Peer Recovery Support for Individuals With Substance Use Disorders: Assessing the Evidence

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Objective: Peer recovery support services are delivered by individuals in recovery from substance use disorders to peers with substance use disorders or co-occurring mental disorders. This review describes the service and assesses its evidence base. *Methods:* Authors searched PubMed, PsycINFO, Applied Social Sciences Index and Abstracts, Sociological Abstracts, and Social Services Abstracts for outcome studies of peer recovery support services from 1995 through 2012. They found two randomized controlled trials, four quasi-experimental studies, four studies with pre-post service designs, and one review. Authors chose from three levels of evidence (high, moderate, and low) on the basis of benchmarks for the number of studies and quality of their methodology. They also described the evidence of service effectiveness. *Results:* The studies met the minimum criteria for moderate level of evidence. Studies demonstrated reduced relapse rates, increased treatment retention, improved relationships with treatment providers and social supports, and increased satisfaction with the overall treatment experience. Methodological concerns included inability to distinguish the effects of peer recovery support from other recovery support activities, small samples and heterogeneous populations, lack of consistent or definitive outcomes, and lack of any or appropriate comparison groups. *Conclusions:* Peer recovery support providers aim to help individuals achieve and maintain recovery, yet studies to date have not tested the key mechanisms of this intervention. To better demonstrate the effectiveness of peer recovery support, researchers should isolate its effects from other peer-based services. Additional research should solidify its place within the substance use treatment continuum for adults with substance use disorders. (*Psychiatric Services* in Advance, May 19, 2014; doi: 10.1176/appi.ps.201400047)

Peer recovery support is a peer-based mentoring, education, and support service provided by individuals in recovery from substance use disorders to individuals with substance use disorders or co-occurring substance use and mental disorders (1). Use of peers in some aspects of treatment is now commonly accepted as part of the continuum of services to promote recovery from substance use disorders. Peer recovery support activities have been incorporated into various approaches for working with individuals with substance use disorders, including activities supported by the Substance Abuse and Mental Health Services Administration (SAMHSA) under the Recovery Community Services Program and the Access to Recovery (ATR) initiative. Although peer recovery support services discussed in this article are often delivered to individuals with co-occurring mental disorders, their primary aim has been to address substance use and recovery. A separate article in this series addresses peer support services for individuals with mental disorders (2).

This article reports the results of a literature review that was undertaken as part of the Assessing the Evidence Base Series (see box on next page). For purposes of this series, SAMHSA defines peer recovery support for substance use disorders as a set of nonclinical, peer-based activities that engage, educate, and

support individuals so that they can make life changes that are necessary to recover from substance use disorders (1). Other definitions are comparable and share the key element that peer recovery support is a peer-based activity intended to help individuals stabilize and sustain their recovery by identifying and building on existing strengths (3–7). Table 1 presents the definition, goals, targeted populations, and service settings for peer recovery support services.

Policy makers, other leaders in behavioral health care, and consumers need information about the effectiveness of peer recovery support and its value as part of the substance use treatment continuum. Insurers also need to assess its value as a reimbursable service. Our objectives are to describe peer recovery support for substance use disorders, rate the level of evidence (methodological quality) of existing literature, and describe the effectiveness (that is, positive versus null findings) of the service. We sought to provide a straightforward assessment of a specific type of peer services—namely, informal support services delivered by peers as adjuncts to, or in conjunction with, traditional addiction treatment systems.

Description of peer recovery support services

The theoretical basis for peer support, in general, draws on literature in psychology and other fields that highlights the roles of social support, empathy, and therapeutic relationships (3,8,9). It also reflects a long history of mutual-support groups for people with substance use and mental disorders (3,8). Although derived from the social support literature, peer recovery support is not the same as social support and does not use the traditional definition of peers, in which friends, family, or other people with comparable demographic characteristics who do not have a substance use disorder (for example, peers who are college students) play a role in recovery. Peer recovery support providers, sometimes called peer recovery coaches, appropriately highlight their own lived experience of recovery (1). A key element contributing to the value of this service is the asymmetrical relationship between the peer recovery provider and the service recipient; that is, the advantage of this relationship comes from supporting the service recipient (1). It is likely that the peer provider also receives some benefit, and some consider this mutuality as key to the intervention's success (10–12).

