The Experience of Patients with Alcohol Misuse after Surviving a Critical Illness

A Qualitative Study

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Abstract

Rationale: Alcohol misuse is common in patients admitted to the intensive care unit (ICU), but there is currently no evidence-based approach to address drinking in ICU survivors.

Objectives: We sought to describe the experience of ICU survivors with alcohol misuse during their hospitalization and the 3 months after hospital discharge to inform an alcohol-specific intervention for this unique population.

Methods: We conducted a descriptive qualitative study of ICU survivors from medical ICUs in three separate hospitals with a positive screening result on the Alcohol Use Disorders Identification Test. Semistructured interviews were conducted 3 months after hospital discharge of patients. Patients were also allowed to nominate up to two friends or family members for enrollment to provide additional perspective on the patient's experience.

Results: We enrolled 50 patients and 22 of their friends and/or family members. The average APACHE II score was 23, 80% of patients were male, and the average age was 50 years; 70% of patients and 77% of friends/family members completed the semistructured interview 3 months after hospital discharge. We identified three domains that could inform an alcohol-specific intervention, each with multiple themes: motivation with complications (anxiety and depression, critical illness as a catalyst, delirium and cognitive impairment); therapeutic alliance (autonomy, failure and opportunities to build a therapeutic alliance); and the return to the home milieu (lack of screening for depression and anxiety, social network support for drinking, social isolation, social network support for abstinence, lack of available and affordable treatment, and negative experiences with Alcoholics Anonymous).

Conclusions: An alcohol intervention for ICU survivors would account for the context in which patients are making a decision about their drinking and optimize the patient–provider interaction. Contrary to current paradigms that focus on addressing alcohol consumption only during a hospitalization, an intervention for ICU survivors should continue as patients transition from the hospital to home.

Keywords: alcoholics; alcohol consumption; life change events; alcohol abstinence

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Alcohol misuse is a spectrum of alcohol consumption that ranges from excessive drinking without consequences to a maladaptive pattern of heavy drinking termed an *alcohol use disorder* (1). Alcohol misuse predisposes to several of the illnesses most commonly cared for in an intensive care unit (ICU), including acute respiratory failure, septic shock, acute respiratory distress syndrome, and gastrointestinal bleeding (2–5). As a result, alcohol misuse is associated with a higher

risk of being admitted to an ICU (6). After hospital discharge, ICU survivors with alcohol misuse have a higher risk of morbidity manifested by higher rates of early and late hospital readmission (6). The multiple health risks of alcohol misuse in this population suggest the need to address heavy alcohol consumption in ICU survivors, although there are no data to guide the best approach.

Although the best approach to address drinking in ICU survivors is unknown, one well-described framework to address alcohol misuse in the health care setting is screening, brief intervention, and referral to treatment (SBIRT). SBIRT entails screening for alcohol misuse with a validated instrument, having a brief conversation with patients in which feedback and advice are provided, and then providing a referral to specialty treatment when necessary (1). Over the past several decades, the effectiveness of SBIRT has been described in numerous health care settings including primary care, trauma, and emergency departments (7–11). To date, critically ill patients have been excluded from these studies. This is relevant because survivors of critical illness may be distinct in several ways from patients encountered in other health care settings. Specifically, ICU survivors with alcohol misuse may be motivated to change their drinking behaviors as a result of their life-threatening illness. Prior work suggests that, before hospital discharge, this motivation to change occurs in the context of several barriers including cognitive impairment and the presence of other psychiatric problems such as depression or anxiety (12). However, little is known about the context in which ICU survivors make decisions about their drinking after hospital discharge.

Surviving and recovering from a critical illness provides a novel context in which to explore a patient's decisions about drinking. Building on our prior work (13), which examined how ICU survivors with alcohol misuse approach a decision to change their drinking before hospital discharge, we conducted a qualitative study to understand the experience of ICU survivors with alcohol misuse as they transitioned from their care in the hospital to their home environment. We enrolled patients and their friends and family members and conducted semistructured interviews 3 months after hospital discharge. On the basis of this understanding, we specifically sought to identify factors that could inform a more tailored approach to alcohol misuse in survivors of critical illness.

Methods

Study Design

A descriptive qualitative study design was most appropriate for this research question because this approach allowed an in-depth understanding of a person's experience (14). We chose to do interviews 3 months after hospital discharge to give participants time to reflect on how the experience of their critical illness influenced their decisions about drinking and allow participants to explore the evolving challenges they faced in the first few months of their recovery from an acute, life-threatening illness. To gain an additional perspective on the patient's recovery and because we previously identified social networks as an important influence in this population, we also sought to enroll their friends and family members (13).

