

Cost-Effectiveness of Individual Placement and Support*

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Key Points

- Policymakers, program administrators, service providers, and many others are interested in the costs and benefits of Individual Placement and Support (IPS), an evidence-based model of supported employment that improves competitive integrated employment (CIE) for people with mental health conditions.
- The central question is whether the benefits of IPS are worth its costs. The most useful cost studies compare the costs and benefits of IPS to an alternative service model, which may be standard services for the community.
- Most IPS cost-effectiveness analyses use an employment measure as the primary outcome, since improving employment is the goal of IPS.
- Based on six U.S. studies, the average per-client cost of IPS services is \$4,000 in 2022 dollars; however, the costs vary widely based on many factors, including regional variation, caseload size, and duration of enrollment in IPS services.¹⁻⁶
- In ten economic analyses of IPS^{2,3,7-14} (four conducted in the U.S.^{2,3,12,14} and six outside the U.S.^{7-11,13}), the total costs for IPS were less than the comparison in six studies,^{7,8,10,11,13,14} equal in two studies,^{2,9} and greater in two studies.^{3,12} All ten of the economic analyses showed significantly better employment outcomes for IPS than the comparison group.
- The economic analyses reviewed were primarily short-term studies of 12 to 18 months in duration. Long-term studies (that is, studies with follow-up periods of five years or more) suggest that the benefits of IPS persist and even increase over time.^{9,15-17} Therefore, the long-term benefits from IPS may exceed those found in the existing cost-effectiveness studies.
- Although employment is associated with improved quality of life and overall well-being,¹⁸ most research shows that IPS does not have a direct impact on quality of life or other non-vocational outcomes, only an indirect impact.¹⁹ IPS increases employment,^{20,21} and employment improves overall well-being, including quality of life, self-esteem, management of mental health symptoms, and financial well-being.²²
- An inherent challenge in conducting cost-benefit analyses is that not all personal and societal benefits can be easily assigned a monetary value or even quantified. This challenge may arise in assessing the overall benefits of IPS services.

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Overview

Many stakeholders are interested in services that improve CIE outcomes for people with mental health conditions. These stakeholders include people with mental health conditions and their families; federal, state, and local leaders responsible for mental health, vocational rehabilitation, and disability policies; and legislators, taxpayers, and employers. IPS is an evidence-based employment model shown to be effective in helping people achieve CIE.²³ While its effectiveness is well-established, stakeholders may ask whether IPS is also cost-effective. In lay terms, the question is whether the benefits of IPS are worth its costs. This brief provides a non-technical description of several types of economic analyses that can address this question, statistics on the direct costs of IPS services, a summary of published economic analyses of IPS, and a discussion of key areas of IPS’s impact on costs. It is important to note that this issue brief focuses on IPS for people with mental health conditions only, and that the costs may be different for people with other medical conditions or disabilities.²⁴

Types of Economic Analyses

In making decisions about investing in a service intervention, mental health providers and other stakeholders are naturally interested in costs, including not only the direct costs of the intervention, but also other associated costs and the benefits (or outcomes) of the intervention, especially compared to alternatives. Economists have developed several formal models for analyzing costs and benefits, including cost-effectiveness analysis, cost-benefit analysis, analysis of cost offsets, and studies of return on investment.

Cost-effectiveness analysis compares an intervention of interest to an alternative intervention (which may be services as usual). It assesses whether the costs and outcomes associated with a particular intervention compare favorably with those associated with an alternative intervention. IPS cost-effectiveness studies measure total costs, including direct costs of IPS services and other costs affected by IPS services, and outcomes. Cost-effectiveness analyses typically use a quality-of-life measure or other non-monetary outcome as the primary measure of effectiveness; IPS cost-effectiveness studies often use an employment outcome as the primary measure, because the intended direct impact of IPS is on employment.^{25,26}

Economists schematize cost-effectiveness analysis using a 2x2 diagram (“the cost-effectiveness plane”) shown in Figure 1. The most desirable result is for the intervention of interest (in this case, IPS) to be both less costly *and* more beneficial than the alternative. If the intervention is both more costly and more beneficial, then the question becomes whether the additional cost is worth the additional benefit. Economists sometimes employ a “willingness to pay” concept, which is an estimate of what a stakeholder would pay for the benefit of an intervention. For example, one study found that veterans with post-traumatic stress disorder receiving IPS worked an

FIGURE 1 Cost-Effectiveness Plane Comparing IPS to an Alternative

	IPS less beneficial than alternative	IPS more beneficial than alternative
IPS more costly than alternative		
IPS less costly than alternative		

average of 174 more hours per year in CIE than those receiving standard vocational services. The additional cost for IPS compared to standard services was \$4,910.¹² These estimates provide a starting point for investigating stakeholder willingness to pay.