Peer recovery support differs from professional counseling, formal treatment, or mutual-help sponsorship. However, it may be conducted in parallel with other peer recovery activities (for example, those of recovery support centers) or formal treatment, and peer providers may encourage additional recovery activities, such as mutual-help groups (5). Peer recovery support may occur across the full continuum of recovery, from pretreatment to maintenance. It may be offered in a variety of settings and contexts before, during, after, or in lieu of treatment (4,5). Peer providers act as recovery catalysts who serve to motivate and empower the individual, guiding the recovery process and supporting

Table 1
Description of the peer recovery support service

Feature	Description
Service definition	Peer recovery support is a set of nonclinical, peer-based activities that engage, educate, and support individuals as they make life changes necessary to recover from substance use disorders or co-occurring substance use and mental disorders. In general, peer services offer support in four areas: emotional, informational (for example, skill building), instrumental (for example, assistance with specific needs), and affiliational (for example, social connectedness and inclusion). Peer recovery support providers act as recovery and empowerment catalysts, guiding the recovery process and supporting the individual's goals and decisions. The activities that constitute this service are education and coaching.
Service goals	Self-empowerment; abstinence or decreased substance use; improved quality of life, self-esteem, and sense of purpose; increased social connectedness; improved education, employment, housing, and relationships; decreased criminal justice involvement; improved set of resources to achieve and maintain a life in recovery
Populations	Adults with alcohol- and drug-related substance use disorders
Settings for service delivery	Services are offered before, during, after, and in lieu of treatment, so settings vary.

the individual's goals and decisions (1). Providers typically offer several kinds of support: emotional, motivational, informational (for example, skill building), instrumental (assistance with specific needs), and affiliational (social connectedness and inclusion) (4,5).

Peer recovery support programs rely on a set of principles to guide their activities (3,5). The primary principle is keeping recovery first, which is the key goal for the individual seeking peer support (3,5). It also dovetails with the concept of "recovery identity," where the peer provider's personal recovery status enhances his or her professional commitment to the recovery of others (13). Another key concept is meeting individuals "where they are," which includes being supportive rather than directive and focusing on strengths, resiliencies, and empowerment (1,5). Citizenship, or meaningful participation in a community, is a valuable concept in sustaining recovery, and it can be encouraged through peer recovery activities (3,14,15). Peer recovery services should involve peers in all aspects of the structure, leadership, goals, design, and overall strategy of the services (3). Consumer and peer choice in the selection of services (5,8) and emphasis on peer ethics and peer training (4,6–8,16) are essential for both the peer provider and the consumer. Peer recovery support emphasizes the valuable role of experiential knowledge (5–9,14–17).

Peer recovery support services also rely on a common set of core activities that primarily involve education and coaching (3–5,7). Peer providers may help consumers set recovery goals, develop a plan, and work toward and maintain recovery. Peer providers also commonly identify and help acquire resources that consumers may need to restructure their lives and further develop life skills. This may include acting as a liaison with formal treatment services or social services or assisting with referrals or linkages to medical care, employment support, human services, and other systems of care. More broadly, peer providers serve as advocates for the individual and the recovery community, conduct outreach, and act as role models (3–5,7). The development of healthy attachments between the consumer and the peer provider may mediate emotional regulation (18).

Through these activities, peer providers seek to facilitate a variety of consumer-specific outcomes: self-empowerment, abstinence or decreased substance use, improved quality of life, improved self-esteem and sense of purpose, reduced social isolation and increased social connectedness, decreased criminal justice involvement, improved resources to achieve and maintain a life in recovery, and improved education, employment, housing, and relationships (1,4). As reflected in the research studies to date, these outcomes are wide ranging and can be difficult to measure. This review aimed to evaluate the existing literature and provide a summary of the evidence for and effectiveness of peer recovery support for substance use disorders.