Sampling and Recruitment

This was a purposive sample of patients admitted to one of three medical or medical/surgical intensive care units. Patients who were 18 years or older and had an Alcohol Use Disorders Identification Test (AUDIT) score of at least 5 (women) or at least 8 (men) were screened for this study after resolution of their critical illness but before hospital discharge (15). The three participating hospitals were all part of separate hospital systems. One was an academic tertiary care center with a dedicated 24-bed medical ICU, one was a community hospital with a mixed medical/surgical ICU, and the third was a county hospital with a 24-bed dedicated medical ICU. During the design of the study, we targeted an enrollment of 50 patients. This sample size would allow for at least 25 patient interviews when accounting for a worst case scenario of a 50% follow-up rate at 3 months.

Because delirium and cognitive impairment are common in the setting of a critical illness, we screened each potential participant with the Confusion Assessment Method for the ICU (CAM-ICU). Patients had to have a negative CAM-ICU to participate (16). Patients who were delirious were rescreened each day until their delirium cleared or they were discharged. We excluded patients who were unable to provide informed consent, were prisoners, or were pregnant at the time they were approached for the study. In addition, patients who were unable to speak English were excluded because some of the validated study instruments were available only in English. We considered thematic saturation to be the point at which additional data collection was unlikely to yield new information. At the completion of the planned 3-month interviews, thematic saturation was reached (17). This study was approved by the institutional review boards at the participating institutions. All participants provided written informed consent.

If patients agreed to participate, friends and/or family members were considered for enrollment if they were listed by the patient on the Important People Interview (18). Up to two friends and/or family members were then approached for enrollment if they visited the person in the hospital. Alternatively, patients were allowed to bring friends and/or family with them when they returned for their semistructured interview 3 months after hospital discharge.

Data Collection and Semistructured Interviews

After enrollment, we collected baseline demographic and clinical information from enrolled patients and their friends/family members. To describe the characteristics of the sample, we administered validated scales to assess anxiety and depression (the Hospital Anxiety and Depression Scale [HADS]) (19), cognitive impairment (the Frontal Assessment Battery [FAB]) (20, 21), and alcohol consumption (the Alcohol Timeline Followback with a 90-d timeframe) (22, 23). A cutoff of 11 was used to denote symptoms consistent with depression or an anxiety disorder on subscales of the HADS; a cutoff of 12 was used to identify cognitive impairment on the FAB (24–26). We also collected Acute Physiology and Chronic Health Evaluation II (APACHE II) scores at baseline (27). Follow-up visits were scheduled for 3 months after hospital discharge, at which time we conducted a semistructured interview. We attempted to conduct interviews in person at a location that was most convenient for the participants. Potential sites included conference rooms

within the hospital, the investigator's research office, and the participant's home. When it was not feasible to conduct interviews in person, they were conducted over the phone.

Each participant was interviewed separately (i.e., patients and their friend/family members were not interviewed at the same time). Follow-up visits lasted about 2 hours, with a significant portion of time set aside to engage and build rapport with participants before beginning a digital recording. Semistructured interviews were conducted according to a guide developed iteratively by the investigators (B.J.C., J.J., K.D.R.), who are experienced in qualitative design (*see* Table E1 in the online supplement for interview template). The interview guide was based on our preliminary work and provided a framework for identifying subjective experiences that could inform how best to address alcohol-related problems in ICU survivors. This guide was broadly grouped into the topics of screening, brief intervention, and referral to treatment. Sufficient space was left during interviews to explore emerging themes. All interviews were digitally recorded in duplicate and transcribed verbatim. A journal and field notes were also kept to enhance authenticity.

Qualitative Analysis

We used a team-based general inductive approach that has been used previously and is described by Thomas and colleagues (13, 28) When we were able to enroll a friend of family member of a patient, interviews were analyzed as a unit to look for similarities and differences in themes. For example, we analyzed whether there were inconsistencies in the description provided by the patient when compared with their friend or family member. After each interview, investigators met to discuss emerging themes. These were shared with other investigators as clarification was needed. Each transcribed interview was then read line-by-line by two investigators (B.J.C. and K.D.R.) and emerging themes were discussed until agreement was met between the investigators. We tested and retested our emerging ideas by probing in following interviews and by sharing our emerging findings with groups that have expertise in the care of survivors of critical illness with alcohol misuse to see how our ideas resonated. These approaches in parallel enable a full and rich approach to authenticity and credibility that informs transferability of findings to other, similar individuals (29). Emergent themes were then grouped into domains and, subsequently, into a narrative to explain how themes were connected over time. Subsequently, this was presented to investigators and modified until agreement was met. Coding and analysis were supported by Atlas.ti software, version 7.1 (Atlas.ti Scientific Software Development GmbH, Berlin, Germany).

Results

Between July 2014 and August 2015, a total of 199 patients were eligible for the study. Of these, 63 were excluded because they did not speak English, 40 declined to participate, 38 were unable to provide informed consent, and 8 were prisoners. A total of 50 patients and 22 friends/family members were enrolled (Table 1); 10 patients had a family member or friend who was coenrolled and 6 patients had two family members or friends.

