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INVITED REVIEW

Individual placement and support: History, current status, and future directions

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Abstract

Over the past three decades, Individual Placement and Support (IPS) has emerged as a robust evidence-based approach to helping people with severe mental illnesses, such as schizophrenia, bipolar disorder, and major depression, to obtain and succeed in competitive employment. This review addresses the history, principles, research, and future directions of IPS. It covers current evidence on employment outcomes, cost-effectiveness, and nonvocational outcomes. It also describes current attempts to extend IPS to new populations. The authors provide an overview of numerous systematic reviews and meta-analyses of randomized controlled trials involving people with serious mental illness. For studies addressing nonvocational outcomes and new populations, the review uses best available evidence. Published reviews agree that IPS enables patients with serious mental illness in high-income countries to succeed in competitive employment at a higher rate than patients who receive other vocational interventions. Within IPS programs, quality of implementation, measured by standardized fidelity scales, correlates with better outcomes. Employment itself leads to enhanced income, psychosocial outcomes, clinical improvements, and decreased mental health service use. As IPS steadily spreads to new populations and new settings, research is active across high-income countries and spreading slowly to middle-income countries. IPS is an evidence-based practice for people with serious mental illness in high-income countries. It shows promise to help other disability groups also, and emerging research aims to clarify adaptations and outcomes.

KEYWORDS
cost-effectiveness analysis, employment, meta-analysis, supported employment, systematic reviews

INTRODUCTION

Employment is a key social determinant of health and well-being for working-age adults, including people with serious mental illnesses, such as schizophrenia, bipolar disorder, and major depression.[1,2] However, even though most people with serious mental illness want to work,[3] less than 20% are employed at any given time,[4–6] and many are unemployed for most of their lives.[7]

This paper reviews the research on an employment model called Individual Placement and Support (IPS), which is widely regarded as the most effective employment intervention for patients with serious mental illness. Our review addresses the intervention's history,

principles, effectiveness, cost-effectiveness, implementation and fidelity, extensions to new populations, and modifications. To the extent possible, the review relies on existing systematic reviews and meta-analyses. In areas without such analyses, we rely on the best available data.

IPS HISTORY

In the 1990s, IPS began in a community mental health center in the northeastern region of the United States to help people with serious mental illness achieve their commonly identified goal of employment.[8] (Three criteria define the subgroup of people with serious mental illness: a psychiatric diagnosis of major mental illness, such as schizophrenia, bipolar disorder, or major depression; significant role impairment, in areas such as independent living, relationships, and employment; and extended involvement with mental health services, such as psychiatric hospitals, group homes, and mental health case management.[9]) Prior to IPS, common approaches to employment included counseling, skills training, sheltered work, transitional employment, work enclaves, and agency-run businesses.[10,11] These approaches, which had little or no rigorous empirical support,[12] shared the assumption that patients with serious mental illness were not ready for employment and needed training and other prevocational experiences before entering competitive jobs. As a contrast, IPS adopted a place-and-then-support approach, consistent with supported employment from the developmental disabilities field.[13] In other words, IPS used a rapid job search and followed employment with training and support as needed. As a further departure from reliance on expert opinion, researchers developed, refined, and implemented IPS with rigorous research from the beginning. Initial pilot studies[14–16] led to a randomized controlled trial (RCT) in rural New Hampshire,[17] followed by a second RCT in inner-city Washington, DC.[18] The first trial included rural, White participants in a relatively affluent, demographically homogeneous area. The second took place in a poor urban area and included predominantly African American homeless participants who experienced mental illness and co-occurring substance use disorders. Both studies compared IPS with the leading employment models of the era and found markedly superior employment outcomes for IPS participants.

Following these initial studies, IPS clinicians and researchers in the United States have developed and refined manuals, fidelity measures, implementation procedures, and training programs. The initial IPS manual[8] has evolved, adding greater specificity, including a separate manual for transition-age youth that emphasizes supported education,[19] and recently enhancing details of job development and services for special populations, such as patients with mental illness and co-occurring substance use disorders.[20] The basic principles of IPS (described below) have been constant, augmented by the addition of benefits counseling to help clients understand how specific amounts of work and wages may affect their entitlements related to disability and poverty. Researchers incorporated the principles of IPS into an initial fidelity measure,[21] updated to assess practical details of implementation,[22] and have demonstrated that fidelity consistently correlates with employment outcomes.[23–26] In the early 2000s, IPS began to spread to other high-income countries. After translation into several languages, the IPS manuals and fidelity scales have guided and assessed implementation quality and technical assistance in hundreds of programs worldwide. Over time, IPS staff have standardized the process of conducting fidelity assessments and providing technical assistance.[20] The current best evidence, coming from the United States,[27] Japan,[28] and the Netherlands,[24] indicates that agencies and jurisdictions that follow standard implementation procedures, compared with those that do not, have better maintenance and expansion of IPS programs; randomized trials are needed.

The IPS Employment Center, now located at the Research Foundation for Mental Hygiene and Columbia University in New York City, provides research information, online and in-person training, fidelity reviews, technical assistance, data-sharing, and dissemination information. Over 80% of US states, numerous Veterans Health Administration hospitals and clinics in the United States, and approximately 20 countries use these services regularly. In addition, an International IPS Learning Community has grown steadily over the past two decades.[27,29–31] As of 2023, 26 US states and seven countries have joined the Learning Community (https://ipsworks.org). These states and countries participate in regular discussions, data-sharing, research projects, and an annual meeting.