Methods

Search strategy

We conducted a literature search of articles published from 1995 through 2012. We searched five major databases: PubMed (U.S. National Library of Medicine and National Institutes of Health), PsycINFO (American Psychological Association), Applied Social Sciences Index and Abstracts, Sociological Abstracts, and Social Services Abstracts. We also examined bibliographies of major reviews and searched for nonjournal publications, such as government reports. We used combinations of the following search terms, each in combination with "substance abuse," where an asterisk indicates that all forms of that word were included: recovery coach*, peer coach*, peer support AND treatment ("peer support" alone was dropped, because it broadly referred to peers regardless of recovery status), peer counselor, peer provider*, recovery support services, peer services, and peer specialist. In addition, we reviewed national policy, training, and technical assistance Web sites for relevant articles, including SAMHSA, Addiction Technology Transfer Centers, Faces and Voices of Recovery, and the Institute for Research, Education and Training in Addictions.

Inclusion and exclusion criteria

This review was limited to U.S. and international studies in English and included the following types of articles: randomized controlled trials (RCTs), quasi-experimental studies, single-group time-series design studies, cross-sectional correlational studies, and systematic reviews; studies that focused on peer recovery support for individuals with substance use disorders; and studies in which peer recovery support services were delivered by a provider in recovery from a substance use disorder. We excluded studies focused on the effectiveness of mutual-help peer recovery support groups, online peer support, services for smoking cessation, and peer support for individuals with developmental disabilities. We also excluded studies that did not indicate whether recovery coaches were peers. There was no a priori selection of populations or of the type of peer recovery support service that was received. Although age was not an a priori exclusion, identified studies of adolescents were excluded because they focused on peers who may not have had personal experience with substance use disorders or they focused more generally on social support.

Strength of the evidence

The methodology used to rate the strength of the evidence is described in detail in the introduction to this series (19). The research designs of the studies that met the inclusion criteria were examined. The series established three levels of evidence (high, moderate, and low) to indicate the overall research quality of the studies. Ratings were based on predefined benchmarks that considered the number of studies and their methodological quality. If ratings were dissimilar, a consensus opinion was reached.

In general, high ratings indicate confidence in the reported outcomes and are made when there are either three or more RCTs with adequate designs or two RCTs plus two quasi-experimental studies with adequate designs. Moderate ratings indicate that there is some adequate research to judge the service, although it is possible that future research could influence initial conclusions. Moderate ratings are based on the following three options: two or more quasi-experimental studies with adequate design; one quasi-experimental study plus

one RCT with adequate design; or at least two RCTs with some methodological weaknesses or at least three quasi-experimental studies with some methodological weaknesses. Low ratings indicate that research for this service is not adequate to draw evidence-based conclusions. Low ratings indicate that studies have nonexperimental designs, there are no RCTs, or there is no more than one adequately designed quasi-experimental study.

We considered other design factors that could increase or decrease the evidence rating, such as sample size; how the service, populations, and interventions were defined; use of statistical methods to account for baseline differences between experimental and comparison groups; identification of moderating or confounding variables with appropriate statistical controls; examination of attrition and follow-up; use of psychometrically sound measures; and indications of potential research bias.

Effectiveness of the service

We also described the effectiveness of the service—that is, how well the outcomes of the studies met the service goals. We compiled the findings for separate outcome measures and study populations, summarized the results, and noted differences across investigations. We evaluated the quality of the research designs in our conclusions about the strength of the evidence and the effectiveness of the service.

Results

Level of evidence

The literature search revealed two RCTs that met the inclusion criteria and employed good methods (20,21), four quasi-experimental studies (17,22–24), four studies with pre-post service comparisons (9,14,16,25), and one review (3). Table 2 provides summaries of each study. Although the previous review provided a thorough background of peer recovery support services, it focused on several areas beyond the scope of this article (for example, mutual-help groups); therefore, its findings are not discussed.

Using the rubric described above for level of evidence, the evidence for peer support met the minimum criteria for the moderate category: two RCTs

(20,21) and one quasi-experimental study with adequate methods (17). Because the few related studies beyond this core group had many methodological limitations, we considered the level of evidence on the low side of moderate. These studies lacked appropriate comparison groups or randomization, and few had measurable or comparable outcomes (such as reduced substance use) or sufficiently large samples. Some studies did not disaggregate the effect of peer coaching or peer recovery support from other aspects of the interventions. These studies are reported here to demonstrate the breadth of the research on peer recovery support, but cautions are provided regarding interpretation of their results.