Cost-benefit analysis also compares an intervention of interest to an alternative. The main difference from a cost-effectiveness analysis is that a cost-benefit analysis examines benefits expressed in *monetary* terms. Some benefits, such as earnings from employment, have an explicit cash value, but other benefits, such as increased quality of life, do not. When conducting a cost-benefit analysis, economists “monetize” the value of any non-monetary benefit by assigning it a cash value.

Cost offsets refer to the *cost savings* realized by introducing an intervention. For example, the cost of an electric car is partially offset by the savings in gasoline. Cost-offset analysis is appropriate when the researcher does not have corresponding data for an alternative intervention. An analysis of cost offsets provides different information than does an analysis comparing two interventions. As Clark et al.² explain, “When two or more competing interventions are compared...documenting differences in the cost-effectiveness of interventions helps decision makers choose among the interventions, but it offers no information about what would have happened if neither had been introduced” (p. 24). An analysis of cost offsets can determine whether the intervention results in cost savings, is cost-neutral, or results in greater costs. *Pre-post studies* (that is, studies comparing the costs before introducing an intervention to the costs after the intervention is introduced) often use this type of analysis.

Return on investment is a term used in business to refer to the amount of benefit (or return) on an investment relative to its cost. In the current context, the most common application is to examine the *social* return on investment, referring to measured benefits of an intervention relative to its costs from the societal perspective (that is, the benefits and costs to the community), not from the perspective of an individual organization. Thus, Hoffmann et al.⁹ estimate the return on investment of IPS as a ratio of mean employment earnings relative to total direct and indirect costs of IPS. In this case, the return observed is limited to an outcome with monetary value (i.e., earnings), but this type of analysis also can encompass non-economic benefits (which might be assigned a monetary value, as in cost-benefit analysis).

Time Horizon

A key consideration in any economic analysis is the length of time over which costs and benefits are measured. Usually, most costs of an intervention are incurred in the short term, while most benefits are realized over the long term. Thus, long-term studies are most valuable for comparing the cumulative costs and benefits of a program.

Perspective

The perspective of an economic analysis refers to the stakeholder group for which the analysis is relevant. The costs and benefits often vary dramatically between different groups. In fact, a cost to one group is often a benefit to another. For example, wages are a cost to an employer but a benefit to its workers. Another common pattern is that a cost or benefit to one group is irrelevant to another group. This is true, for example, for different departments within

a state government. A state department of mental health may authorize funding for a case management program (a cost from the perspective of the mental health budget) that reduces incarceration rates in the correctional system (a benefit from the perspective of the state department of corrections but of no benefit from the perspective of the state department of mental health budget). In IPS economic analyses, the most common perspectives examined are societal, governmental, community mental health center, and individual client or worker.

Review of the IPS Cost Literature

Direct IPS Costs

The direct costs of IPS services are costs associated with services provided by the IPS team, including staffing and supervision. Economists studying IPS typically treat vocational services as a separate cost center and do not include mental health treatment, case management, housing, or other non-vocational services provided to IPS clients as direct costs of IPS. Personnel costs comprise a large percentage of direct IPS costs, although a complete accounting of costs includes overhead costs (e.g., office space, transportation, computers). Six U.S. studies¹⁻⁶ reported annual per-client costs of IPS services in the public mental health system. After converting to 2022 dollars,²⁷ the annual per-client costs range from \$4,000 to \$7,500, as shown in Table 1. Averaging across these studies, the mean cost of serving one client for 12 months is approximately \$6,000 in 2022 dollars.

The length of time clients are enrolled in IPS is highly variable. The time to first job averages four to five months for IPS clients who successfully find a job and start employment,²⁸ after which IPS services taper off sharply over the next several months.²⁹ On a typical IPS caseload, with most clients gaining employment but others terminating before reaching that goal, IPS clients average six to eight months receiving IPS services before termination.⁵ Assuming that clients receive IPS services for an average of eight months (an upper-end estimate), the mean per-client cost of IPS is estimated to be \$4,000 in 2022 dollars.

In addition to length of time enrolled in IPS, other factors that influence IPS costs include caseload size and staff salaries (which will reflect geographic differences in cost of living and wages). Thus, the \$4,000 per-client cost estimate is an average, and the actual cost of a specific IPS program depends on many factors.^{5,6} Two European pilot studies suggest that the per-client costs might be systematically reduced without reducing effectiveness by introducing time limits on duration of enrollment in IPS³⁰ or amount of IPS specialist time allocated to helping individual clients find employment.³¹ Long-term research is needed to determine the effects of these limitations, however.