IPS is currently available in at least 20 countries in North American, Europe, Asia, and Oceania (Australia and New Zealand).[32] Nearly all of the expansion has been in high-income countries, though several Eastern European countries are in the preliminary stages of implementing IPS,[33] and recent studies of IPS have been launched in Mexico[34] and India.[35]

IPS PRINCIPLES

IPS incorporates eight core principles:

- *Focus on the goal of competitive employment*: Agencies providing IPS are committed to regular jobs in the community as an attainable goal for clients seeking employment.
- *Zero exclusion/eligibility follows client choice*: Every client who wants to work is eligible for services without assessments of readiness or requirements regarding work experience, symptoms, or any other issue.
- *Attention to client preferences*: Services align with clients' preferences and choices, rather than practitioners' expertise or judgments. IPS specialists help clients find jobs that fit their preferences and skills.
- *Rapid job search*: IPS programs help clients look for jobs soon after they express interest in working, and eschew lengthy pre-employment assessment, training, and counseling.
- *Targeted job development*: Based on clients' interests, IPS specialists build relationships with employers through repeated contact,

learning about the business needs of employers and introducing employers to qualified job seekers.
- *Integration of employment services with mental health treatment*: IPS programs integrate mental health and vocational services to ensure that clients receive consistent messages and care from a multidisciplinary team of providers.
- *Personalized benefits counseling*: IPS specialists help clients obtain personalized, understandable, and accurate information about how working may impact their disability payments, health insurance, and other government entitlements.
- *Individualized long-term support*: Follow-along supports, tailored for the individual, continue for as long as the client wants and needs the support to keep a job or advance career opportunities.

One hallmark of IPS is that researchers have continuously evaluated its effectiveness since it was developed.[36] Researchers also have reviewed the evidence for the effectiveness for each principle periodically since 1998.[37–39] Research shows that cultural adaptations of IPS, though common and necessary, should not violate the core principles.[40]

EFFECTIVENESS OF IPS

The IPS literature has expanded geographically and in relation to target populations over the past 30 years. In this section, we summarize the current research on the effectiveness of IPS. Because many research groups have reviewed the IPS literature, another primary review would be duplicative. We therefore provide a narrative review of the recent systematic reviews of IPS, noting similarities and differences, and summarizing the consensus conclusions about the effectiveness of IPS. These recent reviews present new data that have not been previously available. We have added these new findings.

Most early reviews were narrative and covered the limited number of published studies.[38,41,42] The two earliest meta-analyses were Cochrane reviews examining a small number of RCTs of supported employment for people with serious mental illness.[43,44] More recent reviews have superseded earlier ones based on an increasing number of studies, especially international studies throughout Europe, Canada, Australia, Hong Kong, and Japan. Between 1996 and 2013, nine (60%) of 15 IPS RCTs were published in the United States; since 2013, 10 (77%) of 13 IPS RCTs have been published outside the United States.[45]

The number of systematic reviews and meta-analyses that have examined a broad range of employment interventions and/or populations (not limited to participants with serious mental illness) has also grown steadily. One systematic compilation of 26 empirical reviews of employment interventions for people with a wide range of disabilities concluded that IPS studies comprised most of the available evidence and that, aside from employment programs for people with severe mental health conditions, "we found only very low-quality to low-quality evidence on vocational intervention for people with any other health condition."[46]

Inclusion and exclusion criteria

We included reviews that met the following criteria: published after 2015; included studies of IPS; evaluated RCTs comparing IPS to a non-IPS control group (we excluded reviews of studies comparing standard IPS to IPS plus an augmentation of IPS.); and examined employment outcomes.

Search procedures

We used four methods to identify relevant literature reviews. First, we began with four systematic reviews that we co-authored.[47–50] Second, we received notifications from various listservs on newly published articles on IPS (Google Scholar Alert; CSDP Disability Research Consortium). Third, we relied on a network of IPS researchers who informed us of recent research. Fourth, we examined the reviews identified by Levack and Fadyl.[46]

Results

In Table 1, we list nine IPS meta-analyses published between 2016 and 2023.[47–55] These meta-analyses have commonalities as well as important differences. In terms of commonalities, all limit their reviews to RCTs and examine differences between competitive employment rates for IPS and control groups. These reviews have examined IPS studies that included different types of control groups, including no vocational services, vocational services as usual, and active vocational interventions considered best practices at the time. With two exceptions,[47,54] all limited studies to people with mental health conditions (i.e., any psychiatric disorder, including both severe mental illnesses, such as schizophrenia and bipolar disorder, and common mental disorders, such as anxiety disorders). Three meta-analyses included RCTs of IPS for any mental health condition,[48,49,55] while four included only people with serious mental illness or schizophrenia-spectrum disorders.[50–53] One review[53] conducted a network analysis examining both direct and indirect comparisons, and we used the direct comparisons only.

All meta-analyses examined competitive employment rate (sometimes referred to as job acquisition), which is easy to assess, universally measured, and correlates with other employment indices, such as hours of work and wages. One meta-analysis provided details on a range of employment outcomes (time to first job, job tenure, job length, and income) and nonvocational outcomes (e.g., quality of life and mental health symptoms) in a group of RCTs, not only for people with mental illness but also other conditions.[54]

We excluded four systematic reviews published since 2016 for various reasons. One examined study quality and summarized

TABLE 1 Characteristics of IPS meta-analyses (2016–2023).

First author (Reference #)	Year	Intervention	Target population	# of RCTs	Sample size	Publication years for included studies	Review appraisal of quality of RCTs
Modini[51]	2016	IPS with adequate IPS fidelity	SMI; excluded PTSD and early psychosis	17	4367	1996–2015	Downs & Black: 15 good; 2 fair
Carmona[52]	2017	Broadly defined supported employment	Schizophrenia spectrum disorders	13	2088	1986–2015	Methodological quality scale adapted from Miller
Suijkerbuijk[53]	2017	SE, enhanced SE, prevocational, TE, and psychiatric care only	SMI	22 (follow-up > 1 year; direct comparisons)	5233	1996–2016	GRADE (Quality of evidence) SUCRA (for network analysis)
Metcalfe[50]	2018	IPS with adequate IPS fidelity	SMI; excluded MHTS	21 (30 sites)	3000	1996–2017	None
Frederick[54]	2019	IPS with adequate IPS fidelity	SMI and other disabilities	25	5445	1996–2017	None reported
Brinchmann[55]	2020	Adequate IPS fidelity; modified IPS or no fidelity excluded	SMI or moderate mental illness	27	6651	1996–2019	Downs & Black; Removed on poor quality study (not identified)
de Winter[49]	2022	IPS with adequate IPS fidelity	Any mental disorder	32	7665	1996–2019	Cochrane Risk of Bias: Overall, "low levels of selection and attrition bias"
Special populations							
Bond[47]	2019	IPS with adequate IPS fidelity	Other conditions not SMI	9	2902	1996–2018	Examined degree of IPS fidelity
Bond[48]	2023	IPS with adequate IPS fidelity	Young adults with mental health conditions	7	697	1996–2022	Qualitative assessment of individual studies