The average APACHE II score was 23, which correlates with a predicted hospital mortality rate of 40%. At baseline, 15 patients (30%) had symptoms consistent with depression and 22 (44%) had symptoms consistent with an anxiety disorder; baseline scores were 10 (IQR, 7–14) on the anxiety subscale and 8 (IQR, 5–12) on the depression subscale. At baseline, 14% had cognitive impairment. The average AUDIT score was 27, suggesting that the average patient had a moderate to severe alcohol use disorder. Of the 50 enrolled patients, 7 (14%) died before their 3-month follow-up visit and 30 of the patients (70%) who were alive completed the follow-up; 37% of patients were abstinent and 26% had received at least some alcohol treatment. Of 22 family members, 17 completed the 3-month follow-up interview.

Interviews were conducted between November 2014 and November 2015, with an average duration of 26 minutes (range, 12–50 min) for patients and 25 minutes (range, 15–36 min) for family and friends. Overall, the perspective of friends and family members corroborated the experience of patients; there were no unique themes based on the perspective of friends and/or family. Patients' experience could be divided into three domains that may inform a specific alcohol intervention for ICU survivors with alcohol misuse, each with multiple themes: motivation with complications (Table 2); therapeutic alliance (Table 3); and return to the home milieu (Table 4).

Motivation with Complications

As patients thought about changing their drinking, many were highly motivated to change but decisions about their drinking were also colored by preexisting anxiety and depression followed by a period of delirium and/or cognitive impairment. For nearly all of the patients with anxiety or depression, symptoms preceded their hospitalization and were cited as a major factor that drove heavy drinking.

> "*I was depressed…and drinking made me feel good. I can't imagine why anybody would want to drink if they weren't depressed.*"

For many patients, the experience of a sudden catastrophic illness then catalyzed a desire to change their drinking. This decision often occurred without input from or discussion with others.

> *"When I was at the house bleeding…bleeding out. I said to myself—God, if I make it through this, I'm never taking another drink. And I knew. You know, pretty much, I think you [know]."*

A patient's hospital course was frequently complicated by the development of delirium followed by a period of cognitive impairment. The experience of delirium significantly hampered a patient's ability to discuss his or her drinking.

> "*It was very disorienting…I didn't know if it was night or day. I had all these scenarios going on in my mind about what was going on and the light rail was going through the halls and I thought there was a bar in the basement…the delirium was so overwhelming that it seemed secondary to be yapping about alcohol.*"

As delirium resolved, patients developed cognitive impairment. Many described not recalling significant periods of time during their hospitalization.

> "*I mean even to this day I still have huge blanks and I rely on what other people told me happened.*"

Table 1. Baseline characteristics of participants: patients and friends or family members

	Patients (*n* = 50)	Friends/Family Members (*n* = 22)
Age, yr	50 (12)	50 (15)
Sex, % male	80	38
Race/ethnicity, %		
White, non-Hispanic	52	50
Hispanic	20	32
African American	10	5
Other	18	14
Homeless, %	26	14
Unemployed, %	82	36
Income		
<$20,000	62	<$20,000
$20,001–$40,000	24	$20,001–$40,000
>$40,000	10	>$40,000
Not reported	4	Not reported
Smoking status, %		
Current	54	
Former	24	
Never	22	
Admission diagnosis, %		
Alcohol withdrawal	42	
Gastrointestinal bleeding	32	
Pneumonia	8	
Sepsis	6	
DKA	6	
COPD exacerbation	4	
Other	2	
AUDIT score (median, IQR)	27 (17–31)	
APACHE II score (mean [SD])	23 (6)	
Mechanical ventilation, %	14	
Vasopressors, %	8	
Length of Interview (min), mean (range)	26 (12–50)	25 (15–36)
Interview conducted in person, %	57	47

Definition of abbreviations: APACHE = Acute Physiology and Chronic Health Evaluation; AUDIT = Alcohol Use Disorders Identification Test; COPD = chronic obstructive pulmonary disease; DKA = diabetic ketoacidosis; IQR = interquartile range.

As patients then began the process of recovery from their critical illness, many of them were able to describe conversations that they had with providers about their drinking.

Therapeutic Alliance

Many patients had already decided that they wanted to stop drinking, although some remained unsure whether they would resume their drinking after hospital discharge. Regardless of how motivated patients were to change, they were willing to discuss their drinking with a provider. However, patients emphasized that they wanted their autonomy preserved in the context of these conversations.

> "*I know my doctor…the pastor of my church…anybody. My wife, anybody could ask me. I'd say I'll listen to what you say, but I'm going to be the one to do it. Not you.*"

In the context of wanting their autonomy respected, patients and their family members universally described conversations that focused on making a connection between continued heavy alcohol consumption and the risk of death. These conversations occurred without an attempt to understand the patient's knowledge regarding the risk of heavy alcohol consumption.

