Continuing care for addiction: Components and efficacy

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INTRODUCTION

Addiction is a chronic or relapsing condition for many patients. Yet the traditional treatment model for addiction has emphasized episodic intensive treatment for medically supervised substance withdrawal and/or stabilization, followed by time-limited outpatient care. In recent years, public and private health care systems and clinicians are coming to recognize that chronic or relapsing addiction, like chronic physical conditions such as diabetes or hypertension, typically requires continuing, long-term care.

Continuing care for addiction includes routine assessment and treatment customized to the needs and preferences of the individual patient [1]. The patient's clinical status and risk of relapse are monitored systematically and longitudinally. The intensiveness of treatment is adjusted as the addiction waxes and wanes over time. Patients receive training in self-management skills and linkage to other sources of professional and community support.

Continuing care for chronic or relapsing addiction along with its clinical and theoretical context, components, and efficacy are reviewed here. The treatment of specific substance use disorders (SUDs) and determining the appropriate level of care for patients with SUDs are reviewed separately.

- (See "Continuing care for addiction: Implementation".)
- (See "Alcohol use disorder: Treatment overview".)
- (See "Opioid use disorder: Treatment overview".)
- (See "Cannabis use disorder: Clinical features, screening, diagnosis, and treatment".)

- (See "Stimulant use disorder: Treatment overview".)
- (See "Benzodiazepine use disorder".)
- (See "Substance use disorders: Determining appropriate level of care for treatment".)

NEED FOR CONTINUING CARE

Chronicity of addiction — Treatment of addiction has traditionally been short-term and focused on acute episodes of care. After initial medically-supervised substance withdrawal and/or stabilization at a higher level of care (eg, inpatient or residential), patients would typically receive a time-limited course of outpatient treatment. A national survey of outpatient substance use disorder (SUD) treatment programs found that the planned duration of outpatient care was most often 90 days, while the actual duration was less than 30 days [2]. Treatment has largely taken place in specialty addiction programs that employ a single modality of treatment, often without access to medication.

For many patients, however, addiction is a chronic or relapsing condition that lasts many years subsequent to diagnosis [3]. Studies have found that 40 to 60 percent of patients treated for alcohol or other drug dependence return to regular use within a year following treatment [4-6].

The conceptualization of addiction as a chronic disease is supported by comparison of its manifestations, course, etiologic factors (genetic and environmental), pathophysiology, and response to treatment with other chronic medical illnesses (eg, type 2 diabetes mellitus, asthma, and hypertension) [7].

Addiction causes predictable and persistent structural and functional changes in the brain. Volume loss of numerous types of brain tissue and structures has been found in individuals with SUDs, including alcohol use disorder [8,9], cocaine use disorder [10], opiate use disorder [11], and polysubstance use disorder [12]. Numerous neurotransmitter systems involved in reward and stress pathways in the brain are affected by chronic use of alcohol and other drugs, including dopamine and endorphins [13,14].

Early onset addiction can severely disrupt the development of effective life skills in many areas of functioning, leading to chronic deficits. Even patients who achieve abstinence may have difficulty developing the kinds of meaningful and satisfying lives that can provide a buffer against relapse.

Chronic care model — The chronic care model, which has transformed the management of chronic illnesses such as asthma and diabetes in many health care systems [15], provides the conceptual foundation for continuing care for addiction. The model includes:

- Continuing contact over time between patients and service providers, rather than short-term interventions during acute episodes
- Interventions to promote patient self-management of their addiction (see 'Self-management skills' below)
- Links to patient oriented community resources (see 'Linkages to other sources of support' below)
- Using accurate and timely patient data to monitor progress and guide intervention (see 'Measuring and monitoring clinical status' below)

COMPONENTS

Customization — Individuals with chronic addiction vary in their clinical status and needs. Some patients are at high risk for relapse and need long-term, highly-structured continuing care. Patients who have been abstinent for long periods may only need brief, periodic check-ins to monitor for changes in substance use or risks of relapse. Patients at intermediate risk of relapse may need more active treatment and more frequent monitoring of progress.

Assessment of patients with substance use disorders (SUDs) is described separately. (See "Substance use disorders: Clinical assessment".)