Abbreviations: IPS, Individual Placement and Support; MHTS, Mental HealthTreatment Study; PTSD, posttraumatic stress disorder; RCT, randomized controlled trial; SE, supported employment; SMD, standard mean difference; SMI, serious mental illness; TE, transitional employment.

findings from 23 studies without employing meta-analysis[56]; a second restricted its search to European studies, identifying a limited number of IPS RCTs[57]; a third identified 88 studies, but did not screen for duplications (multiple papers reporting findings from the same study)[58]; and a fourth examined 28 studies assessing non-RCTs of supported employment for people with mental illness in routine practice.[59] These reviews included low-quality studies, some of which did not examine IPS.

Competitive employment outcomes

In Table 1, the first seven meta-analyses examined between 13 and 48 RCTs (or sites, in the case of multisite trials), with the total sample size ranging from 2088 to 8743. The RCTs of IPS included in these meta-analyses have generally examined outcomes over a period of 6 months to 2 years. One summary of 28 RCTs of IPS found the follow-up period to be a median duration of 18 months (mean = 18.6 months).[45] The mean sample sizes in these 28 studies were 114 for IPS and 117 for the control group. Most RCTs of IPS have monitored fidelity using a standardized IPS fidelity scale. Five of the seven meta-analyses limited the studies reviewed to studies of IPS using a standardized IPS fidelity scale and achieving at least good fidelity.

The meta-analyses differ in the number of included studies (based on the recency of the review), the populations included, the outcome measures examined, the search for moderator variables among external factors, and the assessment of methodological quality. As shown in Table 2, the relative risk ratio assessing the advantage of the competitive employment rate for IPS compared to controls was significant in all seven meta-analyses, with a median risk ratio of 2.16 (range: 1.63–2.49). We used what we judged to be the most representative risk ratio from one study that reported multiple comparisons.[53]

Another meta-analysis[54] provided effect sizes for multiple employment outcome measures (time to first job, job tenure, job length, income, and employment rate at the end of the trial). The analyses, which included people with a range of disabilities, found moderate *d* effect sizes ranging from 0.31 to 0.58, as shown in Table 2. An earlier review, limited to people with serious mental illness, found stronger effects for time to first job and job tenure favoring IPS.[60]

Although not comprehensive meta-analyses, two other studies aggregated data from multiple RCTs to increase statistical power. One study, aggregating data from four RCTs in the United States (*N* = 681),[61] found that IPS participants gained employment faster, maintained employment four times longer during follow-up, earned three times the amount from employment, and were three times as likely to work 20 h or more per week, compared with control participants. The second study examined the effectiveness of IPS by combining individual data from six IPS RCTs (*N* = 1594) (five

TABLE 2 Findings for nine IPS meta-analyses.

First author (Reference #)	Relative risk ratio for competitive employment rate	Moderators and other outcome measures
Modini[51]	2.40	ns: unemployment; geographic region; IPS more effective with higher GDP growth
Carmona[52]	2.49	Hours worked: SMD = 1.33, *p* = 0.06
Suijkerbuijk[53]	2.16 9 RCTs of SE versus prevoc; >1 year follow-up; *N* = 1569	Network analysis to compare between different vocational models
Metcalfe[50]	2.31	IPS impact increased with labor laws favoring employers and less generous disability benefits
Frederick[54]	1.63	Time to first job: *d* = -0.31; job tenure: *d* = 0.55; job length: *d* = 0.46; income: *d* = 0.48; employment rate at end of trial: *d* = 0.58. Nonvocational outcomes were ns (quality of life: *d* = 0.30; global functioning: *d* = 0.09; mental health: *d* = 0.03)
Brinchmann[55]	2.07	IPS efficacy reduced by strong legal protection against dismissals. ns: temporary employment laws, generosity of disability benefits, integration policies, GDP, unemployment.
de Winter[49]	1.80	Job duration: *d* = 0.41; wages: *d* = 0.31; Moderators: Most measures were ns, but IPS more effective for people with SMI, schizophrenia spectrum disorders, and less severe symptoms; IPS less effective in Europe.
Special populations		
Bond[47]	1.54	Examined other employment outcomes for individual studies but did not synthesize. Most significantly favored IPS. Nonvocational outcomes using different measures had inconsistent results.
Bond[48]	1.69	Job duration: *g* = .34; education: RR = 1.33

Abbreviations: IPS, Individual Placement and Support; ns, not significant; RR, relative risk; SE, supported employment; SMD, standard mean difference; SMI, serious mental illness.

European studies and one US study).[62] Competitive employment during follow-up was significantly higher for IPS than controls (odds ratio = 1.92), with a similar significant advantage in time to first job (odds ratio = 1.90); moreover, during follow-up, IPS participants averaged 1.90 more hours worked (221.5 vs. 116.8) and 1.66 more weeks worked (14.6 vs. 8.8) than controls.

Nonvocational outcomes

Controlled studies, in general, have not shown that IPS has a direct effect on psychosocial outcomes, such as mental health, quality of life, interpersonal functioning, global functioning, or self-esteem.[54,63] Exceptions include one large study that found that IPS had a small but significant effect on mental health symptoms ($d = 0.23$) and quality of life ($d = 0.18$)[64] and another that found IPS had a significant impact on a measure of PTSD-related functioning in interpersonal and lifestyle domains.[65] One other nonvocational area that has been an exception in several studies concerns mental health treatment services, as discussed in the section on cost-effectiveness.