> "*She [the provider] was like basically, you are going to die. If you keep drinking the way you are drinking, I give you 7 years max.*"

The result was the failure to build a good working relationship based on mutual trust, optimal communication, and cooperation. This relationship is commonly referred to as a therapeutic alliance (30).

> "*I've never really had that connection [with my providers]. It was more…with everybody as a professional. And [drinking] I see more as kind of like personal. I didn't see anybody that stepped into that role here [in the hospital].*"

Despite not making a connection with providers, several participants described the opportunity to build this therapeutic alliance.

> "*Have someone come in and talk, at least daily, to check on you and say, hey, you know, are you OK? How is our mental state? How are you feeling? Do you feel OK? Do you want a drink? What makes you want to drink? You have to know why or you can't fix it.*"

Return to the Home Milieu

As patients were thinking about changing their drinking, they transitioned back into a milieu at home that included varying types and levels of social support combined with challenges engaging with alcohol treatment (when desired). Some patients did not have their comorbid problems with anxiety or depression identified or addressed as they were preparing for hospital discharge. This occurred despite patients' willingness and openness to discuss concerns about their mental health.

> "*I'm a complete open book. If I can fix myself, you know, I'm willing to do it. So most definitely, if someone had asked me about [anxiety or depression], I would tell them.*"

One challenge to sobriety during the transition home was returning to a social network that supported drinking.

> "*Oh yeah, I was thinking about changing my drinking but then you hang around all these people…and it gives you the urge to drink. I got a lot of friends that drink. So most of the people out there are just like me.*"

Other patients were met with social isolation.

> "*The first drink I had [after being discharged] was mostly because I was lonely. And I ended up wanting to go to the bar. Cause, geez, you can only sit in your apartment for so long.*"

Many patients with social networks that supported drinking also had access to a

Table 2. Motivation with complications

Theme	Patient Exemplar Quotes	Friend/Family Exemplar Quotes
Anxiety and depression	"*I don't know how to deal with anxiety. I have panic attacks. And that's the reason why I resort to alcohol*."	"*We think he is depressed…So we believe that he was self-medicating with alcohol*."
Critical illness as a catalyst	Patients describing the moment that they decided to stop drinking: "*I seen my son. He finally came to visit me and my stepson came to visit me. Again, and they was sitting there crying. 'Cause they thought I was going to die.*"	"*When you put 2 pints of blood and you are bleeding internally and he's had all these tests, I think that scared him. But I think what really scared him into saying and thinking he shouldn't be drinking anymore was when he had to have the fluid drained from his stomach. And there were 3 bottles of fluid in the room with him. And it is the first time…we came back after it was done and you could see that he was visually upset*."
	"*I think when I woke up from one of the procedures that they did in my throat and I saw my wife. But I couldn't speak, cause they had done something in my throat…But she just looked so distraught*."	
Delirium and cognitive impairment	"*And then I don't really remember going back to the hospital…I thought they had equipment in the hospital in Leadville that they didn't have [at this hospital]. And when we got there and they didn't have the equipment we had to go to Crested Butte*."	Family describing an abstinent patient after discharge: "*So, I don't know that some of the conversations we had with ____, because he was in the condition he was in, I don't know that he ever actually got that through his head. Now he's much more clear about his thinking. I mean we can see it. He is different from then to now*."
	"*I remember them wanting to talk to me about my drinking and I remember feeling that they were trying to blame everything on the drinking. And that pissed me off*."	

social network that supported abstinence. This social network could and did facilitate change and even entry into alcohol treatment for some. However, prior conflict between the patient and the members of this social network could serve as a barrier reengaging relationships with friends or family members who promoted abstinence.

> "*My parents don't drink. My sister doesn't drink. So that's kind of our dynamic. They stopped it and I kept it going. So, I mean that's a lot of pressure…it's hard*."

Many patients seeking treatment were frustrated by a perceived lack of available treatment.

> "*So, they suggested that I go to [a detox center]. And I've never been to a detox center before. And so I said yes. And so I went there. It wasn't good. I wanted to improve myself. Actually, there were no counselors. It just seemed like everyone was going to sleep and just trying to get over whatever drug or alcohol or whatever they were on. So, the only plan was to be sober*."

Other participants described multiple barriers to entering available treatment including not meeting the criteria for a treatment program, long wait lines, difficulty navigating various treatment options, and financial barriers. For many, the only perceived resource available to help them with their drinking was Alcoholics Anonymous (AA). Several participants had attended Alcoholics Anonymous meetings in the past and did not feel that it helped them or had a negative experience.

> "*When you go to AA, all you do is just sit there and listen to other people's problems. And…their problems don't mean nothing to me. I need help with the…drinking*."