All participants in the selected studies were adults with substance use disorders. Target populations for the identified studies included women and men who were recently incarcerated (16), women in rural settings with depression and HIV (25), women who were pregnant or postpartum (24), women involved as parents with the foster care system (23), female sex workers (22), and individuals receiving medical care (17,20,21), participating in permanent supported housing (9), or generally in recovery (14). One study focused on adults with co-occurring serious mental illness (17).

Generally, there were no requirements for consumers to participate in formal treatment, mutual help, or other activities in addition to peer recovery support. The terms "peer recovery support" and "peer recovery coaching" were used interchangeably and without a reliable distinction.

Effectiveness of the service

This section describes effectiveness findings of research related to peer recovery support. Definitive conclusions about the effectiveness of peer recovery support services are difficult to ascertain because of the relative lack of methodologically sound, standardized research. Moreover, only a few studies assessed measurable outcomes relevant to long-term recovery goals (that is, substance use or readmission to treatment); several others measured process indicators, such as treatment engagement; and the remainder measured constructs such as

consumer satisfaction or social support. Main findings are described below and in Table 2. Unless noted, peer recovery support services were delivered, at least in part, in a one-to-one format.

RCTs. The two RCTs included in the review found that peer recovery support was associated with positive process indicators and outcomes. Specifically, a peer-delivered, one-to-one, brief motivational intervention was related to lower rates of cocaine and opiate use and higher drug-free rates at six months (20). However, it could not be distinguished whether the peer provider or the motivational intervention approach was the key element related to success. Among individuals who were abstinent at six months, there was no difference between the proportion of participants in the experimental and control groups who had been admitted to detoxification or other substance abuse treatment services during that six-month period (20). Another RCT evaluated adults with significant histories of substance use disorders and high rates of criminal recidivism who were receiving inpatient addiction services or psychiatric treatment services or both (21). The addition of peer recovery support was associated with increased rates of postdischarge participation and retention.

Quasi-experimental studies. Of the four quasi-experimental studies that were identified (17,22–24), only one examined an outcome directly related to recovery (17). This study of peer recovery support programs for individuals with co-occurring serious mental illness and substance use disorders found longer stays in the community before rehospitalization compared with a matched-sample comparison group of individuals who were not in the program; overall, fewer participants in the peer recovery group were hospitalized (17). One study examined peer recovery support for women who were pregnant or postpartum and in recovery from crack cocaine addiction and compared it with traditional addiction services for a group of women who were not pregnant (24). The group that received peer recovery support reported higher satisfaction with specific services, including perceptions of a greater level of empathy

Table 2

Studies of peer recovery support included in the review[a]

Study	Design and population	Peer coach intervention	Outcomes measured	Summary of findings
RCTs				
Bernstein et al., 2005 (20)	Peer-delivered brief motivational intervention plus written advice plus referral list of treatment options versus written advice plus referral list; N=1,175 users of cocaine or heroin from hospital walk-in clinics	Peer-delivered one-to-one brief motivational intervention, with telephone booster at 10 days. Peers were experienced outreach workers in recovery from substance use disorders. Peer adherence to the intervention was assessed in several ways.	Substance use, readiness to change, ASI, contact with the substance use treatment system	At 6 months, the intervention group had a greater proportion of participants with cocaine abstinence (p<.05) and heroin abstinence (p<.06) and who were drug-free (p<.06). No group differences were noted in detox or treatment admissions among those who were abstinent. The intervention group showed a trend for greater improvement in ASI drug severity scores (p<.07) and medical severity scores (p<.06). Some baseline differences in comparison groups were noted.
Tracy et al., 2011 (21)	Treatment as usual versus treatment as usual plus DRT plus MAP-Engage versus treatment as usual plus MAP-Engage; N=96 veterans (nearly all male) recruited from inpatient programs for substance use or for psychiatric treatment, where study-related treatment began	MAP-Engage: peer mentor, open-ended individual contact and peer-led groups; escort to first outpatient program; community reinforcement approach. Paid peer mentors were referred by a physician or clinician and supervised by professional staff; mentors had prior experience with a substance use disorder but were abstinent at 6 months.	Postdischarge treatment attendance	Compared with treatment as usual only, treatment as usual plus MAP-Engage alone, and treatment as usual plus DRT plus MAP-Engage were associated with increased adherence to postdischarge outpatient appointments for substance use treatment, general medical, and mental health services (p<.05 for substance use treatment and p<.05 for all appointments combined).
Quasi-experimental designs				
Sanders et al., 1998 (24)	Peer counselors (for pregnant women) versus traditionally trained counselors (for nonpregnant women); N=94 women in recovery from crack cocaine addiction, some of whom were mandated to treatment. Comparison groups were nonequivalent in the number of participants who were pregnant versus nonpregnant.	SISTERS peer counseling comprehensive case management: substance use counseling, prenatal care, support groups, housing, transportation, parenting, nutrition, and assistance with social services. Peers were women in recovery for ≥1 year. Professionals administered 3 months (and then ongoing) of training about substance use disorders. It was unknown whether peer counseling was provided individually or in group settings or both.	Consumer satisfaction overall, program met needs, program met expectations	No group differences were noted for met needs or for reports that a staff member understood them. The intervention group reported higher satisfaction with specific services (p<.05), reported the counselor as the most helpful component (p<.05), and reported counselors as empathic and caring (significance level not reported). More participants in the comparison group reported that the counselor had knowledge of substance use disorders (significance level not reported).
Min et al., 2007 (17)	FC and ICM versus ICM only; N=484 people with co-occurring serious mental illness and substance use disorders who had been hospitalized in the prior 2 years	FC paired consumers one to one with peers for community activities, recreation, and self-help; aimed to enhance social network and social support. Peers were abstinent ≥3 years and successfully coping with their mental health issues.	Inpatient psychiatric hospitalization within 3 years	Rehospitalization patterns were significantly different. Survival analysis showed a more gradual slope for FC plus ICM than for ICM only (p<.05); thus consumers had more days in the community before rehospitalization. FC participants had a higher overall probability of remaining in the community (p<.05).

