

Substance Abuse Intensive Outpatient Programs: Assessing the Evidence

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Objective: Substance abuse intensive outpatient programs (IOPs) are direct services for people with substance use disorders or co-occurring mental and substance use disorders who do not require medical detoxification or 24-hour supervision. IOPs are alternatives to inpatient and residential treatment. They are designed to establish psychosocial supports and facilitate relapse management and coping strategies. This review assessed the evidence base for IOPs. **Methods:** Authors searched major databases: PubMed, PsycINFO, Applied Social Sciences Index and Abstracts, Sociological Abstracts, Social Services Abstracts, Published International Literature on Traumatic Stress, ERIC, and CINAHL. They identified 12 individual studies and one review published between 1995 and 2012. They chose from three levels of research evidence (high, moderate, and low) based on benchmarks for the number of studies and quality of their methodology. They also described evidence of service effectiveness. **Results:** Based on the quality of trials, diversity of settings, and consistency of outcomes, the level of evidence for IOPs was rated high. Multiple randomized trials and naturalistic analyses that compared IOPs with inpatient or residential care found comparable outcomes. All studies reported reductions in alcohol and drug use. However, substantial variability in the operationalization of IOPs and outcome measures was apparent. **Conclusions:** IOPs are an important part of the continuum of care for substance use disorders. They are as effective as inpatient treatment for most individuals. Public and commercial health plans should consider IOP services as a covered health benefit. Standardization of the elements included in IOPs may improve their quality and effectiveness. (*Psychiatric Services* 65:718–726, 2014; doi: 10.1176/appi.ps.201300249)

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Substance abuse intensive outpatient programs (IOPs) are ambulatory services for individuals with substance use disorders who do not meet diagnostic criteria for residential or inpatient substance abuse treatment as well as for individuals who are discharged from 24-hour care in an inpatient treatment facility and continue to need more support than the weekly or biweekly sessions provided in traditional outpatient care (1). IOP services offer a minimum of nine hours of service per week in three, three-hour sessions; however, some programs provide more sessions per week or longer sessions, and many programs become less intensive over time (1,2). Because services are provided in outpatient settings, the duration may be longer than that required for inpatient services. Individuals in IOPs remain in their homes, reduce the use of expensive inpatient care, and learn to recover in their community (1).

Since 2002, the annual census of specialty addiction treatment facilities in the United States has consistently identified IOPs as second in prevalence only to regular outpatient treatment for alcohol and drug use disorders. In 2011, there were 6,089 treatment programs in the United States that reported offering IOP services (44% of 13,720 addiction treatment programs), and IOPs served 141,964 patients—12% of the 1.2 million patients receiving specialty addiction treatment (3).

This article reports the results of a literature review that was undertaken as part of the Assessing the Evidence Base Series (see box on this page). The purpose of this review was to provide policy makers, treatment providers, and consumers with current information on IOPs so that they can make informed decisions when comparing these programs with alternative treatments. Public and commercial health plan administrators may use this information to assess the need to include IOPs as a covered benefit. Our assessment of IOPs defines the programs as a level of care, reviews available research, and evaluates the quality of the evidence, most notably compared with evidence for the effectiveness of inpatient treatment services.

Description of the service

IOPs treat individuals with substance use disorders or co-occurring mental and substance use disorders who do not require medical detoxification or 24-hour supervision. IOPs provide a specified number of hours per week of structured individual, group, or family therapy as well as psychoeducation about mental and substance use disorders.

The American Society of Addiction Medicine (ASAM) defines five levels of care to guide practitioners in selecting the appropriate intensity for treating alcohol and drug use disorders: Level .5 (early intervention services), Level I (outpatient services), Level II (intensive outpatient services), Level III (residential and inpatient services), and Level IV (medically managed intensive inpatient services) (2). Thus IOPs represent a higher level of care than usual outpatient services and a lower level of care than residential and inpatient services. (A separate article in this series addresses residential treatment for individuals with substance use disorders [4].)