Discussion

In this qualitative study of ICU survivors with alcohol misuse, we sought to understand patients' experience as they transitioned from the hospital to home in an effort to tailor approaches to alcohol misuse in this unique and unstudied population. By interviewing ICU survivors and their friends or family members 3 months after hospital discharge, we identified themes that suggest SBIRT is unlikely to be an effective paradigm to address alcohol misuse in ICU survivors because it is delivered at a time when patients may be cognitively impaired, may fail to build a therapeutic alliance, and does not continue after hospital discharge. However, based on our findings, we may be able to more effectively tailor an intervention for ICU survivors with alcohol misuse.

The delivery of brief interventions to acutely ill patients is popularly described as a "teachable moment" (31). This description implies that patients have a knowledge deficit; that if providers can only teach patients that their heavy drinking is responsible for their acute illness, patients will want to stop drinking. Our insights into the motivation of survivors of critical illness uprooted this commonly held notion in that patients had already connected their illness to their heavy drinking. This observation is consistent with prior studies demonstrating that patients with more severe alcohol misuse perceive that they have more problems related to their drinking (32). Although it is still ideal to begin an alcohol intervention for survivors of critical illness in the hospital, this intervention would ideally occur in the window between resolution of delirium and cognitive impairment and hospital discharge.

One way to extend beyond the simple exchange of information is to build a therapeutic alliance, which is the foundation for any intervention targeting health behavior change (33). A strong therapeutic alliance is associated with better outcomes in the context of alcohol treatment (34) but may be difficult to develop in the context of a critical

Table 3. Therapeutic alliance

Theme	Patient Exemplar Quotes	Friend/Family Exemplar Quotes
Autonomy	"*This is a problem I've created for myself. I have to figure out how to fix it or not.*"	"*He thinks he can cure himself.*"
	"*That is what's going to help me…myself [more] than anybody trying to tell me how to do it.*"	"*Because she was feeling good now. You know? She was in the hospital. She is not drinking. She starts feeling good, so she thinks that everything is OK now, that she can just go out there and not drink.*"
Failure to build a therapeutic alliance	"*The conversations make me feel…vulnerable, because I am laying in a bed and they are standing over me, you know? Preaching to me. And…it gives me more depression.*"	"*Dr. X…he was the one who admitted him the time before. He is the one who told him, you start drinking again, you are not going to make it to your next birthday. That's about all he said. He didn't make a long speech.*"
	"*If they could find a way to talk to you without making you feel this big, that would be nice. Give me some support…not judge me.*"	"*All they said was you know, if you keep on drinking, I'll see you again. That was it. It was short. 'Cause he was just getting ready to be released.*"
Opportunities to build a therapeutic alliance	"*I feel comfortable talking to her [the research coordinator]* …because she made me feel like I'm a decent human being…I understand that I have problems, yeah. But *sometimes a person needs to have a single person to give you their opinion and help you.*"	"*I just wish there was a contact person that ____ had, that he felt comfortable with, or met in the hospital, that he could call night or day to help him.*"
	"*Honestly, if you think about what I've been through, I just needed somebody to talk to me.*"	"*I think a visit—a face to face visit. Whether it be with volunteers who are former alcoholics who can relate to his issues. Or whether it be through social workers. Somebody has to take him by the hand and take him where he needs to be.*"
	"*I wish there was somebody, I guess, you could contact…that you would have a direct number to. That you could contact, if something in your mind was going on. That you would call them directly and they would be there to either return your call, and say hey, you want to come in and talk for a bit?*"	"*I think he just needs a bridge. He is on this side and he doesn't have the bridge to that side.*"

illness (30). Importantly, the therapeutic alliance is a teachable skill (35, 36). For example, motivational interviewing is commonly used to discuss health behavior changes such as alcohol misuse and contains a core set of skills deliberately aimed at developing a therapeutic alliance (37). Given the complexity of critical illness and the concomitant delirium and cognitive impairment, it is unlikely that a patient could develop the necessary therapeutic alliance in the single, brief sessions typically used in SBIRT. Therefore, we propose that an intervention should begin in the hospital, be delivered by the same person, and continue after hospital discharge.

Navigating the transition from hospital to the home milieu while this therapeutic alliance builds would be the final focus of a tailored intervention. One major challenge for patients as they transitioned home was being reexposed to friends and family who promoted drinking. The influence of social networks on alcohol consumption is well described in the context of alcohol use disorders (38), and addressing changes in social networks as part of alcohol treatment is neither novel nor specific to ICU survivors. Although providers should be aware of the opportunity to realign social networks to promote abstinence, a more practical consideration might be to screen for comorbid psychiatric problems. Anxiety and depression were common in this sample with HADS scores higher than what has been reported in the literature for general ICU patients at a similar point in their recovery (25, 39–45). Psychiatric problems were identified as a cause of drinking by many patients, and psychiatric comorbidities are associated with a higher risk of death or rehospitalization in ICU survivors with alcohol misuse (46). A final consideration would be to focus on helping patients match their desired treatment with the treatment that is available in the community. Although treatment options may be limited for some, there are options available for many patients. Breaking down the barriers between inpatient medical care and alcohol treatment may be an important final step in the navigation process.