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Table 2

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Study	Design and population	Peer coach intervention	Outcomes measured	Summary of findings
Mangrum, 2008 (23)	ATR and substance use treatment versus substance use treatment for consumers involved in criminal justice system but not ATR or for consumers not involved in the justice system; N=4,420 consumers with substance use disorders referred from drug courts, probation, or child protective services	Texas ATR: recovery support services (individual peer coaching, groups, and marital and family counseling) in combination with substance use treatment[b]	Substance use treatment completion	For consumers in ATR, treatment completion was associated with recovery support services (p<.001) but not social support services (for example, transportation). Consumers in ATR had better outcomes if drug court or probation was involved (p<.001).
Deering et al., 2011 (22)	Used MAP versus did not use MAP; N=242 female street-based sex workers who used drugs	MAP: peer-led mobile outreach drop-in approach; prevention resources; contact point for support, peer interaction, and referral to health, social support, and substance use treatment services[b]	Health and substance use treatment service use, working conditions, violence and safety, sexual and drug-related harms	Over an 18-month period with 479 observations, 42% of surveys across time points reported peer-led MAP use by study participants. When the analysis adjusted for covariates, MAP was positively correlated with inpatient substance use treatment (p<.001).
Pre-post service designs				
Boyd et al., 2005 (25)	N=13 women with substance use disorders and HIV from a rural setting	Peer counseling one-to-one intervention for substance use disorders; emotional and informational support to develop motivation to change substance use and to develop coping strategies for substance use and HIV	Substance use, substance abuse, and consequences; stages of change; loss of control; self-advocacy	When compared with pretreatment measures, the intervention was associated with increased recognition of substance use as a problem (20% to 40% increase), beginning to change substance use (25% to 42%), fewer substance use consequences (varied by subscale), and slightly increased control of substance use (varied by subscale). Significance levels were not reported.
Boisvert et al., 2008 (9)	N=18 people in recovery from addiction in a permanent supported housing program	PSC: focus on occupation via handouts and readings; group interventions focused on leadership, group communication, and group facilitation	Relapse rates, perceived community affiliation, supportive behaviors, self-determination, quality of life	Significant positive pre-post treatment changes were noted for social support (p<.05), and positive but nonsignificant changes were noted for quality of life. Relapse was reduced (24% versus 7%, significance not reported) in the year after PSC, and qualitative findings of support and appreciation of PSC goals were reported.
Andreas et al., 2010 (16)	N=509 people from Los Angeles in recovery from addiction who had been incarcerated and their families and significant others	PROSPER: peer coach, role models, social opportunities, and health and wellness services; "skills to prosper": job search resources, workshops, peer coaching, and leadership opportunities. Individual and group peer activities[b]	Self-efficacy, perceived social support, personal feeling, perceived stress, quality of life	One-year "significant and positive changes" from baseline were reported (no data were shown) for self-efficacy, social support, quality of life, and perceived stress. Peer and staff accessibility were valued. Staff size, hours of operation, and distance from home or work were viewed as negative aspects of the program.