The Substance Abuse and Mental Health Services Administration defines a set of core services for inclusion in IOPs, such as a specified number of hours of structured programming per week; individual, group, or family therapy; and psychoeducation about substance use disorders and

About the AEB Series

The Assessing the Evidence Base (AEB) Series presents literature reviews for 13 commonly used, recovery-focused mental health and substance use services. Authors evaluated research articles and reviews specific to each service that were published from 1995 through 2012 or 2013. Each AEB Series article presents ratings of the strength of the evidence for the service, descriptions of service effectiveness, and recommendations for future implementation and research. The target audience includes state mental health and substance use program directors and their senior staff, Medicaid staff, other purchasers of health care services (for example, managed care organizations and commercial insurance), leaders in community health organizations, providers, consumers and family members, and others interested in the empirical evidence base for these services. The research was sponsored by the Substance Abuse and Mental Health Services Administration to help inform decisions about which services should be covered in public and commercially funded plans. Details about the research methodology and bases for the conclusions are included in the introduction to the AEB Series (5).

mental disorders (1). Table 1 provides a description of the service.

IOP goals are to help the individual learn early-stage relapse management and coping strategies, to ensure that the person has psychosocial support, and to address individual symptoms and needs. However, broad variation across programs in terms of service delivery (for example, mechanisms for screening and assessment), treatment planning and provision, crisis management, discharge planning, and the intensity and duration of care limit attempts to assess the quality and

effectiveness of care across IOPs. Moreover, IOP services vary by setting: hospitals, community behavioral health centers, and day treatment programs. The ASAM criteria note that the duration of treatment varies with the severity of the person's illness and his or her response to the treatment intervention. Therefore, progress in a particular level of care, rather than a predetermined length of stay, determines an individual's movement through the treatment continuum.

In the clinical and research literature, IOPs may also include partial

Table 1

Summary of substance abuse intensive outpatient programs

Feature	Description
Service definition	Substance abuse intensive outpatient programs (IOPs) are direct services for people with substance use disorders or co-occurring mental and substance use disorders who do not require medical detoxification or 24-hour supervision. The programs provide treatment for symptoms or disabilities associated with these disorders. Core services generally include a specified number of hours of structured programming per week; individual, group, or family therapy; and psychoeducation about substance use and mental disorders.
Service goals	Learn early-stage relapse management; develop coping strategies; establish or re-establish psychosocial supports; address problems related to social, psychological, and emotional well-being
Populations	Adults with substance use disorders (both alcohol and drug diagnoses)
Settings for service delivery	Hospital-based inpatient and day treatment in community hospitals and Veterans Affairs hospitals; social model residential programs; community-based public and private substance abuse treatment centers

hospitalization and day treatment (ASAM Level II.5), both of which are used to treat people who have serious mental illness or substance use problems. For the purposes of this review, partial hospitalization and day treatment for individuals with substance use are included in the definition of an IOP. Day treatment models operate full-day schedules five to seven days per week and may treat patients with co-occurring serious mental illness.

Methods

Search strategy

We identified and reviewed research from 1995 through 2012. We conducted a survey of 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, Social Services Abstracts, Published International Literature on Traumatic Stress, the Educational Resources Information Center, and the Cumulative Index to Nursing and Allied Health Literature. We also examined bibliographies of major reviews and meta-analyses. We used combinations of the following search terms: intensive outpatient treatment, substance abuse treatment, addiction treatment, drug rehabilitation, and alcohol treatment.

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, naturalistic assessments, and qualitative reviews. Studies were included if they compared levels of care (that is, inpatient or residential treatment versus IOP or day treatment) for adult study participants seeking treatment for alcohol or illicit drug use. The *ASAM Patient Placement Criteria for the Treatment of Substance-Related Disorders* (2) and the Treatment Improvement Protocol on intensive outpatient programs from the Center for Substance Abuse Treatment (1) were also examined. Studies were excluded that examined residential treatment only, ambulatory treatment

only, aftercare only, treatment for mental disorders only, developmental disability programs, hospital-based inpatient treatment programs without comparisons to less intensive services, and treatment services for adolescents.

