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RESEARCH

A conceptual model to facilitate transitions from primary care to specialty substance use disorder care: a review of the literature

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Aim: This article presents a conceptual model to help facilitate the transition from primary care to specialty substance use disorder (SUD) care for appropriate patients. **Background:** Substance misuse is a common health condition among patients presenting to primary care settings and may complicate the treatment of chronic health conditions such as diabetes and hypertension. It is therefore critical that primary care providers be prepared to identify and determine appropriate treatment options for patients presenting with substance misuse. **Methods:** We conducted a narrative review that occurred in three stages: literature review of health care transition models, identification of conceptual domains common across care transition models, and identification of SUD-specific model elements. **Findings:** The conceptual model presented describes patient, provider, and system-level facilitators and barriers to the transition process, and includes intervention strategies that can be utilized by primary care clinics to potentially improve the process of transitioning patients from primary care to SUD care. Recognizing that primary care clinics vary in available resources, we present three examples of care practices along an intensity continuum from low (counseling and referral) to moderate (telephone monitoring) to high (intensive case management) resource demands for adoption. We also provide a list of common outcomes clinics might consider when evaluating the impact of care transition practices in this patient population; these include process outcomes such as patients' increased knowledge of available treatment resources, and health outcomes such as patients' reduced substance use and better quality of life.

Key words: care transitions; literature review; primary care; specialty SUD care

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Substance misuse is a common health condition among patients presenting to primary care settings. The term 'substance misuse' refers to a wide range of behaviors; including the hazardous use of a substance (Reid *et al.*, 1999), to meeting diagnostic criteria for a substance use disorder (SUD) (American Psychiatric Association, 2000). As many as 22–50% of patients presenting to primary care report at least one symptom of hazardous alcohol use (Reid *et al.*, 1999; McQuade *et al.*, 2000;

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Hawkins *et al.*, 2010), while 18–44% meet criteria for a lifetime or current alcohol use disorder (McQuade *et al.*, 2000; Smith *et al.*, 2010). Similarly high rates are reported of past-year or current use of an illicit substance for non-medical reasons (35%), and current (13%) and lifetime (47%) drug use disorders, among persons presenting to primary care (Smith *et al.*, 2010). The harmful health effects of substance misuse are well-documented (Lim *et al.*, 2012) and may include loss of productivity and arrests (Fisher *et al.*, 2000; Bray *et al.*, 2003), physical health problems, including cancers of the esophagus, liver, and colon (Bujanda, 2000; Mukamal *et al.*, 2005; Seitz *et al.*, 2005), mental health comorbidities (Substance Abuse and Mental Health Services Administration, n.d.), and mortality (National Institute on Drug Abuse, 2012). SUDs may also complicate primary care providers' ability to manage comorbid chronic health conditions such as diabetes and hypertension (Grodensky *et al.*, 2012).

Primary care providers can play an important role in identifying substance misuse and determining appropriate treatment options (Bradley *et al.*, 2006; Seal *et al.*, 2007; Smith *et al.*, 2010). Being proficient in these skills is a care necessity, especially as patient-centered models of primary care that emphasize healthy lifestyle change and management of chronic health conditions become increasingly utilized (Reid *et al.*, 2009). Providers have a range of options for treating substance misuse including the use of brief interventions for patients presenting with mild to moderate substance misuse (Madras *et al.*, 2009; Rooke *et al.*, 2010; Sinadinovic *et al.*, 2012), and referral to specialty SUD care for persons presenting with abuse or dependence and/or associated mental health comorbidities (Substance Abuse and Mental Health Services Administration, 1997; McQuade *et al.*, 2000).

Specialty SUD care settings are well-suited to deliver more comprehensive interventions (as compared with brief interventions) to appropriate patients. Specialty SUD settings may administer interventions such as cognitive-behavioral therapy (American Psychiatric Association, Work Group on Substance Use Disorders, 1995) and/or relapse prevention (Carroll, 1996), which can address severe substance misuse and teach skills for managing relapse and more adaptive ways of coping (Witkiewitz and Marlatt, 2004). Despite the availability of evidence-based interventions, providers face considerable challenges in helping to facilitate transitions of patients who present with substance misuse in primary care and are willing to consider further treatment in specialty SUD care settings.