Risk factors for relapse in SUD patients during periods of abstinence include [16]:

- Co-occurring psychiatric problems (eg, depression, anxiety)
- Sustained sleep difficulties
- Poor social support for recovery
- Low motivation for recovery
- High levels of personal stress or high stress reactivity
- History of multiple prior treatments followed by relapse

Clinical factors in actively-treated patients suggesting the need for more intensive treatment include:

- Ongoing self-reported substance craving.
- Low motivation to stop using drugs or drinking after several weeks of treatment.
- Continued use of alcohol or drugs early in treatment.

- Spending time in places or with people who might increase the risk for relapse (eg, bars [even if not consuming alcohol], neighborhoods where substances were previously used, contacts who are currently using substances).

- Continued presence after several weeks of treatment of one or more individuals who are important to the patient who support or encourage continued substance use.

Flexibility — Continuing care emphasizes that SUD care needs to be adjusted up or down in intensity and frequency over time as patients go through alternating periods of abstinence and use at varying levels of SUD severity [17,18]. Brief, infrequent clinical contact may be sufficient during extended periods when a patient is doing well. However, when the patient's risk of relapse rises or an episode of substance use begins, treatment needs to be ratcheted up to a higher level of care (eg, more frequent sessions, additional modalities, and/or in a more intensive setting) that is adequate to interrupt and address the processes putting the patient at risk [19].

The failure to achieve other early treatment goals, such as committing to abstinence, attending mutual help or other meetings, developing better coping behaviors and increased confidence in their efficacy, and identifying reliable sources of social support, may also indicate a need for more intensive continuing care [20].

Addiction counseling, for example, is titrated to the patient's clinical status and risk of relapse. Counseling is provided in increasingly diverse formats that vary in intensiveness, for example, face-to-face or by telephone, individual or group sessions. The duration of a counseling session is typically between 30 to 60 minutes for individual sessions and 60 to 90 minutes for groups, while the duration of a brief check-in is typically 15 to 30 minutes.

Self-management skills — Treatment of patients with a chronic condition such as addiction optimally includes preparing patients to manage their health and health care. This involves helping them to develop confidence and skills in activities such as:

- Goal setting
- Identification of barriers to reaching goals
- Development of plans to overcome barriers

Many of these self-management skills are described in cognitive-behavioral therapy manuals [21-24]. Tips for patients are also available [25].

Effective management of chronic addiction requires that patients are able to make good use of nonclinical supports, both within themselves and in the community. The ability to learn and to

practice good "self-care" is an important part of the management of chronic disorders of all types [15]. One of the key goals is to equip patients to engage in healthy behaviors, such as a nutritious diet and exercise, and other basic tasks of good self-care. Although some of these tasks vary from disorder to disorder, they generally include:

- Self-monitoring of status and symptoms
- Coping with stressors
- Interacting effectively with service providers and other sources of support

Linkages to other sources of support — Providing continuing care for addiction includes providing patients with successful linkage to community-based and professional sources of support [26]. Whenever such activities are feasible for a patient, they should be encouraged, supported, and monitored.

In our clinical experience, involvement by patients in pro-recovery activities, such as those listed below, are crucial for sustained recovery:

- Employment
- Education
- Mutual help groups
- Volunteer work
- Pursuit of hobbies or other meaningful activities

Professional services/sources of support include:

- Parenting classes
- Child care
- Medical care
- Mental health care

All patients who complete the acute phase of treatment should have a relapse prevention plan that documents potential triggers of relapse and early warning signs, along with strategies to respond. The plan should name sponsors, family members, or friends who have agreed to help, in addition to clinicians and their contact information.

A variety of active outreach efforts have been included in continuing care interventions to maintain contact with patients over extended periods of time. These contacts can provide opportunities for the continuation of treatment after patients have relapsed, even if they have lost motivation for recovery. Outreach techniques include telephone calls, home visits, care managers, home visits, couples counseling, and assertive linkage to services.

Measuring and monitoring clinical status — Clinicians should regularly assess patients' clinical status during the course of continuing care, ideally using a standardized quantitative instrument that reliably detects improvement or deterioration over time. Routine use of quantitative assessment can facilitate continuing care of addiction in multiple ways:

- To provide the patient and clinician with a shared language and indicators of progress or deterioration that requires more intensive intervention.
- To facilitate communication about the patient's course and current status among clinicians involved with their treatment and across levels of care.
- To enable clinicians (or care managers) to monitor caseloads of patients receiving low burden, infrequent treatment during periods of clinical stability, and to identify patients at an early stage of deterioration. In our clinical experience, patients are often resistant to more intensive interventions once they are well into a state of relapse. Catching deterioration before it becomes too severe may allow for discussion about a less intensive intervention with a more receptive patient.