Strength of the evidence

The methodology used to rate the strength of the evidence is described in detail in the introduction to this series (5). The research designs of the identified studies were examined. Three levels of evidence (high, moderate, and low) were used to indicate the overall research quality of the collection of studies. Ratings were based on predefined benchmarks that considered the number and quality of the studies. If ratings were dissimilar, a consensus opinion was reached.

In general, high ratings indicate confidence in the reported outcomes and are based on 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 reported results. 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 accounted for other design factors that could increase or decrease the evidence rating, such as 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 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 design in our conclusions about the strength of the evidence and the effectiveness of the service.

Results

Level of evidence

The level of evidence for IOPs was rated as high. Multiple RCTs and quasi-experimental studies have been conducted of IOPs that were designed for individuals with substance use disorders. We identified five reports based on four RCTs that compared IOP services or day treatment services with inpatient or residential treatment (6–10) and two studies of inpatient treatment versus IOPs that included participants who had been randomly assigned to a treatment group and those who refused randomization (11,12). Our search also found six naturalistic analyses of patients treated in inpatient and IOP settings (13–18) and one qualitative review of research published after 1995 (19). Table 2 summarizes the studies included in this review.

Most of the RCTs had good internal validity and used the Addiction Severity Index (ASI), a well-validated treatment outcome measure. However, samples were sometimes small to modest, and insufficient statistical power may have contributed to a lack of strong findings. Conversely, the naturalistic studies reported large samples but had more variability in outcome measures. Nonetheless, findings from the RCTs and naturalistic analyses appeared to complement each other.

Patient populations and service settings

In studies of IOP services, alcohol dependence (9,10,15,19) and cocaine dependence (6,16) were the primary

Table 2

Studies of intensive outpatient programs (IOPs) included in the review^a

Study	Design, participants, setting	IOP treatment	Comparison treatment	Primary outcome measures	Summary of findings
RCT Schneider et al., 1996 (6)	Day treatment (N=32) versus inpatient (N=42). Individuals seeking treatment for cocaine dependence from a large health maintenance organization in metropolitan Boston	Day treatment: 2 weeks, Monday through Friday, 5 hours of services per day; weekly aftercare for ≤6 months (47% completed 14 days of IOP services)	Inpatient care: 14 days in a nonhospital facility with 6 hours of services per day; referral to halfway house, aftercare, or a mental health provider (95% completed 14 days of inpatient care)	ASI scores at baseline and telephone interviews at 3 months (completed by 91% and 6 months (completed by 85% after treatment; self-report of abstinence	ASI problem severity declined for both groups at 3 and 6 months and did not differ between groups. At 3 months, inpatients were more likely to report abstinence (63%) than the day treatment group (38%); no significant difference at 6 months (46% versus 35%, respectively).
Guydish et al., 1998 (7) and 1999 (8)	Day treatment (N=114) versus residential treatment (N=147) in a therapeutic community drug treatment program	Day treatment: 8 hours of treatment per day, 7 days per week for 6 to 8 months	Residential therapeutic community with 1-month orientation; 3 to 6 months active treatment; 3 to 6 months reentry	ASI scores at baseline and 6-, 12-, and 18-month follow-ups; treatment retention; days of treatment	ASI problem severity scores declined significantly from baseline; improvements were maintained at 6, 12, and 18 months. Residential patients had more improvement on social and psychiatric problems; remaining outcomes did not differ.
Rychtarik et al., 2000 (9)	Individuals seeking treatment for alcohol dependence randomly assigned to IOP (N=63) versus inpatient and outpatient (N=58) versus outpatient (N=61)	IOP: 5 days per week for 28 days; 3 months of weekly aftercare	Inpatient and outpatient: 28 days plus 8 sessions of outpatient plus weekly aftercare; or outpatient: 8 sessions in 28 days	Percentage of days abstinent	Days abstinent increased from pretreatment for all groups, and groups did not differ at 18-month follow-up: inpatient, 37% to 81%; IOP, 50% to 75%; outpatient, 41% to 76%. Patients with high alcohol involvement had better outcomes when treated in inpatient care.
Weithmann and Hoffmann, 2005 (10)	Day hospital (N=56) versus inpatient (N=54) care in a German psychiatric hospital	Day hospital: same services and staff as inpatient	Inpatient: same services and staff as day hospital	Percentage of days abstinent, assessed quarterly	Days abstinent increased for both groups. There were no differences between levels of care.
RCT included those who refused randomization McKay et al., 1995 (11)	Day hospital versus inpatient care; patients randomly assigned (N=48) and patients who refused randomization and self-selected their level of care (N=96)	Day hospital: 27 hours per week for 4 weeks	Inpatient: 48 hours per week of group and individual counseling plus psychoeducation	ASI scores at baseline and at 3-, 6-, and 9-month follow-ups after treatment	ASI problem severity declined in both groups at all measurement intervals. There were no differences between levels of care. Randomly assigned and self-selected participants had similar outcomes.
Witbrodt et al., 2007 (12)	Day hospital versus residential care; patients randomly assigned (N=293; day hospital=154, residential care=139) and patients who refused randomization and self-selected their level of care (N=403; day hospital=321, residential care=82)	Day hospital	Social model residential care	ASI scores at baseline and at follow-up interviews at 6 and 12 months	ASI problem severity declined in both groups at both measurement intervals. There were no differences between levels of care.