Although strategies for detecting (Bradley *et al.*, 2006) and treating (Kaner *et al.*, 2007) substance misuse are increasingly being used in primary care, information about the availability of specialty SUD care treatment options is rarely provided to patients (Lapham *et al.*, 2012; Williams *et al.*, 2012). For example, the Veterans Health Administration (VHA) has implemented a model of detecting and treating alcohol misuse in primary care and has shown benefits of this approach in terms of increased rates of screening and identification of misuse, and the delivery of education about safe drinking limits and potential health effects of harmful alcohol use (Bradley *et al.*, 2006; Lapham *et al.*, 2012). However, rates of referral to specialty SUD care continue to remain low (Lapham *et al.*, 2012). It is important to note that referral to specialty SUD care is not routinely recommended for all patients with a positive substance misuse screen, and is more likely to be recommended for patients with screening results indicative of probable dependence or abuse (Rubinsky *et al.*, 2009).

To our knowledge, no conceptual models exist that describe factors that may impact the process of transitioning patients with SUDs from primary care to specialty SUD care and intervention strategies that primary care settings might implement to help address this potential challenge. The purpose of the present article is to address this gap in the literature by presenting a conceptual model of transitions to SUD care that includes patient, provider, and system-level facilitators and barriers to the transition process, and a discussion of intervention strategies that can be utilized by primary care clinics to potentially improve the process of transitioning patients to SUD care.

Methods

Literature review

The development of the conceptual model presented in this article occurred in three stages. First, we (M.C. and C.T.) searched the literature database PubMed.gov for articles describing conceptual models of care transitions for patients with SUDs. We used search terms such as 'care transition models

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Table 1 Summary table presenting characteristics of articles included in the final literature review

Citations	Research methods	Sample or health care focus	Country
Arora *et al.* (2008)	Review	Inpatient general medicine	United States
Beach *et al.* (2012)	Review	Emergency medicine	United States
Behara *et al.* (2005)	Review	Emergency medicine	United States
Bisognano and Boutwell (2009)	Review	Hospital readmissions	United States
Coleman and Berenson (2004)	Review	Health care transitions	United States
Coleman (2003)	Review	Complex needs	United States
Geary and Schumacher (2012)	Review	Health care transitions	United States
Johnson (2009)	Review	Health care transitions	United States
Meleis *et al.* (2000)	Review	Health care transitions	United States
Mennito and Clark (2010)	Review	Young adults with special care needs	United States
Snow *et al.* (2009)	Review	Inpatient care	United States
Delisle (2013)	Review	Hospital-based programs	United States
Logue and Drago (2013)	Review	Community-based care	United States
Mills *et al.* (2013)	Review	Older adults	United States
Enderline *et al.* (2013)	Review	Older adults	United States
Johnson *et al.* (2012)	Qualitative	Primary care	Australia
Viggiano *et al.* (2012)	Review	Mental health populations	United States
Ross *et al.* (2011)	Quasi-experimental, cross sectional design	Older adults	United States
Cheung *et al.* (2010)	Review	Emergency medicine	United States

substance use' and 'models of care transitions substance use disorders'. Our search for SUD-specific models yielded no articles describing conceptual frameworks of care transitions for this patient population. Second, we (M.C. and C.T.) searched the literature for models of care transitions in health care using the search term 'care transitions' which yielded over 2000 articles. To further focus the search, we entered search terms such as 'models of care transitions' and 'conceptual models of care transitions' which, for example, yielded 390 and 17 articles, respectively. In stage three, we (M.C. and C.T.) attempted to reduce selection bias by selecting articles containing phrases such as 'theoretical framework', 'a conceptual approach', 'improving…care transition (or transitional care)' that indicated some discussion of a conceptual framework of care transitions in health care. We also limited our search to articles published between the years 2000 and 2013. The former criterion was used given the lack of published articles describing conceptual models guiding the transition of patients with SUDs from primary care to addiction treatment. Thus, we reviewed the larger literature on health care transitions to guide the identification of broad conceptual elements for the present model. The latter criterion was used to identify more recent thinking of the health care transition process. A total of 19 articles representing international research on this topic were included in the final review (see Table 1).