By contrast, a strong and robust literature shows that employment—specifically, competitive employment, and especially a sustained period of employment—improves mental health outcomes for people with mental health conditions.[1,66–68] Many secondary analyses of RCTs of IPS have shown that employment mediates the salutary effects of IPS on the nonvocational outcomes. The findings regarding positive effects of competitive employment align with studies in the general population.[2,69–72]

FACTORS MODERATING THE EFFECTS OF IPS

In this section, we review findings from analyses examining participant-level data and from meta-regressions that analyze study-level data. Analysis of study-level measures is less precise than individual-level measures and should be interpreted cautiously. We distinguish between different types of analyses below.

Client factors

Many studies have examined client factors (including diagnostic, clinical, and demographic characteristics) as moderators of employment outcomes in IPS. One meta-analysis found that IPS was relatively more effective in subgroups of people with serious mental illness or schizophrenia spectrum disorder and less effective in those with common mental disorders or major depressive disorder.[49] Similarly, a secondary analysis of a combined dataset from six RCTs ($N = 1594$) found that IPS had significantly better competitive employment outcomes than services as usual for clients with schizophrenia, bipolar disorder, and drug use disorders, but not for clients with depressive disorders.[62] Another secondary analysis using a combined dataset from four IPS RCTs ($N = 671$) examined seven sociodemographic, eight clinical, and two work history variables, and concluded that clients benefited more from IPS than alternative employment services regardless of their background characteristics.[73] Another set of analyses found that work history was the only significant predictor for job acquisition among IPS clients, while receipt of disability benefits was associated with fewer total weeks worked.[74] One IPS RCT of 2055 disability beneficiaries found few predictors of employment outcome among 20 background characteristics.[75] Positive work history was a strong predictor of job acquisition within both the IPS and control groups; moreover, patients with a poor work history benefitted from IPS even more than those with recent work experience. A narrative review of six IPS RCTs examining racial and ethnic differences concluded that Black and Hispanic clients have comparable employment outcomes in IPS as non-Hispanic White clients.[76]

Two meta-analyses examined specific populations: people with health conditions other than serious mental illness[47] and young adults with mental health disorders.[48] The relative risk ratios for the competitive employment rate for these two meta-analyses were 1.54 and 1.69, respectively, somewhat lower than the risk ratios for the larger meta-analyses but statistically significant in both studies.

Overall, the impact of client factors across studies has been modest compared with the impact of IPS, which has been shown to benefit a wide range of clients with mental health conditions. One exception may be work history, which has a consistent, substantial impact on employment outcome.

External factors

Four meta-analyses examined the impact of external factors, such as geographic region, unemployment rate, economic growth, disability policy, and labor laws.[49–51,55] The findings differed somewhat, but one consistent finding has been lower competitive employment rates overall in European studies.[77] A multisite study of IPS in six European nations found that study sites in northern countries were more affected than southern countries by disability systems that incentivize people to avoid work.[78]

The barriers to implementing evidence-based practices in rural communities might imply that rural IPS programs are more difficult to implement to high fidelity and have poorer outcomes than programs located in more populated areas.[79,80] However, several studies have found no differences between rural and urban IPS programs in fidelity[81] or employment rates.[82]

Methodological factors

Reviewers have also examined methodological factors, such as IPS fidelity,[49] length of follow-up,[49,54,55] and year of publication.[55]

Logically, the choice of control group should affect the findings of an RCT. If the control group has a positive impact on outcome,

then the effect size for IPS-control differences should be attenuated. To date, however, researchers have not found any alternative employment model that shows this effect. Two systematic reviews assessed the impact of type of control group on the strength of the experimental findings. One meta-analysis found that RCTs using active placebo comparison groups (i.e., control groups providing employment services following a recognized vocational model) paradoxically had larger effects favoring IPS than those with passive control groups (e.g., no-treatment control groups).[49] The mean employment rate at follow-up was lower for participants in active placebo control groups than passive control groups (26.7% vs. 29.4%, respectively) compared with corresponding IPS groups (50.1% vs. 48.3%). Using network analysis, another review examined direct and indirect comparisons between supported employment and several other employment interventions (prevocational training, transitional employment, and psychiatric care only).[53] Their analyses were compromised by including studies with small samples, serious methodological limitations, and supported employment services that were not based on IPS.

Because of limitations in both the measurement and precision of reporting of IPS fidelity scores, meta-analyses have not examined direct correlations for the relationship between fidelity and employment outcome. However, differences across studies in fidelity may be a confounding factor in some subgroup analyses. For example, one meta-analysis reported that 89% of the RCTs of IPS for serious mental illness had good or excellent IPS fidelity compared with only 50% of RCTs of IPS for common mental disorders.[49] Two multisite studies with standardized procedures for measuring fidelity did find small correlations between IPS fidelity and employment outcomes.[78,83]

Year of publication has also shown a modest effect suggesting decreasing effect sizes over time, with smaller effect sizes for more recent studies, though this finding may be confounded by recent European studies, which have smaller effect sizes than US studies, most of which were conducted earlier. IPS fidelity may have been less robust as well in some recent studies.[55] One meta-analysis found publication bias such that smaller studies had larger effect sizes (a fairly common meta-analytic finding).[55] Another meta-analysis did not find publication bias.[49] One meta-analysis reported that length of follow-up was negatively correlated with effect size,[55] but another did not show this.[54]

Long-term outcomes

Most RCTs of IPS have limited their assessment to the period during and shortly after participants have received IPS services, usually 2 years or less. A handful of studies have examined longer-term outcomes of 5 years or more. An aggregation of three long-term studies[45] found that 49% of 120 clients enrolled in IPS became steady workers (defined as working in at least 6 months of each year of follow-up), maintaining competitive employment for 10 years or longer.[84–86] By comparison, only 11% of 54 control clients maintained steady employment for 5 years in one study.[85] A follow-up study of a large, multisite trial of IPS for disability beneficiaries with serious mental illness found that significantly higher earnings for IPS clients compared to controls persisted over a 5-year period after the end of the 2-year follow-up.[87] Moreover, the IPS participants increased their annual employment earnings by 40% over the 5-year follow-up period, whereas control participants changed little.