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Table 2*Continued from previous page*

Study	Design, participants, setting	IOP treatment	Comparison treatment	Primary outcome measures	Summary of findings
Natural cohort analysis					
McLellan et al., 1997 (13)	Adults (N=918) from 10 outpatient programs (N=338) and 6 IOPs (N=580)	IOP: ≥ 3 hours per day, ≥ 3 days per week	Outpatient: ≤ 2 hours per session, ≤ 2 days per week	ASI scores at baseline and 7 months after baseline	ASI problem severity declined in both groups. There were no differences between levels of care. IOP patients had more severe problems at admission.
Harrison and Asche, 1999 (14)	Inpatient (N=1,156) versus outpatient programs (including IOPs) (N=3,007)	Outpatient: 145 programs in Minnesota providing intensive levels of care (median of 9 hours of care per week) IOP: 8 weeks of 12-step program plus individual, group, and family therapy	Inpatient: 38 programs in Minnesota (minimum of 30 hours of service per week)	ASI scores at intake and 6 months after intake	ASI problem severity declined in both groups. There were no differences between levels of care. Patients with recent suicidal ideation had better outcomes in inpatient care.
Pettinati et al., 1999 (15)	Alcohol-dependent patients admitted to inpatient (N=93) or outpatient (N=80) care in a psychiatric hospital	IOP: 8 weeks of 12-step program plus individual, group, and family therapy	Inpatient: 4 weeks of 12-step program plus individual, group, and family therapy	SCL-90R scores; number of drinking days; return to significant drinking (days of drinking ≥ 3 drinks) or return to inpatient care	Survival analysis suggested that IOP patients returned to significant drinking more quickly (50% at 2 months) than inpatients (25% at 2 months). Six months after discharge, the percentage of patients with heavy drinking stabilized at about 50% in both groups.
Simpson et al., 1999 (16)	Secondary analysis of data from DATOS assessing cocaine-dependent patients in 3 levels of care: outpatient drug free (including IOP) (N=458), long-term residential (N=542), short-term inpatient (N=605)	Outpatient drug free: 24 programs	Residential: 19 long-term programs; inpatient: 12 short-term programs	Weekly cocaine use 1 year after discharge	Weekly cocaine use declined from 73% before treatment to 23% at follow-up and did not differ across groups. A significant interaction between level of care, problem severity, and retention in care suggested that patients with more severe problems were less likely to report weekly cocaine use after long-term residential care (23%) versus short-term residential care (37%).
McKay et al., 2002 (17)	Patients in Washington state receiving inpatient plus outpatient care (N=167) versus IOP services only (N=96)	IOP: 2 programs	Inpatient: a 28-day inpatient program	ASI scores at baseline and 3 and 9 months after baseline	ASI problem severity declined in both groups at 3 and 9 months. Participants in inpatient plus outpatient programs improved more because their symptoms were more severe at baseline.
Tiet et al., 2007 (18)	Veterans Affairs clients receiving outpatient (N=410) or IOP services (N=601) versus inpatient and residential care (N=1,520)	IOP or outpatient	Inpatient and residential: inpatient (N=224), residential (N=390), and domiciliary (N=906) settings	ASI scores at baseline and 6 months after baseline	ASI problem severity declined in both groups after baseline. There were no differences between levels of care except for the most severe cases.