Identification of conceptual domains

Through our review of the literature, we identified a general consensus of domains to consider in optimizing the care transition process within health care systems. Consensus of model elements was determined by reviewing the selected articles describing conceptual models of health care transitions. Two of the authors (M.C. and C.T.) reviewed and hand coded each of the identified articles to identify conceptual domains of factors considered important in the care transition process. The large majority of articles reviewed discussed the importance of at least one of three broad elements considered to be critical in guiding transitional care – the importance of understanding the context in which the care transition takes place, utilization of evidence-based care practices to facilitate the care transition process, and identification of quality indicators or outcomes that may be helpful in measuring the impact of care practices. Therefore, consensus on the model elements was easily and straightforwardly reached between the two authors coding the search results. The clarity of consensus obviated the need for additional solicitation of

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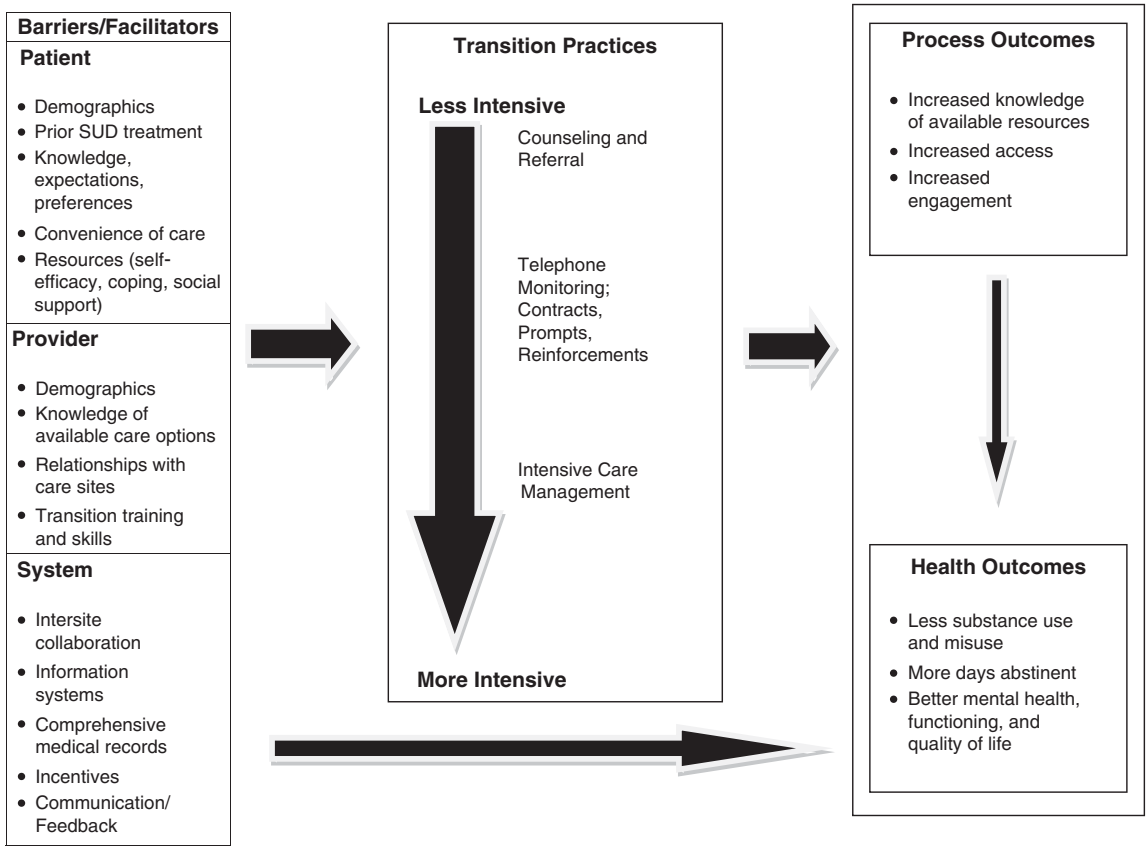

Figure 1 Model of transitions from primary to specialty substance use disorder care

expert opinion at this stage (eg, use of the Delphi method). Once the initial model was developed from the literature review, the second author (E.C.), an expert in transitional medicine, validated the model and provided additional conceptual guidance on the framework elements (Figure 1).