Instruments for quantitative assessment of the severity of individual SUDs are reviewed separately.

- (See "Risky drinking and alcohol use disorder: Epidemiology, clinical features, adverse consequences, screening, and assessment", section on 'Screening'.)
- (See "Cocaine use disorder: Epidemiology, clinical features, and diagnosis", section on 'Screening and assessment'.)
- (See "Methamphetamine use disorder: Epidemiology, clinical features, and diagnosis", section on 'Assessment'.)
- (See "Cannabis use disorder: Clinical features, screening, diagnosis, and treatment", section on 'Assessment'.)

Relevant measures of clinical status assess:

- Recent use (eg, by toxicology).
- Extent of substance use (eg, based on patient self-report and other sources of information):
  - Percentage of days with substance use over prior month
  - Average amount of substance use per day of use over prior month

- Severity of associated symptoms – Including craving, depression, or sleep difficulties:
  - Percentage of days with urges to use (craving) over prior month
- Adoption of behaviors encouraged in the patient's treatment plan – Including reduced exposure to high risk situations or people, confidence in being able to cope with problems without using alcohol or drugs, attendance and participation in treatment programs, employment status, social support, and participation in activities that provide meaning and a sense of purpose:
  - Percentage of days with participation in mutual help group (out of number set as monthly goal)
  - Percentage of days with SUD medication compliance over past month

EFFICACY

Continuing care — Reviews and meta-analyses of trials have shown a benefit of continuing care on substance use disorder (SUD) outcomes in most studies. As examples:

- A meta-analysis of 19 randomized trials compared continuing care for SUDs with minimal or no SUD treatment found a small benefit to continuing care on SUD outcomes at the end of the intervention and at subsequent follow-up [27]. Participants in the trials typically had heavy alcohol or drug use or a diagnosis of SUD. The interventions, which may not have been explicitly labeled continuing care, were based on continuing care principles. Multimodal interventions included a variety of active outreach techniques to enhance motivation for treatment and increase engagement and continuation of care over an extended period. Among the activities studied were telephone calls, home visits, care managers couples counseling, and assertive linkage to services. (See 'Components' above and 'Linkages to other sources of support' above.)

  Approximately half of these trials showed positive findings [17,18]. Compared with trials with negative findings, intervention trials that led to improved substance use outcomes were more likely to have:

  - Been published since the late 1990s
  - Had longer planned durations of care
  - Included active efforts to provide treatment

- A meta-analysis that included 12 studies of treatment for SUDs found that longer-term SUD treatment and support interventions (eg, at least 18 months in duration) produced better substance use outcomes as compared with patients who received shorter, standard care [28]. Individuals who received long-term treatment had a 23.9 percent greater chance of abstaining or consuming moderately, compared with patients who received shorter, standard care (odds ratio 1.35, p <0.006).

- A systematic review of six methodologically rigorous trials of continuing care for alcohol use disorders found mixed results [1]. The trials tested multimodal interventions based on the chronic care model following initial treatment in a more intense psychiatric setting. The interventions included a range of active outreach techniques, from telephone calls to follow-up by nurses, and included various forms of individual or couples counseling. Four of six trials found that patients receiving continuing care supplemented by an active outreach intervention had better drinking outcomes than patients receiving usual continuing care.

Specific models of continuing care are described below and separately. (See "Continuing care for addiction: Implementation".)

Recovery management checkups — Recovery management checkups (RMC) is a continuing care intervention that provides patients with chronic substance use with routine monitoring of their substance use and treatment participation, and active attempts to engage and retain the patient in treatment, or to intervene if the patient relapses [29-31]. Initial active techniques to get the patient in for the check-up include multiple phone calls to patient and family members/peers. Then active, in-person techniques to get the patient into treatment are used, such as motivational interviewing or discussion of barriers to entering treatment and potential solutions.

Specific components of the intervention included:

- An in-person clinical assessment every three months using standardized instruments, as well as urine or blood testing for substance use.

- When the clinical assessment indicates a need for active treatment, immediate transfer to a linkage manager, who:

  - Uses motivational interviewing techniques to help the participant recognize and acknowledge their resumption of substance use and need for treatment (see "Substance use disorders: Motivational interviewing")

- Addresses barriers to reentering treatment
- Arranges scheduling and transportation to treatment

- SUD treatment consisted of 12-step oriented counseling and participation in mutual help groups.