COST-EFFECTIVENESS

Direct IPS costs

The direct costs of IPS services refer to costs associated with services provided by the IPS team, including staffing and supervision. Economists typically treat vocational services as a separate cost center and do not include mental health treatment, case management, housing, or other nonvocational services provided to IPS clients. Personnel costs comprise a large percentage of IPS costs, although a complete accounting of costs includes overhead (office space, transportation, computers, etc.). Six US studies[88–93] have reported annual per-client costs of IPS services in the public mental health system. After converting to 2022 dollars using a federal consumer price index calculator,[94] the annual per-client costs range from $4000 to $7500. Averaging across these studies, the mean cost of serving one client for 12 months is approximately $6000 in 2022 US dollars.

The length of clients' enrollment in IPS varies widely. The time to first job averages 4–5 months for IPS clients who successfully find a job and start employment,[60] after which IPS services taper off sharply over the next several months.[95] On a typical IPS caseload with most clients gaining employment but others terminating before reaching that goal, IPS clients average 6–8 months receiving IPS services before termination.[92] Assuming that clients receive IPS services on average for 8 months, the mean per-client cost of IPS is estimated to be $4000 in 2022 US dollars.

In addition to length of services, other factors influence IPS costs, including caseload size and staff salaries. Labor costs reflect geographic differences in cost of living and wages. Thus, the $4000 per-client cost estimate is an average, and the actual cost of a specific IPS program depends on many factors.[92,93] Two European pilot studies suggested that the per-client costs might be systematically reduced without reducing effectiveness by introducing time limits on duration of enrollment in IPS[96] or amount of IPS specialist time allocated to helping individual clients find employment.[97] Long-term research could clarify this issue.

Is IPS an expensive intervention? Studies have found annual mean per-client service costs for IPS to be less than those for rehabilitative day treatment,[98] similar to costs for stepwise approaches providing prevocational preparation prior to competitive employment placement,[89,90] and twice as expensive as one using a transitional work program.[91] Of the alternative vocational

interventions examined in IPS RCTs, none, including expensive alternatives, have yielded better outcomes than IPS.

Other costs affected by IPS services

Several economic analyses of IPS have examined mental health treatment costs or, less often, health care costs in general. Depending on the study purposes, total costs could include a wide range of costs of interest to specific stakeholder groups. For example, IPS has been hypothesized to reduce applications for and receipt of Social Security disability benefits (especially among young adults). Although minimal research has examined this question,[99] enrolling in IPS does not appear to increase the rate of termination or suspension of Social Security disability benefits among beneficiaries.[64] IPS has also been hypothesized to reduce criminal justice involvement, but the few IPS studies that have examined this question have found little supporting evidence. For example, a small RCT of IPS for people with justice involvement ($N = 85$) found no differences in rates of arrest or incarceration between IPS and a comparison group during a 1-year follow-up period.[100] On the other hand, a much larger program evaluation using administrative data for 7284 mental health clients (including those without justice involvement) found a small but significant reduction in arrest rates between 1 year prior to IPS enrollment and 1 year after enrollment for IPS clients compared with matched controls.[101]

IPS cost-effectiveness analyses

A recent systematic review examined the cost-effectiveness of IPS in seven RCTs.[102] We updated this review with four additional studies (and excluded one report because it was the earlier of two reports based on the same study).[103]

Of the 10 studies shown in Table 3, nine were RCTs assessing the costs and benefits of IPS,[85,89,90,104–109] and one was a pre–post design in which IPS services replaced a day treatment program.[98] Four were conducted in the United States and six outside the United States. Seven studies conducted a cost-effectiveness analysis,[90,104–109] three studies conducted a cost–benefit analysis,[85,98] and one study reported the findings in terms of cost offset.[98] Methodological features of these studies varied. Sample sizes ranged from 100 to 720, follow-up periods ranged from 12 to 60 months, and IPS fidelity scores were rated as good in six studies, fair to good in three studies, and poor in one study. Measurement of effectiveness also varied, although all studies used some measure of employment outcome. The choice of specific employment outcome measures was relatively unimportant for determining direction of effectiveness, because most employment outcomes in these studies significantly favored IPS, regardless of specific measure used as the criterion in the cost-effectiveness (or related) analysis.

The total costs for the IPS condition were less than those for the control condition in six studies, equal in two studies, and greater in two studies. Every study showed better employment outcomes for IPS than controls. The 10 economic analyses were mostly short-term studies; eight had follow-up periods of 12–18 months in duration. Long-term studies of IPS suggest that its benefits persist and in some cases increase over time.[87] Therefore, the long-term benefits from IPS may exceed those found in the published studies.

IPS cost savings: Areas of greatest impact

Historically, day treatment continues to be a core component in many mental health systems throughout the world. For example, in Japan, service agencies provide group services that include work skills training, cognitive rehabilitation, illness management, and recreation and physical activities.[110] A series of studies conducted in the 1990s examined the effectiveness of closing day treatment programs and replacing them with IPS. The studies showed that this organizational change was feasible and led to significant improvement in employment outcomes.[38] One study systematically examining costs to the participating mental health center found that terminating a day treatment program and replacing it with IPS resulted in a 29 percent reduction in overall costs.[98]

Several RCTs have found that IPS significantly decreased inpatient treatment costs,[85,107–109,111] as did one study examining outcomes before and after implementing IPS.[16] IPS studies have not shown reductions in outpatient treatment costs, at least in the short term. However, observational studies suggest that unemployed clients who gain employment and continue to work over time show reduced mental health treatment costs over the long term.[66,112]

IPS IMPLEMENTATION AND FIDELITY

The IPS Employment Center has accrued extensive experience while helping to implement hundreds of IPS programs. Although specific strategies have not been confirmed by RCTs, US states that follow these strategies maintain and expand high-fidelity programs at a much higher rate than those that do not follow such procedures.[27] In general, new IPS programs require several months or 1 year of intensive training and supervision to achieve high-fidelity implementation. Standard implementation procedures include hiring IPS specialists and an IPS supervisor, followed by a kickoff meeting to build consensus among stakeholders. Shortly after the kickoff, an IPS trainer visits the IPS team several times to provide training (e.g., on client engagement, job development, job supports, integrated services, helping individuals who have co-occurring disorders, and supported education). The trainer also attends mental health treatment team meetings, models engaging mental health practitioners in conversations about employment, and attends IPS vocational unit meetings on a regular basis to emphasize applying IPS principles. Trainers strive to be at the agency at least twice a month for the first 6 months to attend meetings, accompany IPS specialists to meet with employers, and join with IPS specialists to help individual job seekers

TABLE 3 Economic analyses of IPS.