The first of these three elements includes the conditions under which transitions occur, including factors that facilitate or impede the transition process. Factors that impact the transition process are typically discussed in the context of differing levels of influential factors such as those occurring at the patient, provider, and system level (Meleis *et al.*, 2000; Coleman, 2003). The second domain includes transition practices that may help overcome identified barriers to optimal care (Coleman, 2003; Snow *et al.*, 2009). These include evidence-based strategies for optimizing care for a specific patient population and are commonly tailored to the specific care site. The third domain includes quality indicators that may represent improvements in care transition effectiveness within a specific care setting (Beach *et al.*, 2012).

Identification of SUD-specific model elements

We conducted a second independent literature review to ensure our model was relevant to patients with SUDs. This second review was intended to identify factors within each of the three conceptual domains that may influence the care transition process for this patient population. Our intent was not to conduct a structured evidence review at this stage but rather a narrative review to characterize the SUD prevention and treatment field's current state of knowledge with

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regard to each factor. For example, we selected articles that summarized current knowledge on patient characteristics that may influence care transitions when accessing and engaging in SUD services (using search terms such as 'patient characteristics in substance use disorder treatment utilization'). We also searched and reviewed the literature to identify evidence-based practices that may have promise for transitioning patients with SUDs from primary care to addiction treatment. A structured evidence review of interventions was not feasible given the lack of research demonstrating effective intervention approaches for transitioning patients with SUDs from primary care to specialty SUD treatment. Therefore, we identified promising care practices based on available evidence for their use in this population as an intervention and as a function of resources needed to utilize the specific intervention within the primary care setting. Recognizing that primary care clinics will vary in available resources, we present three examples of care practices along a continuum representing resources needed to adopt such practices (low to high intensity). We also provide a list of some common outcomes clinics might consider when evaluating the impact of care transition practices in this population.

Findings

Conceptual model of transitions from primary to specialty SUD care

Figure 1 presents our conceptual model of transitions from primary care to specialty SUD care. The model illustrates that patient, provider, and system characteristics may directly influence the need for transition practices and may impact outcomes such as access and engagement in specialty SUD care. In turn, access and engagement may be associated with better health outcomes such as reduced substance use, abstinence, and better psychological functioning and quality of life. Moreover, barriers and facilitators may also influence patient outcomes via transition practices. For example, clinics that employ providers knowledgeable about available SUD care resources and that offer incentives to providers for supporting patients through care transitions such as to SUD care may be more likely to utilize transition practices that benefit patient outcomes.

Barriers and facilitators to SUD care transitions

Of potential barriers of primary care physicians' specialty care referrals, patient characteristics have the largest effects (Forrest *et al.*, 2006). Patient factors that constitute barriers to and facilitators of successful transitions from primary to specialty SUD care may include demographic and clinical characteristics, SUD treatment history, and patients' knowledge, expectations, and preferences about SUD treatment, and their resources such as self-efficacy, coping, and social support.

Patient factors

The impact of demographic characteristics such as gender, race and ethnicity, age, and socio-economic status (eg, health insured or not) on specialty SUD care access and engagement is mixed (Forrest *et al.*, 2006). However, clinical characteristics such as the presence of a drug rather than alcohol use disorder, negative consequences of substance use, and co-morbid psychiatric disorders are associated with a higher likelihood of receiving specialty SUD care (Forrest *et al.*, 2006; Glass *et al.*, 2010; Ilgen *et al.*, 2011).