Randomized trials comparing the RMC intervention with treatment as usual have found mixed results on substance use outcomes [29-31]:

- A two-year trial randomly assigned 448 adults with chronic substance use to receive RMC plus standard treatment or standard treatment alone [29,31]. Over 90 percent of those randomized to RMC were seen at each quarterly assessment and received the intervention if they had relapsed. In intent-to-treat analyses, patients assigned to the RMC group had fewer quarters in which they were in need of SUD treatment beyond the check-ups. There were no significant differences in substance-related problems per month or total days of abstinence. Similar findings, including fewer quarters in which the subject was in need of SUD treatment beyond checkups, few substance related problems per month, and more total days abstinence, as compared with control group, were found in another trial [30].

- A three-year trial randomly assigned 480 female offenders referred from incarceration to community-based SUD treatment to treatment as usual versus treatment as usual plus RMC provided for three years [32]. Results indicated that RMC was beneficial for women who were not on probation. For example, among women not on probation, those who received RMC were more likely to receive any days of SUD treatment (8.9 versus 4.5 percent, odds ratio = 2.12, $p < 0.01$), less likely to engage in weekly alcohol and drug use (47 versus 60 percent, odds ratio = 0.59, $p < 0.05$), and less likely to engage in any HIV-risk behavior (66 versus 73 percent, odds ratio = 0.72, $p < 0.05$). Conversely, there were no significant positive effects for RMC in women on probation.

Extended continuing care — The extended continuing care intervention provides patients with addiction with ongoing clinical care that includes [33]:

- An initial face-to-face visit followed by telephone calls for a duration of 20 minutes.

- Brief structured assessment of current risk and protective factors to monitor patient clinical status and determine the focus of the remainder of the session.

- Problem-focused counseling using cognitive-behavioral therapy (CBT) techniques, such as identification of high-risk situations and rehearsal of improved coping behaviors.

- Weekly contacts for the first eight weeks, then biweekly for 12 months, and then monthly.
- Patients whose risk of relapse increased received stepped-up care, which included more frequent telephone contacts, in-person relapse prevention (a form of CBT), or linkage to other treatment.

Randomized trials of extended continuing care for patients with substance dependence have found mixed results [33-36]. As an example:

- In a trial, 252 adults with alcohol use disorder (49 percent with concurrent cocaine use disorder) who were completing a public intensive outpatient program (IOP) were randomly assigned to receive continuing care with counseling (largely telephone-based), continuing care with briefer telephone calls providing monitoring and feedback but not counseling, or treatment as usual alone, without continuing care [33].

  At 18-month follow-up, patients assigned to receive continuing care with counseling in addition to treatment as usual reported reduced alcohol use (odds ratio 1.9, 95% CI 1.1-3.1) and heavy alcohol use (odds ratio 1.7, 95% CI 1.03-2.94) compared with the group receiving treatment as usual alone. During months 12 to 18 of the follow-up period, rates of any alcohol use in each three-month segment were lower in the counseling and the monitoring/feedback groups compared with the control group (approximately 30 versus 50 percent). No clinically significant effects were seen in cocaine use. Treatment effects from the 18-month intervention were no longer present at 24 months [20].

The positive findings from this study [33] were replicated in a second study examining extended telephone continuing care in 262 patient with alcohol use disorder attending IOP [34]. As in the prior study, significant reductions in alcohol use were observed while the treatment was provided, but not during a six-month posttreatment period.

Extended telephone continuing care may help promote reduced rates of criminal activity in individuals with cocaine use disorders. A follow-up analysis that combined data from three telephone-based continuing care studies found that patients with cocaine use disorder who were randomized to the intervention had 54 percent lower odds of a criminal sentence over a four-year follow-up than those in standard care, controlling for criminal sentence in the year prior to enrollment in the study, gender, age, and study enrolled in [37].

The evidence for telephone continuing care provided for shorter durations is mixed. A study randomized 406 patients with co-occurring substance use and mental health disorders to receive usual postdischarge care or usual care plus three months of weekly telephone monitoring sessions [38]. Results indicated there were no differences between the treatment

conditions on days of alcohol use, drug use, or psychological problems over a 15-month follow-up. However, a secondary analysis of this study found that telephone continuing care did produce lower alcohol use severity than standard care in participants with an incarceration history and in those with less severe depression symptoms [39].