Primary author (Year) # Reference	Design	Location	Clients served	*N*	Months of follow-up	IPS fidelity	Analytic approach	Total costs	Findings
Clark (1998)[98]	Day treatment conversion	US (New Hampshire)	SMI	184	12	Good	Cost offset	IPS < day treatment	After shifting to IPS, employment rates increased from 33% to 56% at Site 1 and from 9% to 45% at Site 2. Mental health center costs reduced by 29% at the two study sites.
Clark (1998)[89]	RCT	US (New Hampshire)	SMI	143	18	Good	Cost–benefit	IPS = Control	Mean per-client employment program costs ($5636 for IPS and $5532 for controls) and mental health treatment costs ($14,429 for IPS and $16,712 for controls) were similar.
Dixon (2002)[90]	RCT	US (Washington, DC)	SMI	150	18	Good	CEA	IPS > Control	Overall costs for IPS 16% higher: Mean per-client costs employment program costs ($6059 for IPS and $5723 for controls) and mental health treatment costs ($23,018 for IPS and $19,396 for controls).
Stroupe (2022)[104]	Multisite RCT	US (Veterans Affairs)	Veterans with PTSD	541	18	Good	CEA	IPS > Control	Mean per-client annual health care costs $4000 more for IPS than control group
Heslin (2011)[105]	RCT	UK	SMI	219	24	Poor	CEA	IPS < Control	Overall costs for IPS 20% lower: Mean per-client costs for IPS were £300 and mean per-client mental health service costs were £9571 for IPS and £11,932 for controls.
Shi (2012)[106]	RCT	Canada	SMI	149	12	Good	CEA	IPS < Control	IPS was cost-effective compared to usual services, although baseline differences in inpatient days attenuated finding.
Knapp (2013)[107]	Six-nation RCT	Europe	SMI	312	12	Fair–good	CEA	IPS < Control	IPS had better health outcomes at lower cost (fewer days of hospitalization).
Hoffmann (2014)[85]	RCT	Switzerland	SMI	100	60	Good	Cost–benefit	IPS = Control	Higher return on investment for IPS ($0.54 for IPS vs $0.18 for control).
Yamaguchi (2017)[108]	RCT	Japan	SMI	111	12	Fair	CEA	IPS < Control	IPS intervention was modified IPS and included cognitive remediation
Christensen (2021)[109]	Multisite RCT	Denmark	SMI	720	18	Fair–good	Cost–utility	IPS < Control	Overall costs for IPS 41% lower: Mean per-client total costs for IPS were €13,582 for IPS and €23,125 for controls. Mean per-client costs for IPS were €914.

Abbreviations: CEA, cost-effectiveness analysis; IPS, Individual Placement and Support; PTSD, posttraumatic stress disorder; RCT, randomized controlled trial; SMI, serious mental illness.

who are having difficulty reaching their goals. They model effective strategies for the IPS specialists and the supervisor. They also participate in IPS steering committees to help guide agency-wide decisions that will affect the program. After six or seven months of implementation, the IPS trainer, along with another experienced fidelity reviewer, visit the agency for 1.5 days to complete a fidelity assessment and then provide technical assistance to improve IPS implementation.

In the United States, local program implementations typically depend on administrative supports from state mental health, vocational rehabilitation, and insurance authorities. Optimally, these agencies meet regularly to align policies, regulation, and procedures. The US Office of Disability Employment Policy has sponsored such coordination efforts through the Advancing State Policy for Integrated Recovery and Employment project since 2021 (https://www.dol.gov/agencies/odep/initiatives/aspire). The project provides technical assistance to state leaders to help them coordinate state policies, funding contracts, data sharing, training initiatives, and fidelity reviews for IPS programs in their states. Federal leaders from federal agencies provide advice on new programs. Subject matter experts help the states with whatever technical assistance is needed to start new programs, hire trainers and fidelity reviewers, and oversee their IPS programs. State leaders participate in monthly learning community conferences with other states.

The challenges to implementing IPS outside the United States include many of the same themes as described above,[113] but also other barriers specific to each country's history, economy, mental health and welfare systems, labor laws, culture, and myriad of other factors. A collection of case reports describing IPS implementation in 11 countries on four continents (Europe, Australia/New Zealand, Asia, and North America) illustrates both similarities and differences across countries.[114] Researchers should continue trying to fit the IPS model to different mental health systems, welfare systems, and labor laws that are sometimes country-specific and sometimes applicable to multiple countries. One limitation of the IPS implementation literature is that the preponderance of this research has been conducted in the United States and Europe.

NEW DIRECTIONS

Extending IPS to new populations

IPS developed initially to help people with serious mental illnesses in the US public mental health system. The term "serious mental illness" encompasses psychotic and mood disorders (usually including schizophrenia, bipolar disorder, and major depression) that are enduring and disabling.[9] People with such conditions generally meet criteria for federal disability programs in the United States because they have significant impairments in social functioning and qualify for services in public community mental health centers. They comprise approximately 5.6% of working-age adults in the United States.[115] However, approximately half of these individuals do not receive services in community mental health centers[116] and therefore have no access to IPS-supported employment. Many decline to use or cannot access community mental health services; others are homeless or institutionalized in hospitals, jails, prisons, or nursing homes. IPS programs are beginning to reach out to alternative settings (e.g., Building Evidence for Employment Services [https://www.acf.hhs.gov/opre/project/building-evidence-employment-strategies-project-bees] and NextGen [https://mathematica.org/projects/next-generation-of-enhanced-employment-strategies-project-nextgen]), but related research is just beginning.