Prior use of SUD services is also a determinant of SUD treatment access and engagement (Schaefer *et al.*, 2008). First-time treatment seekers report less need for treatment than those with previous treatment episodes by describing themselves as less severe substance misusers with better psychosocial functioning and quality of life (Locastro *et al.*, 2008). However, a common barrier to patients accessing specialty SUD care is that previous treatment experiences were negative (Perron *et al.*, 2009; Mowbray *et al.*, 2010). Additional barriers to patients accessing and engaging in specialty SUD care include being inconvenient, involving, for example, a long wait until the initial appointment, long travel distances to the treatment site, and inflexible hours of treatment provision (Stark, 1992; Beardsley *et al.*, 2003; Pulford *et al.*, 2006; Hoffman *et al.*, 2008; Coulson *et al.*, 2009; Laudet *et al.*, 2009; McCarty *et al.*, 2009; Perron *et al.*, 2009; Mowbray *et al.*, 2010).

Other patient factors include clients' knowledge, expectations, and preferences about specialty SUD care. Common barriers to patients accessing such care are lack of knowledge about the harmful effects of continued substance use, the belief that patients can cope with substance misuse on their own or the problem will improve by itself, and embarrassment (Perron *et al.*, 2009; Mowbray *et al.*,

2010). Stigma is a significant barrier to accessing SUD treatment services; individuals may choose to conceal their substance misuse to avoid stigma (Livingston *et al.*, 2012). Stigmatizing stereotypes associated with specialty SUD services such as methadone maintenance or residential treatment may also lower the likelihood of engaging in treatment (Keyes *et al.*, 2010).

Perceived need for substance abuse treatment is a facilitator of treatment entry (Falck *et al.*, 2007; Masson *et al.*, 2013). However, only small proportions of individuals who are identified as having substance use disorders perceive a need for treatment (3–19%) (Oleski *et al.*, 2010; Hedden and Gfroerer, 2011). Patients who have stronger beliefs in the benefits of SUD treatment are more likely to enter treatment (Heller and Krauss, 1991; Kleinman *et al.*, 2002). Patients may have unrealistic expectations about the content or duration of care because they are not provided opportunities to express their care preferences; therefore, these preferences are not realized, to the extent possible, in patients' care planning (Coleman *et al.*, 2003). Possibly, offering a menu of potential treatment options that take patient choice into account may be a way to increase rates of treatment entry (McKay, 2009; McCrady *et al.*, 2011).

Other resources facilitating the transition from primary to specialty SUD care are the patient's self-efficacy to obtain and engage in care, motivation to change, and social support, including family involvement (Viggiano *et al.*, 2012). Patients who have more self-efficacy with regard to engaging in behaviors needed to enter SUD treatment are more likely to enter treatment (Heller and Krauss, 1991; Kleinman *et al.*, 2002). Studies find greater SUD treatment engagement among individuals who are more motivated for treatment (Baekeland and Lundwall, 1975; Simpson and Joe, 1993; Weisner *et al.*, 2001; Ball *et al.*, 2006; Stevens *et al.*, 2008; Coulson *et al.*, 2009; Palmer *et al.*, 2009). Treatment engagement is also associated with having enhanced social support for the treatment process (Stark, 1992; Ball *et al.*, 2006; Jackson, 2006; Palmer *et al.*, 2009).

Provider factors

Provider factors that may influence patients' transitions to SUD specialty care include providers' cultural competence (Masson *et al.*, 2013) and knowledge about availability and potential efficacy of, SUD treatment options both within their care system and larger community. Referrals to SUD treatment may be infrequent because providers often view such treatment as a revolving door that does not deliver positive outcomes (Rosenblum *et al.*, 1996). Studies confirm the stigmatizing attitudes of providers toward individuals who need SUD treatment, in that such patients are perceived as not being truly sick (due to the supposed self-inflicted nature of substance abuse and dependency), irresponsible, aggressive, untrustworthy, and difficult (Treloar and Holt, 2006; Kelly and Westerhoff, 2009; Schomerus *et al.*, 2011). These perceptions are associated with less willingness to intervene with people in need of SUD-related care and a barrier to the provision of high-quality care (Skinner *et al.*, 2005). Providers lack understanding and knowledge of the care required for substance-misusing patients and are reluctant to provide it (Lovi and Barr, 2009). Health care staff's negative attitudes toward patients who would benefit from SUD treatment often translate into delays of patients seeking help (Kelly and Westerhoff, 2009).