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Table 2

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Study	Design and population	Peer coach intervention	Outcomes measured	Summary of findings
Armitage et al., 2010 (14)	N=152 people in recovery from addiction and their families	RAP: recovery center with drop-in resource center, clean-and-sober social and recreational activities, and self-help meetings; café and job training program for peers; leadership training for civic engagement of people in recovery[b]	Substance use, consumer satisfaction, progress toward RAP's goals	At 6 months, 86% of participants indicated no use of alcohol or drugs in the past 30 days, and another 4% indicated reduced use (pretreatment data were not reported). A total of 95% reported strong willingness to recommend the program to others, 89% found services helpful, and 92% found materials helpful.

[a] Studies are presented in chronological order under type of research design. Abbreviations: ASI, Addiction Severity Index; ATR, Access to Recovery; DRT, dual recovery treatment; FC, Friends Connection; ICM, intensive case management; MAP, Mobile Access Project; MAP-Engage, Mentorship for Addictions Problems to Enhance Engagement to Treatment; PROSPER, Peers Reach Out Supporting Peers to Embrace Recovery; PSC, Peer Support Community; RAP, Recovery Access Project; RCT, randomized controlled trial

[b] Could not disaggregate components of peer recovery support

on the part of peer recovery support providers. A quasi-experimental study of a mobile outreach program for female, drug-using sex workers found significantly higher odds of seeking treatment for substance use disorders among those who received peer recovery support compared with those who did not receive these services, when the analysis controlled for demographic and potential confounding variables (22). However, peer recovery support was provided on a drop-in basis and considered an optional component of the program; therefore, selection bias was likely, and the components of the mobile outreach program could not be disaggregated.

Some projects in SAMHSA's ATR initiative use recovery coaching as part of their recovery support services. However, few evaluations are available, and among those, the effect of coaching is not distinguishable from treatment in general. One exception is the Texas ATR program evaluation, which used a quasi-experimental design and found that individuals who completed the ATR program were more likely to have used recovery coaching (23). However, because only 3% to 5% of participants received recovery coaching, the evidence is very weak.

Pre-post service designs. A pre-post service study for recently incarcerated adults reported improved self-efficacy, social support, quality of life, and perceived stress at 12 months (16). Another study found high satisfaction with the services provided at a peer-based drop-in recovery resource center and very little substance use at six months (14). The study did not disaggregate peer recovery support and did not present baseline levels of use; therefore, the degree of change is unknown. A study of 18 participants in recovery from addiction examined the development of a peer support community as an adjunct to permanent supported housing in the context of an occupational therapy framework (9). Results showed improvements in connections to positive social supports and reduced relapse. Finally, a study of 13 women with HIV, depression, and substance use disorders in a rural environment included peer recovery support services (25). The authors reported improvements in recognition of substance use as a problem, slightly increased control over alcohol and drug use, decreased substance use, and fewer consequences from substance use.

In summary, peer recovery support services have been linked with successful outcomes and other measures in a fairly small and greatly varied body of literature. Three studies, including one RCT, showed improved substance use outcomes related to the peer recovery support intervention (9,14,20). Improvements in other outcomes were also found, including rehospitalization rates (17), drug use severity and medical severity (20), social support (9), self-efficacy (16), and quality of life (16). Several studies, including one RCT, showed increased engagement in or completion of treatment for substance use disorders (21–23). The remaining studies evaluated consumer satisfaction (24), readiness to change and control over substance use (25), and value of the peer recovery support service to the consumer (14). The evidence thus demonstrates some effectiveness for peer recovery support services, although the wide range of service models, populations, and reported outcomes makes it difficult to reach a cross-cutting conclusion about its effectiveness.