In addition to people with serious mental illnesses, many others, approximately 15% of working-age adults in the United States, experience a mental health disorder that does not qualify as serious mental illness, but many are unemployed and need assistance to secure employment. Disorders affecting people in this category include posttraumatic stress disorders, mild to moderate depression or anxiety disorders, substance use disorders, developmental disorders, personality disorders, and numerous other conditions. Many young people in their late teens or early 20s, often called transition-age youth, have initial psychoses complicated by substance use and various other mental health conditions. Many other people have disabling physical conditions (e.g., injuries, pain syndromes, and autoimmune disorders) and need vocational assistance. The prevalence of disability in the United States varies according to survey methods, but one research group conservatively estimated that between 40 million and 57 million Americans were living with a disability in 2010.[117] Using the estimate of 18.7% of the population from the Survey of Income and Program Participation, approximately 56 million people in the United States had a disability in 2020. Because evidence-based vocational interventions for unemployed people with these myriad other conditions are rare, programs are extending IPS-supported employment to some of these populations, even though the currently available research is sparse.

A meta-analysis of seven RCTs for young adults with mental health conditions found that 208 (58.3%) of 357 IPS participants and 110 (32.4%) of 340 control participants were competitively employed during follow-up, with a small effect size ($g = 0.34$) for job duration favoring IPS and with modest education outcomes favoring IPS.[48] Thus, IPS appears to be effective in helping young adults with serious mental illness or early psychosis gain and keep competitive jobs, but the impact of IPS on education outcomes for this population is unclear.

One study examined the effectiveness of IPS for different diagnostic groups in a data set combining individual data from six IPS RCTs ($N = 1594$) (five European studies and one US study).[62] For clients with schizophrenia and substance use disorder, IPS had significantly better employment outcomes than controls on measures of employment rate, time to first job, hours worked, and weeks worked. Participants with bipolar disorder receiving IPS also had a significantly higher employment rate than control participants, but hours and weeks worked did not differ. IPS did not differ from controls for people with depression. The authors

noted that nonsignificant results may have been due to low statistical power.

The extension of IPS to new populations is a relatively recent development. Figure 1 summarizes 13 RCTs of IPS for working-age adults with conditions other than serious mental illness.[118–130] Only three of these RCTs were completed before 2016.[120,126,127] These RCTs include four completed since the publication of a meta-analyses of IPS for other populations discussed earlier.[47] The target groups included people with common mental disorders (anxiety and depression), posttraumatic stress disorder, chronic pain, substance use disorders, or spinal cord injuries, and one study of primary care clinic patients. Of the new studies, one found that significantly more primary care patients enrolled in IPS achieved steady work than patients receiving usual services.[121] Two others found significant employment outcomes favoring IPS for young adults with health conditions at risk for long-term disability[129] and for military veterans with substance use and criminal justice involvement.[124] The small pilot RCT of IPS for pain patients, however, did not find a significant effect for IPS, possibly because it was underpowered.[130]

Research on IPS for new populations ranges across groups from nonexistent to several studies, but many areas obviously need more work. Examples include IPS programs for people in different stages of justice-system involvement; people with primary substance use disorders[131,132]; refugees[133]; recently homeless people living in supportive housing; people with common and disabling conditions, such as obsessive-compulsive disorder and autism spectrum disorder; and indigenous populations in many countries. Another frontier is people who reside in low- and middle-income countries.

Modifications, adaptations, and augmentations

IPS program implementers often modify the intervention, particularly when extending IPS to new populations or in new settings. These modifications fall into three basic categories: adaptations for context that do not compromise basic principles; omissions or changes to one or more of the basic principles of IPS; and augmentations of standard IPS services with addition of a new component.[40] Each type of modification occurs frequently, but rigorous evaluations are rare.

Minor adaptations for context are common. Examples of apparently successful cultural adaptations are abundant. For example, one trial that oversampled Hispanic Americans adjusted IPS by adding outreach to families, recognizing that in this culture families rather than individuals made decisions regarding employment.[134] Another survey of rural IPS providers identified common changes to hiring IPS specialists and conducting job development.[79] Another common adaptation involves changes to job planning and supports for clients with co-occurring substance use disorders.[135] However, few if any randomized trials have specifically tested cultural adaptations of any evidence-based practices, including IPS.[136] Cultural adaptations are often commonsensical, and the resources required to test them rigorously may be disproportionately high.

Many programs and a few studies have deleted one or more of the principles of IPS, for example, the integration of vocational and clinical services. These changes generally weaken employment outcomes. For example, studies that have failed to confirm interest in employment,[137] to prioritize client preferences,[138] to provide integrated vocational and clinical services,[139] to offer long-term supports,[140] or to provide systematic job development and follow-along support[141] have yielded weak results.