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Table 2

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Study	Design, participants, setting	IOP treatment	Comparison treatment	Primary outcome measures	Summary of findings
Review of 1995 or earlier studies Finney et al., 1996 (19)	Qualitative review of 14 studies of inpatient versus outpatient programs	Settings where patients do not stay over night	Residential, 24-hour settings	Varied, as reported in the publications	Treatment intensity was related to better outcomes. Inpatient outcomes were superior in 5 studies (2 based on naturalistic cohorts). Day hospital outcomes were superior in 2 studies. There were no differences in 7 randomized studies.

^a Studies are listed in chronological order under type of research design. Abbreviations: ASI, Addiction Severity Index; DATOS, Drug Abuse Treatment Outcome Study; RCT, randomized controlled trial; SCL-90R, Symptom Checklist 90-Revised

diagnoses of participants. Two RCTs (7,20) and four naturalistic analyses (13,14,17,18) included people with alcohol and drug (undefined) diagnoses. There was demographic variation across study populations, including individuals who were uninsured and homeless in inner cities (13,14), employed men and women with commercial health plans (6,12,15), patients in the Veterans Affairs (VA) health system (11,18), and men and women treated in public systems of care (7,11,14,16,17). One study compared a one-year day treatment program with a one-year residential program (7,8). African Americans were the primary racial-ethnic minority group studied, and most study populations had good racial-ethnic mixes. No studies compared the effects of IOPs across racial or ethnic groups.

Service settings for these studies included hospital-based inpatient and day treatment in VA hospitals (11,18) and community hospitals (6,9,10,15), residential programs (7,8,12), community-based public (7,8,11,14,16,17) and private (6,12,14,15) substance use treatment centers, and one drug treatment program based on therapeutic community principles (7,8). The services varied in intensity (that is, hours per week), duration, content of the sessions, and therapeutic approaches. Follow-up periods ranged from three months to 18 months. The dependent variables used to assess patient outcomes also varied, but abstinence (6,9,10) and changes in ASI scores (6,7,11–14,17,18) were most common (Table 2).

Effectiveness of the service

Variation in the operationalization of IOPs across studies and differences in outcome measures slightly tempered our assessment of the equivalent effectiveness of inpatient and IOP services. In most studies, the inpatient and IOP services differed on many dimensions (for example, setting, duration, and intensity), although one investigation used the same staff, facility, and therapeutic process between experimental and control groups and altered only the setting (inpatient versus outpatient) (9). The primary commonality was treatment in an IOP setting versus an overnight stay

in a more controlled residential or inpatient setting (6–18), but variation in the operationalization of IOP services and outcome measures limited direct comparisons.