Primary care clinicians need to be familiar with available treatment resources for their patients who have diagnosed SUDs. Knowing about available treatment resources, including those tailored for special populations, such as patients with comorbid chronic health conditions, and having a clear plan to access services, will facilitate patients' access to the system (Substance Abuse and Mental Health Services Administration, 1997). In this regard, primary care physicians' personal knowledge of the specialist to whom they referred patients was the most important reason for selecting a specific specialist (Forrest *et al.*, 2006).

Providers also often lack training in SUD treatment generally and in transition practices more specifically (Childers and Arnold, 2012). Formal training in transitional care that includes learning to communicate with providers at specialty SUD care sites, and how to elicit and implement patient and family preferences into treatment plans, may also be critical for improving the care transition process. Training in the referral process should ensure that physicians obtain the skills necessary to expand their scope of practice when appropriate, determine when and why a patient should be referred, and identify the type of setting to which the patient should be sent (Forrest *et al.*, 2006).

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System factors

The context in which primary care is positioned, such as part of a larger health care system or as a stand-alone clinic, may impact the SUD transition process. The likelihood of specialty referral is higher when the primary care physician is located within a practice of larger size, and a health plan with gate keeping arrangements (Forrest *et al.*, 2006). Practices in which nurses and administrative staff can make referrals (with physician input), and in which physicians can make referrals based on telephone consultations with patients, have higher rates of referral than practices without these mechanisms (Forrest *et al.*, 2006).

Formal relationships between care settings, and the availability of information systems such as electronic medical records that facilitate the sharing of critical information (eg, care history) between care sites, will vary according to setting location and have implications for the ability to transition patients to SUD care options. For example, the availability of comprehensive medical records that contain all care received and recommended across care sites, contact information for all providers involved in patient care, and/or co-location of SUD or mental health services, will likely offer greater opportunity for clinics to improve SUD care transitions.

Team-based models of primary care such as the Patient-Centered Medical Home that emphasize care coordination among staff, evidence-based interventions for supporting healthy lifestyle changes, and patient-centered care (Reid *et al.*, 2009) may be better equipped to support SUD care transitions. This model of care may lessen barriers to SUD care such as distance by co-locating primary and specialty SUD care services. The co-location of primary and SUD care can lead to increased retention in SUD care and reduced emergency room visits when compared with patients referred to SUD treatment from a standalone primary care clinic (Saxon *et al.*, 2006).

Practices to improve care transitions to SUD treatment

Examples of potential evidence-based practices are provided below, with an emphasis on the level of resources needed to implement each practice.

Low intensity: counseling and referral

Primary care providers often provide regular, long-term contact with patients, which place them in a unique position to monitor substance use over time and provide counseling and referral when appropriate. When referral to specialty SUD care is deemed appropriate by a provider, such as in the case of a patient identified as being substance dependent, practice guidelines (Veterans Affairs/Department of Defense, 2009) suggest the following provider actions to help ensure successful transitions to SUD care:

- Provide brief counseling: provide brief alcohol counseling to patients which may include: education on healthy drinking limits and health effects; advice to abstain from alcohol use; drinking agreements in the form of prescriptions; drinking diary cards; and/or phone reinforcement by a nurse or other provider (see Veterans Affairs/Department of Defense, 2009). These strategies may be helpful for treating alcohol misuse but there is little evidence to date demonstrating their effectiveness for reducing illicit drug use, and thus, at present, are not widely recommended for this purpose (Saitz *et al.*, 2010).
- Elicit patient preferences and expectations: elicit from the patient his or her specific treatment goals and expectations, as well as beliefs about the treatment process and preferences for initial interventions and settings of care.
- Educate on available services: describe SUD services available to the patient and expectations for involvement in such services (eg, meeting once a week in an outpatient group format, living at a residential facility for a specified time period) (Reducing Avoidable Readmissions (RARE) Effectively Mental Health Work Group, 2012)
- Determine readiness to engage in SUD care: identify patients' willingness to accept a referral to specialty SUD care, and be available to answer questions and provide clarification on any concerns.
- Engage in collaborative care: when available and feasible, include behavioral health care providers (or staff that has expertise in managing chronic health conditions such as SUDs) in the conversation to answer questions and assist with treatment decisions and concerns. Collocated behavioral health staff, including mental health and nursing staff, with expertise in managing