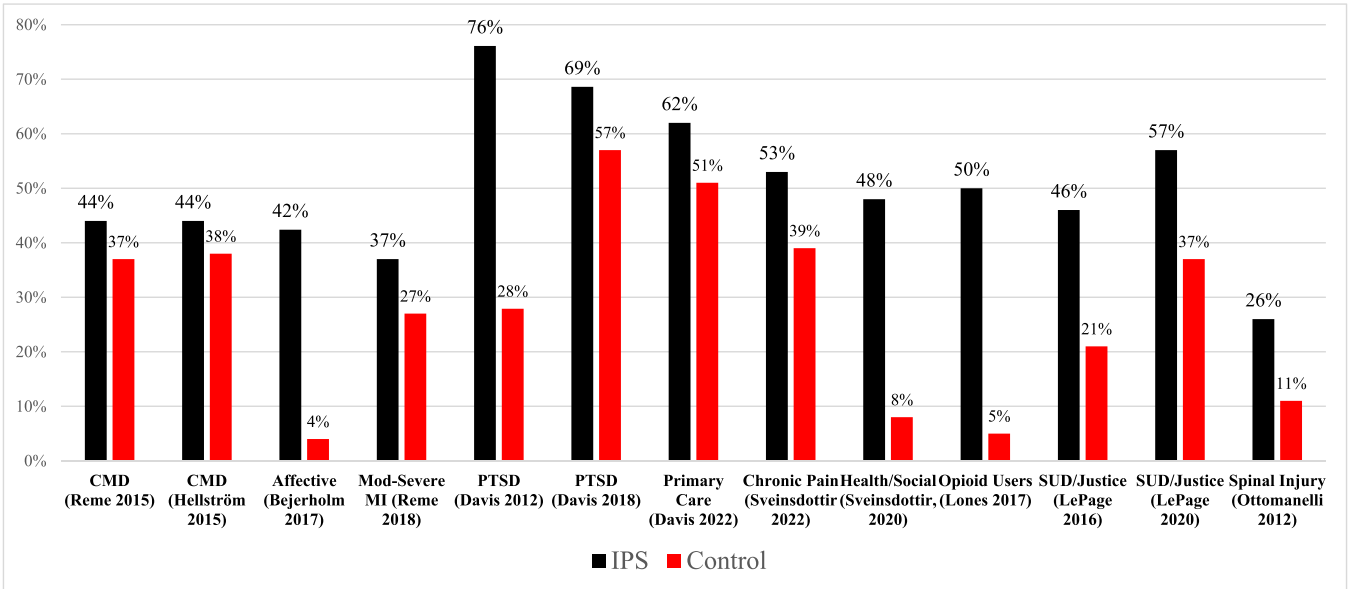

FIGURE 1 Competitive employment rates in 13 randomized controlled trials (RCTs) of Individual Placement and Support (IPS) in other populations. CMD, common mental disorder; MI, mental illness; PTSD, posttraumatic stress disorder; SUD, substance use disorder.

Finally, several augmentations to IPS have been tried, for example, adding motivational interviewing, but most of these additions have not enhanced outcomes.[40] One possible exception involves adding cognitive enhancement interventions to standard IPS. Some RCTS of IPS plus cognitive enhancement have shown improvement of employment outcomes over IPS alone,[142,143] but other studies of cognitive enhancement have not improved employment outcomes.[144,145]

Modifying IPS deserves further study. One obvious target is the group of IPS participants who do not have vocational success and may be helped by something more or something different. In addition, delivering IPS to people in new populations or in new settings will likely require modifications to enhance fit.

DISCUSSION

Numerous RCTs and systematic reviews agree that IPS-supported employment effectively increases competitive employment among participants with serious mental illnesses. IPS is broadly effective for this population in high-income countries, although characteristics of participants (e.g., justice system involvement), program quality (e.g., model fidelity), and environments (e.g., disability regulations and payments) have some influence on outcomes. IPS is also cost-effective compared with active comparison approaches. Several studies indicate that IPS employment outcomes persist for years, which may produce substantial cost savings.

Many other findings are less certain. Current innovations address extending IPS to new populations, new settings, and new countries. Active studies are investigating IPS for people with: substance use disorders; common mental health conditions, such as anxiety and depression; chronic pain syndromes; chronic homelessness; justice system involvement; autism spectrum disorder; experience of human trafficking; and other groups. Attention to historically underserved populations, such as specific ethnic and racial groups, is also spreading. IPS has typically been provided within mental health clinics, but new settings include addiction treatment centers, immigration and refugee centers, supportive housing programs, primary healthcare clinics, and welfare programs. Although most high-income countries have adopted IPS, spread to low- and middle-income countries is an important new frontier. In many of these new populations and settings, implementers are modifying, adapting, or augmenting IPS, but minimal or no research supports these changes.

Several factors may explain the success and spread of IPS-supported employment. First and foremost, most people with mental health conditions want meaningful work and consistently report that employment is an essential, often central, part of their recovery process. They therefore advocate for employment services. Second, a strong research base has guided and buttressed the development and spread of IPS. Program leaders, healthcare leaders, and employment policy leaders pay attention to research, perhaps more so in some countries than others. The process proceeds slowly due to resistance to change, difficulty integrating health and vocational services, and difficulties funding IPS, but over time research does influence policy. Third, healthcare providers and policy-makers in many countries recognize that employment is itself a powerful social determinant of health and that IPS should therefore be a core treatment for people with serious mental illness. The research on IPS has stimulated this critical shift in beliefs. Similar transitions have not yet occurred in relation to other populations but may happen as implementation and research develop. Good research generally leads to good policy.

One critical aspect of scientific evidence is consilience, defined as the unity of knowledge across different scientific disciplines.[146] Numerous scientific approaches undergird the importance of employment for the well-being of humans, including those with disabilities. The effectiveness of IPS-supported employment has support from not only RCTs but also qualitative studies, implementation research, economic analyses, and many other fields. For example, studies from animal research, hominid development, cultural anthropology, epidemiology, sociology, psychology, and other disciplines support the central importance of employment for homo sapiens.

Despite many successes, current limitations and challenges are legion. The largest one involves bureaucratic inertia, which limits the availability of IPS services to a small minority of those in need. In the United States, profit-making industries, rather than patient preferences and effective interventions, dominate health policy. In many countries, the separation between agencies that are designated as health-related and those that address social determinants is rigid. Stigma continues to limit access, participation, and quality for mental health and substance use disorder services in most countries, and people with these conditions suffer self-stigma that prevents seeking help. Despite abundant empirical evidence that people with even the most serious mental health conditions can live independently, make their own decisions, and benefit from meaningful activities, including competitive employment, officials in many countries and regions have been slow to adopt and actualize the potentiating philosophy of recovery. Progress for people with disabilities has been painfully slow. However, as Martin Luther King famously stated, “the arc of the moral universe is long, but it bends toward justice.”

CONCLUSIONS

Evidence-based supported employment (IPS) has fundamentally changed the field of psychiatric rehabilitation by providing the first highly effective employment intervention for people with serious mental illness and documenting that most people who become employed have a significantly better quality of life. As IPS spreads steadily across high-income countries, innovators are testing the intervention with new populations and in new settings, often using adaptations of uncertain validity. Further research opportunities abound, not just to study IPS in new populations and settings, but also to understand the role of employment and other social determinants on mental health, to examine IPS implementations and modifications scientifically, and to develop economic, training,

supervisory, and quality assurance structures that are needed to implement and sustain IPS broadly.

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The two authors contributed equally to the preparation of the paper, including drafting and editing the manuscript. Gary R. Bond prepared the tables and the figure.

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