The RCTs and quasi-experimental studies consistently reported significant reductions in measures of problem severity and increases in days abstinent at follow-up interviews (between three and 18 months after baseline assessment) for study participants receiving IOP services or day treatment services and for individuals in inpatient or residential care (Table 2). One trial with small samples found higher rates of abstinence three months after treatment among individuals who received inpatient care compared with those who received day treatment (63% versus 38%), but this effect was not observed at six months after treatment (6). In addition, all RCTs reported similar reductions in ASI measures when inpatient and IOP settings were compared (7,8,11,12). Finally, the studies that included participants who were randomly assigned to treatment condition and those who self-selected levels of care reported a similar lack of overall differences in study outcomes when levels of care were compared (11,12). Indeed, a study based in the VA reported that two-thirds of the participants refused randomization, but outcomes were similar for study participants whether or not they were randomly assigned (11).

Although analyses of natural cohorts generally assume that patients treated in residential settings have more severe substance use problems than those treated in outpatient treatment settings, differential effectiveness based on problem severity was elusive in the articles we reviewed. Only two of six naturalistic analyses reported main effects for treatment setting. One was an analysis of Washington State treatment programs (17). Results showed that patients treated in an inpatient setting who stepped down to treatment in an IOP improved more than those treated only in IOP settings, because problem severity was greater at baseline among those admitted to inpatient care. Another analysis of a cohort of patients

Evidence for the effectiveness of substance abuse intensive outpatient programs (IOPs): high

Despite some variations in programming and design, substance abuse IOPs compared with control conditions demonstrate consistent evidence for the following outcomes:

- Reduced drug or alcohol use from baseline to follow-up
- Few differences between IOPs and inpatient programs

treated in a psychiatric hospital reported that patients who were alcohol dependent and treated in an IOP returned to “significant” drinking more quickly than those treated in inpatient care (15). The other four analyses did not find main effects for treatment setting (13,14,16,18).

There is some evidence that disorder severity may influence the effectiveness of IOPs compared with inpatient or residential treatment. In Minnesota treatment programs, patients with recent suicidal ideation had better outcomes after residential care than patients who participated in an IOP (14). A secondary analysis of data from clients in treatment for cocaine dependence noted that patients with more severe drug problems were more likely to benefit from long-term residential care than from less intensive levels of care (16). Finally, an analysis of patients in a VA program also suggested that those with more severe alcohol or drug problems had better response when treated in residential settings than in IOPs (18). Although there is still some debate about the equivalence of inpatient treatment and treatment in an IOP for patients with the most severe levels of dependence, there appears to be general consensus that for most patients the levels of care are equivalent.

It is noteworthy that the current assessment of IOP services echoes findings from similar reviews conducted since the 1960s (20–30). Despite changing research methods and study populations, results are consistent—patient outcomes from inpatient, residential, and intensive outpatient services are positive and more similar than different. This consistency over time enhances confidence in the stability of the findings and the value of IOP services.

Discussion

Overall, the current literature suggests that a wide range of service intensities can be effective for individuals with substance use disorders. There is a high level of evidence—with the caveats we have noted—that IOPs are as effective as inpatient and residential treatments when studies compare these approaches directly (see box on this page). IOPs have emerged as a critical facet of 21st century addiction treatment for people who need a more intensive level of service than usual outpatient treatment. IOPs allow participants to avoid or step down successfully from inpatient services. This is an important consideration for policy makers, providers, and individuals engaged in substance abuse treatment services when deciding which level of care is most appropriate for specific clinical situations.