Although we were able to identify factors that could lead to a more tailored approach to alcohol misuse in ICU survivors, there were limitations to this study. First, this was a convenience sample. We were not investigating differences in the themes based on variables such as race and sex. Therefore, it is possible that we failed to identify themes that pertain only to undersampled populations of patients. Second, it is possible that patients who did not want to change their drinking selectively did not enroll in this study. Although this likely occurred to some extent, more than one-half of patients continued to drink at the time of their follow-up visit, so we were able to obtain the perspective of some patients who were not as motivated to change.

Table 4. Return to the home milieu

Theme	Patient Exemplar Quotes	Friend/Family Exemplar Quotes
Lack of screening for depression/anxiety	"*They were just worried about my liver. And the fact that I was bleeding. And kept freaking poking me. One of them blood pressers…and…nobody asked me nothing [about my depression].*"	"*I don't think [there was a time when somebody asked him about his depression]. I never heard anybody say anything*."
Social network support for drinking	"*Friends? Hell no, man. They are all just alcoholics too. And that's not an inspiration there. There are a few that are cool. But mostly they are just drunks*." "*A drunk can't be in charge of a drunk. So, she needs to eliminate that guy…from her life*."	"*But I think by the end of [her hospital stay] she wanted to drink. So, her sister brought her home, but she didn't want to stay there. She wanted to go back to where she was and they are drinkers there. They drink*."
Social isolation	"*The first drink I had [after being discharged] was mostly because I was lonely*." "*There is a loneliness factor. I live alone. I mean I don't even have a goldfish, you know?*"	"*She was very distant. She wouldn't come to our house anymore. She used to. And there were times even after his—my husband's mother and hers—passed away that she would come over and visit us every once in a while. But nope, she wouldn't want to do that. She didn't want us to come over.*"
Social network support for abstinence	"*He just said, 'Grandma, you know you were going to die. And if you drink again, you are going to. And we don't want to lose you.'*" "*Mostly my girlfriend. She is the one that makes me not want to drink. She is the one that inspires me not to drink*."	"*I'm not being an enabler to my uncle…You know I go see him or help him or whatever. But when it comes to alcohol I don't bring it around him. Don't go get it for him. I don't have no part in doing it at all. I see him drink. I can't stop him but I don't enable him*."
Lack of available/affordable treatment	"*[Treatment] kept me sober for a long time, you know. They are just…I don't know, geographically undesirable at this time*."	"*Well, treatment is very difficult for families like theirs, because they barely make it month to month, check to check. So for him to be in treatment means he is not making money*."
Negative experiences with Alcoholics Anonymous	"*AA is so depressing, all you want to do is go have another drink*." "*But…when you go to AA, all you do is just sit there and listen to other people's problems. And then…their problems don't mean nothing to me. I need help with the alcohol drinking. AA is no good*."	"*He couldn't do the 12 Step thing. That was one thing he could not…He says I'm not that kind of person*."

Third, we enrolled patients during their hospitalization at a time when their delirium or cognitive impairment had improved to such a point that they could provide informed consent. It is likely that we selectively did not enroll patients who were discharged to long-term acute care or skilled nursing facilities. Therefore, the physical impairment that is well described in ICU survivors did not arise as a major theme in our study (47, 48). This contrasts with a previous qualitative study of ICU survivors with alcohol misuse in which participants were approached for enrollment 3 to 7 months after discharge from the hospital (49). It is possible that physical impairment plays a larger role in decision making for some ICU survivors with alcohol misuse. Finally, this is a qualitative study and the result should be viewed as hypothesis-generating. Our findings should inform an intervention that is tested in a clinical trial to demonstrate efficacy. ■

Author disclosures are available with the text of this article at www.atsjournals.org.

References

1 Friedmann PD. Clinical practice: alcohol use in adults. *N Engl J Med* 2013;368:365–373.
2 de Wit M, Best AM, Gennings C, Burnham EL, Moss M. Alcohol use disorders increase the risk for mechanical ventilation in medical patients. *Alcohol Clin Exp Res* 2007;31:1224–1230.
3 Moss M, Bucher B, Moore FA, Moore EE, Parsons PE. The role of chronic alcohol abuse in the development of acute respiratory distress syndrome in adults. *JAMA* 1996;275:50–54.
4 Moss M, Parsons PE, Steinberg KP, Hudson LD, Guidot DM, Burnham EL, Eaton S, Cotsonis GA. Chronic alcohol abuse is associated with an increased incidence of acute respiratory distress syndrome and severity of multiple organ dysfunction in patients with septic shock. *Crit Care Med* 2003;31:869–877.
5 O'Brien JM Jr, Lu B, Ali NA, Martin GS, Aberegg SK, Marsh CB, Lemeshow S, Douglas IS. Alcohol dependence is independently associated with sepsis, septic shock, and hospital mortality among adult intensive care unit patients. *Crit Care Med* 2007;35:345–350.
6 Clark BJ, Rubinsky AD, Ho PM, Au DH, Chavez LJ, Moss M, Bradley KA. Alcohol screening scores and the risk of intensive care unit admission and hospital readmission. *Subst Abus* 2016;37:466–473.
7 Academic ED SBIRT Research Collaborative. The impact of screening, brief intervention, and referral for treatment on emergency department patients' alcohol use. *Ann Emerg Med* 2007;50:699–710, 710.e1–e6.
8 Moyer VA; U.S. Preventive Services Task Force. Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med* 2013;159:210–218.