Discussion

It is clear that individuals with lived experience of mental or substance use disorders who work as peer recovery support providers have become an increasingly important part of the treatment continuum. Their unique perspective and ability to empathize with participants enhance the treatment experience and support recovery from substance use disorders (2,3,5). However, until we have a better understanding of this service and are able to move beyond idiosyncratic programs, it will be difficult to determine whether to incorporate peer providers on a broad scale and, if they are incorporated, how best to do so.

The literature to date is limited, and concerns about methodological weaknesses temper our ability to draw strong conclusions. Methodological issues include lack of appropriate comparison

Evidence for the effectiveness of peer recovery support for individuals with substance use disorders: moderate

Two randomized controlled trials and one quasi-experimental study were of sufficient quality to rate the level of evidence as moderate. Primary outcomes included:
- Improved relationships with providers and social supports
- Reduced rates of relapse
- Increased satisfaction with the overall treatment experience
- Increased treatment retention

groups, lack of measurable outcomes, small samples, a wide variety of populations studied and intended outcomes, and an inability to disaggregate aspects of the peer recovery support service. Further, the varied populations, needs of the populations, and intended outcomes of the peer recovery support service programs make it very difficult to draw cross-study conclusions. Our review process was intended to capture the most rigorous literature. By excluding program evaluations and qualitative studies, we may have omitted some relevant approaches. Future reviews may want to examine these types of studies.

There are a number of future research needs. To show conclusively the effectiveness of peer recovery support services, the field would benefit from research that includes a greater level of specificity (for example, to distinguish various peer support services from each other), consistency in service definitions and outcome measures, and follow-up of outcomes over longer periods. This need has been echoed by others (3,26,27). For example, White (3) broadly called for "a recovery-focused research agenda capable of illuminating the prevalence, pathways, styles, and stages of long-term individual/family recovery from severe alcohol and other drug use problems," and he offered a variety of specific suggestions for integrating peer recovery support services.

Indeed, a greater emphasis on rigorous methods is essential to evaluate the effectiveness of peer recovery support. Studies of existing programs should employ appropriate comparison groups and ideally use randomization to reduce selection bias. A more consistent set of outcome measures should

be used across studies. Although the process of recovery may vary across individuals, measures frequently used in the broader recovery literature that should be helpful in future peer recovery support research include abstinence or decreased substance use, reduced criminal activity, stable housing, social connectedness, and quality of life.

Future studies must disaggregate peer recovery support services to provide a clear understanding of which elements are being used, to eliminate confounding, and to determine if and how specific elements contribute to successful consumer outcomes. Research should consider how peer recovery support is effective across and within stages of recovery and how it interacts with other services, such as formal treatment and mutual-help groups. In addition, future studies should identify individual differences (among consumers and among peer providers) that may influence the effectiveness of peer engagement. Research is also needed to better understand the effect of providing peer recovery support services on the peer provider. It has long been assumed from mutual-help traditions that the peer provider also benefits from participation in peer recovery support, but this assumption has received little empirical study in the context of substance use disorders. Finally, research should evaluate the roles of the treatment setting, peer provider and consumer skills and training, and treatment context.

Future research to build the evidence base will make policy makers more confident about incorporating peer providers into their approaches for substance use disorders. Peer

recovery support services are outside the traditional provider spectrum; thus it is unclear how they would be financed. Payment design has not been detailed or evaluated for these services, although the results would be valuable. Various payment mechanisms are being implemented, but they have not been institutionalized in the same way as reimbursement for other, more traditional services.

Conclusions

Peer recovery support for individuals with substance use disorders meets the minimum criteria for a moderate level of evidence (see box on this page). Studies demonstrate improved relationships with providers and social supports, increased satisfaction with the treatment experience overall, reduced rates of relapse, and increased retention in treatment. It is clear that peer support services can provide a valuable approach to guiding consumers as they strive to achieve and maintain recovery. Peer providers serve as models for a life in recovery, which in turn may motivate them to sustain their own recovery. Peer providers also fill a gap that frequently exists in formal and informal treatment services throughout the continuum of care, and they provide a wide variety of nontreatment services that seem to be beneficial in the pathway to recovery and a healthy life in the community. The current emphasis on self-direction and practice-based evidence for peer services supports the use of peers in the treatment of substance use disorders in the modern health care system, but additional research is needed to examine more thoroughly the evidence base for this promising practice.

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