Taken together, RCTs and quasi-experimental studies consistently reported equivalent reductions in measures of problem severity and increases in days abstinent at follow-up for participants who received IOP services or day treatment services compared with those in inpatient or residential care. We found no studies comparing IOP participants with wait-list or no-treatment control groups. Reviews of the literature point out many design and treatment differences that may affect conclusions about the effectiveness of inpatient versus outpatient services. A chapter in an ASAM-sponsored text (31) reiterated the debate on inpatient versus outpatient settings and concluded that engagement in longer, less-intensive services may have greater benefit than brief, intensive interventions without ongoing support, especially among individuals with a more severe history of addiction. The important feature

appears to be continuity of care over a long duration, and this perspective is consistent with emerging models of recovery-oriented systems of care. However, the interaction between severity of alcohol and drug problems and setting of care has been elusive, and the effect (when present) appears to be small. Overall, studies have found that 50%–70% of participants reported abstinence at follow-up, and most studies found that this outcome did not differ for inpatient versus outpatient settings of care. This makes cost, treatment duration, and living in the community the major points of comparison between inpatient and IOP services for individuals with substance use disorders.

It is difficult to say which aspects of IOPs are most likely to be effective with specific populations. Naturalistic studies using large samples found subtle improvements among people with the most serious substance use problems, suggesting that this level of inpatient or residential care may be helpful or necessary for a subset of people. However, a primary ongoing research need is to identify individuals with severe alcohol and drug use for whom inpatient or residential care is of greatest value. One complication is the variation in how residential care and IOP services are defined. This is an important distinction that needs clarification as provider systems move into an increasingly risk-based financing environment. Payers and providers should collaborate to define IOP services more consistently, so that effects are replicable across settings and patient populations. Likewise, there is a need for more research on the most effective length of IOP treatment. IOP models should clearly identify the type, duration, and intensity of IOP services. Researchers also need to determine the optimal type and level of stabilization services following discharge from an IOP that will sustain the gains made during the IOP treatment episode.

Although African Americans were the dominant racial-ethnic minority group in many of the investigations comparing residential and inpatient services with intensive outpatient

services, race-ethnicity varied substantially across the studies. The finding that IOP services and residential or inpatient care lead to equivalent outcomes appears to generalize across racial and ethnic groups; however, we cannot make specific recommendations for IOP services related to race-ethnicity on the basis of the current literature. Future studies may systematically vary components of IOPs to determine the more critical features for efficient and effective care.

Surprisingly, none of the studies examined in this review included the use of pharmacotherapy, which improves treatment outcomes when used in conjunction with therapeutic interventions. We believe that 21st century systems of addiction treatment should provide ongoing pharmacological and behavioral therapies within a continuing care model that increasingly relies on IOP settings rather than on residential and inpatient care. Recent RCTs also document the value of enhancing IOP services with contingency management during treatment in an IOP (32) and during aftercare (33).

Without increased standardization, patients, payers, and policy makers will continue to have difficulty comparing IOP services with other levels of substance abuse treatment services. Requirements to adhere to the National Quality Forum consensus standards, for example, could help ensure that IOPs provide consistent and effective pharmacological and behavioral addiction treatments (34). Accordingly, this calls for improved assessment of the specific needs of each person requiring intensive services in order to determine the appropriate level of care. Policy makers, payers, and consumers should consider demanding these assessments, and providers across all levels of care should receive the necessary training to complete them properly.

Conclusions

This review found that studies of inpatient treatment and IOP services have yielded results that are consistent and similar: outcome measures of alcohol and drug use at follow-up show reductions in substance use and increases in abstinence, and outcomes

do not differ significantly between inpatient and IOP settings. Although a few studies suggest that patients with greater impairment may have better outcomes if treated in inpatient settings than in IOPs, such differential effectiveness appears elusive and may apply only to the most severely impaired individuals. Compared with inpatient care, IOP services have at least two advantages: increased duration of treatment, which varies with the severity of the patient's illness and his or her response, and the opportunity to engage and treat consumers while they remain in their home environments, which affords consumers the opportunity to practice newly learned behaviors. IOPs are an important service for inclusion as a covered benefit for people with substance use disorders. The diversity of settings and range of outcomes assessed, combined with the consistency of improvement over time, suggest that the effectiveness reflects the intensity and duration of treatment rather than a specific setting or patient population.

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