Studies have also found annual mean per-client service costs for IPS to be less than those for rehabilitative day treatment,¹⁴ similar to costs for vocational stepwise approaches providing prevocational preparation prior to CIE placement,^{2,3} and twice as expensive as the transitional work program operated by the Veterans Health Administration.⁴ Of the alternative vocational interventions examined in IPS randomized controlled trials, none – including more expensive alternatives – yielded better outcomes than IPS. The costs of alternative vocational programs appear to be uncorrelated with a program’s impact on employment.³²

Other Costs Affected by IPS Services

Comprehensive economic analyses of IPS aim to include all costs associated with IPS, both direct (the costs of IPS services) and indirect (such as mental health treatment service costs). Depending on the study's purposes, this could include a wide range of costs of interest to specific stakeholders. For example, IPS has been hypothesized to reduce applications for and receipt of Social Security disability benefits (i.e., Social Security Disability Insurance and Supplementary Security Income), especially among young adults. However, little research has examined this.³³ Regarding termination or suspension of benefits for those already participating in these programs, IPS does not increase the rate of termination or suspension.³⁴ IPS has also been hypothesized to reduce criminal justice involvement, but the few IPS studies that have examined this question have found little evidence for such reduction. For example, a randomized controlled trial 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 one-year follow-up period.³⁵ However, a program evaluation using administrative data for 7,284 mental health clients (including those without justice involvement) found a small but statistically significant reduction in arrest rates between clients one year prior to and after enrollment in IPS, compared to a matched control group.³⁶

Outcomes

The goal of IPS is to improve CIE outcomes (which includes securing and sustaining employment at or above minimum wage). The effectiveness of IPS in improving employment outcomes is well established.^{20,21} If the goal of a cost-effectiveness analysis is to compare costs to the primary benefit of the intervention, then appropriate outcome measure would be employment earnings, hours worked, weeks worked, or other employment outcome.³⁷

By convention, cost-effectiveness analyses typically examine quality of life outcomes. IPS has no direct impact, or only a modest direct impact, on quality of life and other non-vocational outcomes (such as mental health symptoms, substance use, and self-esteem), according to numerous randomized controlled trials that examined these outcomes.¹⁹ The impact of IPS on non-vocational outcomes is likely indirect and mediated by employment.²² Not everyone enrolled in IPS gains employment, and those who do not work are less likely to see improvements in quality of life or other areas.

More research is needed on long-term IPS outcomes. Three small studies examined long-term IPS outcomes (i.e., 5 to 12 years post-enrollment). The general finding is that roughly half of IPS participants become steady workers (defined as being employed, at least part-time, in at least 50 percent of months during the follow-up period).^{9,16,17} More recently, a longitudinal IPS study of 2,160 Social Security Disability Insurance beneficiaries examined administrative earnings data over a five-year follow-up period, starting one to five years after participation in a national multi-site randomized controlled trial.¹⁵ Compared to a no-treatment control group, the IPS group averaged \$5,073 more in per-client earnings (in 2015 dollars) over the five-year follow-up period.

IPS Cost-Effectiveness Analyses

Zheng et al.³⁸ conducted a systematic review of seven studies assessing the cost-effectiveness of IPS. This brief updates that review with four additional studies (excluding one earlier report from the same study³⁹). Of the ten studies shown in Table 2, nine were randomized controlled trials assessing the costs and benefits of IPS,^{2,3,7-13} and one was a pre-post design in which IPS services replaced a day treatment program.¹⁴ Four were conducted in the U.S. and six outside the U.S. Seven studies conducted a cost-effectiveness analysis,^{3,7,8,10-13} three conducted a

cost-benefit analysis,^{9,14} and one reported the findings in terms of cost-offset.¹⁴ Study methodologies varied. Sample sizes ranged from 100 to 720, follow-up periods ranged from 12 to 60 months, and IPS fidelity scores (a measure of quality of implementation of IPS services) were rated as good in six studies, fair to good in three, and poor in one. Measurement of effectiveness also varied, although all studies used some measure of employment outcome. Note that the choice of specific employment outcome measure is relatively unimportant for determining direction of effectiveness, since most employment outcomes in these studies significantly favor IPS, regardless of the specific measure used as the criterion in the cost-effectiveness (or related) analysis.