chronic conditions may be helpful in overcoming barriers to seeking and engaging in specialty SUD care, such as lack of patient resources or support, or misconceptions about the treatment process (Reducing Avoidable Readmissions (RARE) Effectively Mental Health Work Group, 2012).

When time and clinician expertise permit, it may be helpful to provide patients with motivational interviewing either in a single session or multiple sessions. These relatively brief interventions are likely to be associated with greater success in transitioning patients from primary to specialty SUD care (Berman *et al.*, 2010; Blondell *et al.*, 2011). For example, patients receiving intensive role induction, which, in part, addressed concerns about and barriers to treatment and emphasized the value of treatment, were more engaged in subsequent SUD treatment than were patients receiving standard care (Katz *et al.*, 2011). Similarly, patients receiving role induction with a therapeutic alliance intervention, focusing on mutual agreement about treatment goals and development of a positive bond between patient and provider, entered SUD treatment sooner and in greater numbers when compared with those receiving standard care (Campbell, *et al.*, 2009).

Moderate intensity: telephone monitoring, and contracts–prompts–reinforcements (CPR)

Telephone monitoring was developed as an approach to improving participation in continuing care and outcomes for SUD patients who had achieved abstinence in intensive treatment (Stout *et al.*, 1999). It generally consists of one face-to-face session to orient patients to the protocol, followed by regular, brief telephone contact, with provisions to step up the level of care when a patient's status or symptoms indicate increased risk.

Research demonstrates that telephone monitoring to support engagement and access to care is feasible (patients assigned to receive calls do so) (Hilton *et al.*, 2001; Hubbard *et al.*, 2007) and facilitates entry into and attendance of SUD continuing care (Hubbard *et al.*, 2007; Zanjani *et al.*, 2008) and 12-step mutual-help groups, (McKay *et al.*, 2004) among SUD patients completing intensive treatment. Telephone monitoring can also improve SUD outcomes for up to two years among SUD patients, and more 12-step mutual-help group participation helps to explain positive associations between telephone monitoring and better outcomes (Hilton *et al.*, 2001; McKay *et al.*, 2004; Mensinger *et al.*, 2007).

Telephone monitoring may be a particularly promising approach for primary care as various staff, including physicians, nurses, and other clinical and administrative support staff with appropriate training, could utilize this approach to monitor patient engagement to SUD care. However, using telephone monitoring for this purpose has yet to be systematically evaluated in the primary care setting and thus remains a gap in the empirical literature.

CPR (Lash, 1998; Lash and Blossner, 1999; Lash *et al.*, 2001; 2004; 2007) may also help primary care patients make the transition to specialty SUD care. CPR has been shown to help patients in SUD residential treatment participate in continuing care and mutual-help after discharge, maintain abstinence, and reduce substance-related problems. CPR uses care contracts (made between providers and patients outlining a commitment to SUD care), prompts (personal letters; telephone reminders to facilitate attendance), and social reinforcements (letters of congratulations). CPR, which is brief and relatively inexpensive, has been adopted by about 30 medical facilities in 25 states treating diverse patients in multiple settings. Improved outcomes following CPR include less substance use and crime, and better employment, family, and social functioning.

Although originally developed to support transitions to aftercare, CPR has the potential to be useful for primary care clinics in supporting patients as they transition to SUD care. For example, providers and/or administrative staff could be involved in tracking patient attendance and upcoming appointments to specialty SUD care settings. Staff could provide prompts to patients about upcoming appointments and, when resources permit, brief telephone calls with consultation from specialty care mental health staff, to discuss potential barriers to continuing treatment (Rose, 2007). This information could be shared with specialty care providers to help enhance patients' engagement to such services. In addition, staff might recognize patients who regularly attend and complete SUD treatment with letters of congratulations. CPR offers a practical means to potentially improve continuing treatment engagement and outcomes among individuals in SUD treatment, and may help support patients as they transition from primary to specialty SUD care.