Another study compared two interventions with 10 and 3 telephone contacts, respectively, to a one-contact control condition provided to 240 patients with alcohol use disorder following residential treatment. The results found that the 10-contact telephone intervention produced higher rates of alcohol abstinence at a six-month follow-up, compared with the control condition. Conversely, the 3-contact intervention was not effective relative to the control [40].

Automated continuing care interventions — There is further evidence at this point that digital programs running on smartphones and texting interventions can provide effective continuing care, at least for alcohol use disorder.

The A-CHESS smartphone app provides a menu of recovery-oriented tools, including rapid connections with support people, suggestions for coping with high-risk situations and other stressors, relaxation aids, GPS-based alerts when near a location where prior use occurred, daily and weekly assessments, and a chatroom where others using the app can be contacted. ACHESS has been evaluated as a continuing care intervention for alcohol use disorder in two randomized controlled trials, one in 349 graduates of residential treatment programs [41] and a second in 262 patients who had completed three weeks of IOP [34]. In both studies, A-CHESS reduced heavy drinking over 12 months compared with standard care. Finally, the A-CHESS app was also used in a third study which tested the efficacy of linking multiple daily assessments done by A-CHESS to specific recovery services on the app in 401 participants. Results indicated that the assessments led to increased abstinence via use of the recovery services on the app [42].

Improved outcomes such as reduction in substance use, as compared to standard care, have been reported in other studies of automated programs [43,44].

Other interventions — Other continuing care interventions (of two months or more following initial treatment) have demonstrated evidence of efficacy using a variety of different modalities to monitor patients following acute treatment [45-55]:

- Intensive case management in individuals with substance dependence on public assistance over 12 to 15 months [46,47].
- Home visits by a nurse over 12 months [48].

- Couples relapse prevention – Provided continuing care over 12 months in patients who had completed an initial phase of treatment [49].

- Extended employee assistance programs visits and telephone contacts over 12 months in patients who had completed couples behavioral marital therapy [50].

- Mindfulness-based relapse prevention provided weekly for eight weeks following completion of initial treatment [56]. Mindfulness-based relapse prevention combined mindfulness meditation, application of mindfulness practices in the presence of relapse triggers, and self-care and compassion.

- Assertive aftercare for adolescents over three months that aggressively linked adolescents to continuing care treatment services and resources in the community following discharge from residential treatment [53].

- Maintenance check-up sessions at one and three months following psychosocial intervention [57].

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Alcohol use disorders and withdrawal" and "Society guideline links: Benzodiazepine use disorder and withdrawal" and "Society guideline links: Opioid use disorder and withdrawal" and "Society guideline links: Stimulant use disorder and withdrawal" and "Society guideline links: Cannabis use disorder and withdrawal".)

SUMMARY AND RECOMMENDATIONS

- **Need for continuing care** – Moderate-to-severe substance use disorders (SUDs) are typically chronic or relapsing conditions; however, treatment of addiction has traditionally been short-term and focused on acute episodes of care. Chronic or relapsing addiction, like chronic physical conditions such as diabetes or hypertension, typically requires continuing, long-term care. (See 'Chronicity of addiction' above.)

  Patients with a mild SUD are not typically candidates for continuing care, but they should receive follow-up assessment during the year following treatment. Continuing care may be

indicated for those who relapse and experience a worsening of symptoms. (See 'Efficacy' above.)

Continuing care emphasizes ongoing monitoring after an initial period of treatment with the intensiveness of treatment adjusted to the patient's clinical status and risk of relapse as the patient's addiction waxes and wanes over time. (See 'Introduction' above and 'Need for continuing care' above and 'Components' above.)

- **Components** – Patients treated in a continuing care model are provided training in self-management skills, linkage to other sources of support, and measuring/monitoring of their clinical status over time. (See 'Self-management skills' above and 'Linkages to other sources of support' above and 'Measuring and monitoring clinical status' above.)

- **Customization** – Continuing care for patients with addiction should be customized to the individual patient's needs and preferences. Treatment needs are determined through assessment of the patient's clinical status, risk factors for relapse, and clinical indications for more intensive treatment. (See 'Customization' above.)

- **Efficacy** – Reviews and meta-analysis of trials have shown a benefit of continuing care on SUD outcomes in most studies. (See 'Efficacy' above.)

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