The total costs for the IPS group were less than the control group in six studies, equal in two, and greater in two. Every study observed better employment outcomes for IPS than the control group. The ten economic analyses were mostly short-term studies (eight had follow-up periods of 12 to 18 months in duration). Long-term studies of IPS suggest that its benefits persist and, in some cases, increase over time.¹⁵ Thus, the long-term benefits from IPS may exceed those observed in currently available studies.

IPS Cost Savings: Areas of Greatest Impact

Historically, day treatment was a core component in many community mental health centers in the U.S., offering social groups, skills training, individual counseling, and other services aimed at rehabilitation. A series of studies conducted in the 1990s examined the effectiveness of closing day treatment programs and replacing them with IPS services. These studies showed that this organizational change was feasible and led to significant improvement in employment outcomes.⁴⁰ One study that systematically examined costs to

the participating mental health center found that terminating a day treatment program and replacing it with IPS services resulted in a 29 percent reduction in overall outpatient treatment costs.¹⁴

Many IPS studies have also examined inpatient treatment outcomes. Several randomized controlled trials found that IPS significantly decreased inpatient treatment costs,^{7,9,10,13,41} as did a study examining outcomes before and after implementation of IPS.⁴²

Apart from studies examining the termination of day treatment, IPS studies have not shown reductions in outpatient treatment costs, at least in the short term. While IPS services do not reduce outpatient mental health treatment costs for all clients, IPS clients who gain employment and become steady workers incur reduced mental health treatment costs over the long term.⁴³ For example, a ten-year longitudinal study of clients with co-occurring mental illness and substance use disorders (many of whom received IPS services) found large reductions in mental health treatment costs for clients who became steady workers (i.e., a subgroup of successfully employed clients who averaged 500 hours of employment annually) compared to clients who worked minimally. In the short term, outpatient treatment costs for the steady worker group increased, but over the long term, both outpatient and inpatient treatment costs declined for the steady worker group. The average per-client cost over ten years for outpatient services and institutional stays for the minimum work group exceeded that of the steady work group by \$166,350.⁴⁴ This result would suggest potentially large cost savings, based on the cost of IPS services per client and the proportion of clients who are successful in employment, if there are corresponding reductions in the need for costly outpatient services and institutional stays.

Discussion

Cost-effectiveness analyses usually examine the costs for a fully functioning program, ignoring start-up costs and sunk costs of offering services below a full caseload. One factor influencing start-up costs is the enrollment rate in new programs. If enrollment is slow, then the costs per client increase accordingly. Costs also remain higher if caseloads are not full, even long after start-up.

Measuring costs is challenging. The usual approach is to use administrative data, such as Medicaid claims data or detailed cost reports to a grantor or funding agency. Measuring the costs of IPS services is complicated by the braiding of funding from multiple sources that is common in IPS programs.⁴⁵ Another complicating factor in formal research studies is disentangling research and service costs.

A crucial issue for policymakers, program administrators, and service providers is not simply general costs and savings, but rather *tangible* budgetary expenditures and savings. There are inherent complexities in accounting for and capturing expenditures and savings associated with a particular intervention, given that they often accrue across multiple programs, government agencies, and levels of government. In addition, the funding structure of a program often determines whether reduced present costs or avoidance of future costs can be captured as “cashable” savings that can be used for another purpose within a particular program. Examples of various funding structures that can affect the potential for cashable savings include the following:

- A fixed appropriation that is available only for a set period of time; flexible funding that can be repurposed more easily or for longer periods;
- Cost-reimbursement arrangements based on services used;
- An entitlement funding structure providing permanent funding that does not expire;
- Capitated payments to a service provider that allow the provider to retain savings, but that only result in government savings when the payment level to providers is adjusted to reflect reduced costs; and
- Incentive payments to service providers that reward improvements or cost savings.

Depending on the particular funding structure, future savings that result from improved outcomes may not accrue to the IPS service provider, health system, state agency, state government, or the Federal Government.

Many employment programs for people with mental health conditions continue to receive funding with little consideration of the costs and benefits. For example, day treatment is still common in some places, even though it is costly and often limits clients’ opportunities for employment and recovery by creating segregated environments that foster dependency and isolation from the general community.⁴⁶ Cost-effectiveness analysis is a tool that could inform decision-makers of the financial consequences of their decisions.

Yet cost-effectiveness studies are rare, because they require the expertise of an economist, time to conduct it, and funding to complete such studies. Further, most cost-effectiveness studies have short follow-up period. The key issue with short-term cost-effectiveness studies is that most costs are incurred within the first year after IPS enrollment, but the benefits may not accrue for decades. There is limited understanding of the return on investment over time, and whether clients use increasingly fewer services, whether the health benefits continue or improve over many years, and/or whether IPS participants who sustain CIE have more years of relatively good health.