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High intensity: intensive case management

Intensive case management sits on the high end of the intensity spectrum, given the resources needed to implement this approach to facilitate primary to specialty SUD care transitions. It was born out of research investigating how to engage patients in SUD treatment after medical treatment related to substance misuse (Carroll *et al.*, 2009). This approach may include providers familiarizing patients with the SUD treatment program they will subsequently enter (eg, medical clinic staff escort patients on a shuttle bus to a treatment program where, together, they meet with a treatment counselor) (Chutuape *et al.*, 2001), in addition to the provision of ongoing, face-to-face intensive case management (McLellan *et al.*, 2005; Zaller *et al.*, 2006). Indeed, medical patients in an escort condition were more likely to enter SUD treatment than were those in usual care (76% versus 24%). In addition, intensive case management, versus usual care, of detoxification patients demonstrated a 70% increase in SUD treatment entry and significantly longer lengths of treatment stays. However, despite their efficacy, these interventions may not be feasible to implement routinely in health care systems because of their requirements for substantial staff resources, and because treatment program choice, out of a menu of options, differs among patients, and may be uncertain at the time of primary care treatment or distant from the primary care setting.

Discussion

The primary care setting can play a key role in identifying substance use severity and making decisions about appropriate treatment options such as the need for specialty SUD care. Specialty SUD care may be appropriate for patients presenting with more severe substance use such as abuse or dependence and/or consequences of substance use that significantly impact a patient's functioning. However, primary care clinics and providers face many challenges in transitioning these patients from primary to specialty SUD care. Challenges to transitioning these individuals may include patients' and providers' lack of knowledge about SUD care options, low expectations about treatment efficacy, concerns about stigma, and inattention to patient treatment preferences. This article presents a conceptual model to support primary care clinics in improving care transitions among patients who may benefit from specialty SUD care. In doing so, we present a care transition model that includes patient, provider, and system-level facilitators and barriers that may impact the SUD care transition process. We also provide evidence-based examples of intervention strategies that may help address these barriers and facilitate this process.

Limitations

There are several limitations to the model presented. First, we based the development of this model on those developed for other patient populations such as long-term care and patients receiving emergency medicine. Thus, we may have missed other important elements that may be important to consider in transitioning patients with SUDs from primary care to specialty SUD care. Second, at times we speculated on factors that may impact care transitions among this population by applying a larger literature describing patient-level variables associated with accessing health care to patients' accessing specialty SUD care. Research is needed to determine to what extent patient factors described in this article influence the care transition process. Third, we did not conduct an exhaustive review of care practices that may support primary care clinics in optimizing the transition process. Although three examples are presented, there may be other evidence-based strategies that clinics should consider. Furthermore, the strategies presented in this article have not been evaluated in the context of transitioning patients with SUDs from primary care to specialty care, although they are supported in terms of helping transitions within the SUD system of care. Thus, research is needed to determine whether these approaches are feasible and effective for improving the transition process among this population.

Future directions

Given that primary care is a common point of entry into the health care system for many patients with substance misuse, we chose to focus our model on the care transition from primary to specialty SUD care. Clearly, more in-depth investigations are needed pertaining to each aspect of the model; for example, how can we best match patients to options for transition practices to achieve lasting benefits? In addition, there are several additional SUD-related

care transitions, such as from specialty residential SUD care to continuing care (individual or group outpatient therapy, self-help groups), and from specialty SUD care back to primary care. As more primary care clinics integrate mental health staff and team-based models of care into their setting, the importance of this latter transition may be even greater as these providers may help support the continued recovery of patients with a SUD once initial stabilization has been achieved. It will therefore be critical to extend our model to develop protocols that optimize these various care transitions. As importantly, because protocols to optimize care transitions will be expected to be cost-effective, it is essential that extended models consider issues related to interventions' affordability in ways that are useful to health care policymakers.

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