disorders in order to create a culture of recovery that promotes health and

well-being.

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Table 1.

Comparison of participant characteristics by SNF discharge status.

	Discharge Status from Hospital		
	Non-SNF [*] (N= 280)	SNF [†] (N= 120)	p-value
Background Characteristics			
Age, mean (SD)	44.68 (11.80)	46.20 (13.34)	0.26
White race, n (%)	108 (38.57)	61 (50.83)	0.02
Female, n (%)	109 (38.93)	63 (52.50)	0.01
Completed high school, n (%)	172 (61.43)	69 (57.50)	0.46
Paid work in 30 days, n (%)	68 (24.29)	15 (12.50)	0.006
Homeless, n (%)	121 (43.21)	51 (42.50)	0.90
Substance Use Disorders			
Alcohol use disorder, n (%)	108 (38.57)	33 (27.50)	0.03
Cocaine use disorder, n (%)	150 (53.57)	64 (53.33)	0.97
Opioid use disorder, n (%)	212 (75.71)	103 (85.00)	0.03
Medical Characteristics			
Hospital length of stay, mean (SD)	4.86 (3.47)	11.77 (6.71)	< 0.001
Primary Medical Problem at Discharge			
Infections	122 (43.57)	70 (58.33)	0.007
Injury (including overdose)	27 (9.64)	16 (13.33)	0.28
Cardiac	26 (9.3)	6 (5.00)	0.13
Gastrointestinal	24 (8.57)	4 (3.33)	0.045
Other	81 (28.93)	24 (20.0)	0.058

* includes discharge to patient home, group home, residential addiction treatment, shelter, and transitional housing.

 † includes acute and sub-acute SNF.