The key cost-benefit for a health system may be decreased services, but for individuals who receive IPS and gain employment, the key benefit may be better mental health associated with income, structure, self-esteem, self-confidence, new friends, respect, community integration, reduced involvement in the mental health system, reduced stigma, and the like. The existing research literature offers little data on such long-term outcomes. Anecdotally, most personal accounts of people who have learned to live with a mental health condition indicate that employment is central to recovery,⁴⁷⁻⁵⁰ but fuller understanding of the extent of positive outcomes requires more comprehensive long-term data.

Conclusions

U.S. studies of the direct costs of IPS have found that the average annual per-client costs range from \$4,000 to \$7,500, with an average of \$6,000. Assuming clients receive IPS for an average of eight months, the per-client cost of IPS is \$4,000. Many factors affect IPS services costs, so the costs in a particular program may be higher than these averages. The employment benefits of IPS are well established in many rigorous impact studies. However, these studies typically examine outcomes over a relatively short period of time. The few existing long-term (five years or more) follow-up studies suggest that benefits from IPS continue to accrue over time. Should these patterns hold true in more long-term cost-effectiveness studies, we could expect to find greater cost-effectiveness.

Studies have not demonstrated a direct impact of IPS on quality of life or most other non-vocational outcomes, only an indirect impact. IPS increases employment outcomes, and employment improves outcomes in many other areas, including quality of life, self-esteem, management of mental health symptoms, and financial well-being.

From a policy perspective, because IPS is more effective than any other intervention for improving employment outcomes for people with mental health conditions, the decision to implement IPS rather than an alternative intervention rests in part on ability and willingness to pay for IPS. Based on the costs and benefits of IPS that have been observed in multiple studies, and the available alternatives, many policymakers, program administrators, and other stakeholders have concluded that IPS is the preferred intervention and a worthy investment.

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TABLE 1 Annual Per-Client Cost of IPS Services in the US (in 2022 US dollars)

Study	Location	Period of Study	Annual Per-Client Cost of Ips
Clark et al. (1996)	Rural New Hampshire	1990s	\$4,140
Clark et al. (1998)	Urban New Hampshire	1992	\$7,525
Dixon et al. (2002)	Washington, DC	1995	\$5,279
Latimer et al. (2004)	National sample of 7 CMHCs	2004	\$4,599
Salkever (2013)	7 Maryland programs	2005–2006	\$7,194
Jordan et al. (2022)	National sample of 12 VHA medical centers	2013–2017	\$7,000
Mean Across Studies			\$5,956

Note: CMHC = community mental health center; VHA = Veterans Health Administration

TABLE 2 Economic Analyses of IPS

Primary Author (Year)	Design	Location	Clients Served	N	Months of Follow-up	IPS Fidelity	Analytic Approach	Total Costs	Findings
Clark (1998)	day treatment conversion	U.S. (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, Xie et al. (1998)	RCT	U.S. (New Hampshire)	SMI	143	18	good	cost-benefit	IPS = Control	Mean per-client employment program costs (\$5,636 for IPS and \$5,532 for controls) and mental health treatment costs (\$14,429 for IPS and \$16,712 for controls) were similar.
Dixon et al. (2002)	RCT	U.S. (Washington, DC)	SMI	150	18	good	CEA	IPS > Control	Overall costs for IPS 16% higher: Mean per-client costs employment program costs (\$6,059 for IPS and \$5,723 for controls) and mental health treatment costs (\$23,018 for IPS and \$19,396 for controls).
Stroupe et al. (2022)	multisite RCT	U.S. (Veterans Affairs)	Veterans with PTSD	541	18	good	CEA	IPS > Control	Mean per-client annual health care costs \$4,000 more for IPS than control group.
Heslin et al. (2011)	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 £9,571 for IPS and £11,932 for controls.
Shi (2012)	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 et al. (2013)	6-nation RCT	Europe	SMI	312	12	fair-good	CEA	IPS < Control	IPS had better health outcomes at lower cost (fewer days of hospitalization).
Hoffmann et al. (2014)	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 et al. (2017)	RCT	Japan	SMI	111	12	fair	CEA	IPS < Control	IPS intervention was modified IPS and included cognitive remediation.
Christensen et al. (2021)	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 €.

Note: RCT = randomized controlled trial; SMI = serious mental illness; CEA = cost-effectiveness analysis.