9 Gentilello LM, Rivara FP, Donovan DM, Jurkovich GJ, Daranciang E, Dunn CW, Villaveces A, Copass M, Ries RR. Alcohol interventions in a trauma center as a means of reducing the risk of injury recurrence. *Ann Surg* 1999;230:473–480; discussion 480–473.
10 Longabaugh R, Woolard RE, Nirenberg TD, Minugh AP, Becker B, Clifford PR, Carty K, Sparadeo F, Gogineni A. Evaluating the effects of a brief motivational intervention for injured drinkers in the emergency department. *J Stud Alcohol* 2001;62:806–816.
11 Fleming MF, Barry KL, Manwell LB, Johnson K, London R. Brief physician advice for problem alcohol drinkers: a randomized controlled trial in community-based primary care practices. *JAMA* 1997;277:1039–1045.
12 Clark BJ, Smart A, House R, Douglas I, Burnham EL, Moss M. Severity of acute illness is associated with baseline readiness to change in medical intensive care unit patients with unhealthy alcohol use. *Alcohol Clin Exp Res* 2012;36:544–551.
13 Clark BJ, Jones J, Cook P, Tian K, Moss M. Facilitators and barriers to initiating change in medical intensive care unit survivors with alcohol use disorders: a qualitative study. *J Crit Care* 2013;28:849–856.
14 Sandelowski M. Whatever happened to qualitative description? *Res Nurs Health* 2000;23:334–340.
15 Babor TF, Higgins-Biddle JC, Saunders JB, Monteiro MG. AUDIT: The Alcohol Use Disorders Identification Test: guidelines for use in primary care. Geneva: World Health Organization; 2001.
16 Ely EW, Inouye SK, Bernard GR, Gordon S, Francis J, May L, Truman B, Speroff T, Gautam S, Margolin R, *et al*. Delirium in mechanically ventilated patients: validity and reliability of the confusion assessment method for the intensive care unit (CAM-ICU). *JAMA* 2001;286:2703–2710.
17 Creswell JW. Qualitative inquiry and research design: choosing among five approaches, 3rd ed. Thousand Oaks, CA: SAGE Publications; 2013.
18 Beattie MC, Longabaugh R. General and alcohol-specific social support following treatment. *Addict Behav* 1999;24:593–606.
19 Zigmond AS, Snaith RP. The Hospital Anxiety and Depression Scale. *Acta Psychiatr Scand* 1983;67:361–370.
20 Cunha PJ, Nicastri S, de Andrade AG, Bolla KI. The Frontal Assessment Battery (FAB) reveals neurocognitive dysfunction in substance-dependent individuals in distinct executive domains: abstract reasoning, motor programming, and cognitive flexibility. *Addict Behav* 2010;35:875–881.
21 Dubois B, Slachevsky A, Litvan I, Pillon B. The FAB: a Frontal Assessment Battery at bedside. *Neurology* 2000;55:1621–1626.
22 Sobell LC, Sobell MB. Alcohol consumption measures. In: Allen JP, Wilson VB, editors. Assessing alcohol problems: a guide for clinicians and researchers, 2nd ed. NIH Publication No. 03-3745. Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism; 2004. Available from: https://pubs.niaaa.nih.gov/publications/assessingalcohol/measures.htm
23 Vakili S, Sobell LC, Sobell MB, Simco ER, Agrawal S. Using the Timeline Followback to determine time windows representative of annual alcohol consumption with problem drinkers. *Addict Behav* 2008;33:1123–1130.
24 Jones C, Griffiths RD, Humphris G, Skirrow PM. Memory, delusions, and the development of acute posttraumatic stress disorder–related symptoms after intensive care. *Crit Care Med* 2001;29:573–580.
25 Samuelson KA, Lundberg D, Fridlund B. Stressful memories and psychological distress in adult mechanically ventilated intensive care patients: a 2-month follow-up study. *Acta Anaesthesiol Scand* 2007; 51:671–678.
26 Slachevsky A, Villalpando JM, Sarazin M, Hahn-Barma V, Pillon B, Dubois B. Frontal Assessment Battery and differential diagnosis of frontotemporal dementia and Alzheimer disease. *Arch Neurol* 2004; 61:1104–1107.
27 Knaus WA, Draper EA, Wagner DP, Zimmerman JE. APACHE II: a severity of disease classification system. *Crit Care Med* 1985;13:818–829.
28 Thomas DR. A general inductive approach for analyzing qualitative evaluation data. *Am J Eval* 2006;27:237–246.
29 Creswell JW, Poth CN. Qualitative inquiry and research design: choosing among five approaches, 4th ed. Thousand Oaks, CA: SAGE Publications; 2018.
30 Huff NG, Nadig N, Ford DW, Cox CE. Therapeutic alliance between the caregivers of critical illness survivors and intensive care unit clinicians. *Ann Am Thorac Soc* 2015;12:1646–1653.
31 Mitka M. "Teachable moments" provide a means for physicians to lower alcohol abuse. *JAMA* 1998;279:1767–1768.
32 Bertholet N, Dukes K, Horton NJ, Palfai TP, Pedley A, Saitz R. Factor structure of the SOCRATES questionnaire in hospitalized medical patients. *Addict Behav* 2009;34:568–572.
33 Miller WR, Rollnick S. Motivational interviewing: helping people change. New York: Guilford Press; 2013.
34 Prince MA, Connors GJ, Maisto SA, Dearing RL. Within treatment therapeutic alliance ratings profiles predict posttreatment frequency of alcohol use. *Psychol Addict Behav* 2016;30:184–193.
35 Ackerman SJ, Hilsenroth MJ. A review of therapist characteristics and techniques positively impacting the therapeutic alliance. *Clin Psychol Rev* 2003;23:1–33.
36 Hilsenroth MJ, Ackerman SJ, Clemence AJ, Strassle CG, Handler L. Effects of structured clinician training on patient and therapist perspectives of alliance early in psychotherapy. *Psychotherapy* 2002; 39:309–323.
37 Cheng MK. New approaches for creating the therapeutic alliance: solution-focused interviewing, motivational interviewing, and the medication interest model. *Psychiatr Clin North Am* 2007;30:157–166.
38 Zywiak WH, Longabaugh R, Wirtz PW. Decomposing the relationships between pretreatment social network characteristics and alcohol treatment outcome. *J Stud Alcohol* 2002;63:114–121.
39 Treggiari MM, Romand JA, Yanez ND, Deem SA, Goldberg J, Hudson L, Heidegger CP, Weiss NS. Randomized trial of light versus deep sedation on mental health after critical illness. *Crit Care Med* 2009; 37:2527–2534.
40 Rattray JE, Johnston M, Wildsmith JA. Predictors of emotional outcomes of intensive care. *Anaesthesia* 2005;60:1085–1092.
41 Rattray J, Crocker C, Jones M, Connaghan J. Patients' perceptions of and emotional outcome after intensive care: results from a multicentre study. *Nurs Crit Care* 2010;15:86–93.
42 McWilliams DJ, Atkinson D, Carter A, Foëx BA, Benington S, Conway DH. Feasibility and impact of a structured, exercise-based rehabilitation programme for intensive care survivors. *Physiother Theory Pract* 2009; 25:566–571.
43 Knowles RE, Tarrier N. Evaluation of the effect of prospective patient diaries on emotional well-being in intensive care unit survivors: a randomized controlled trial. *Crit Care Med* 2009;37:184–191.
44 Jones C, Skirrow P, Griffiths RD, Humphris GH, Ingleby S, Eddleston J, Waldmann C, Gager M. Rehabilitation after critical illness: a randomized, controlled trial. *Crit Care Med* 2003;31: 2456–2461.
45 Jones C, Eddleston J, McCairn A, Dowling S, McWilliams D, Coughlan E, Griffiths RD. Improving rehabilitation after critical illness through outpatient physiotherapy classes and essential amino acid supplement: a randomized controlled trial. *J Crit Care* 2015;30:901–907.
46 Clark BJ, Keniston A, Douglas IS, Beresford T, Macht M, Williams A, Jones J, Burnham EL, Moss M. Healthcare utilization in medical intensive care unit survivors with alcohol withdrawal. *Alcohol Clin Exp Res* 2013;37:1536–1543.
47 Herridge MS, Cheung AM, Tansey CM, Matte-Martyn A, Diaz-Granados N, Al-Saidi F, Cooper AB, Guest CB, Mazer CD, Mehta S, *et al*.; Canadian Critical Care Trials Group. One-year outcomes in survivors of the acute respiratory distress syndrome. *N Engl J Med* 2003;348:683–693.
48 Herridge MS, Tansey CM, Matté A, Tomlinson G, Diaz-Granados N, Cooper A, Guest CB, Mazer CD, Mehta S, Stewart TE, *et al*.; Canadian Critical Care Trials Group. Functional disability 5 years after acute respiratory distress syndrome. *N Engl J Med* 2011;364:1293–1304.
49 McPeake J, Forrest E, Quasim T, Kinsella J, O'Neill A. Health and social consequences of an alcohol-related admission to critical care: a qualitative study. *BMJ Open* 2016;6:e009944.