



# Supported Employment for People with Severe Mental Illness

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## About This Report

### About NLCAHR

The Newfoundland and Labrador Centre for Applied Health Research, established in 1999, contributes to the effectiveness of health and community services in Newfoundland and Labrador and to the physical, social, and psychological wellbeing of its population. NLCAHR accomplishes this mandate by building capacity for applied health research, supporting high-quality research, and fostering the effective use of research evidence by decision makers and policy makers in the provincial healthcare system.

### About Rapid Evidence Reports

NLCAHR designed *Rapid Evidence Reports* to provide support for evidence-informed decision making in the Newfoundland and Labrador healthcare system on an expedited basis as compared to the lengthier '*Evidence in Context*' reports issued through the Contextualized Health Research Synthesis Program. Through these expedited reports, NLCAHR provides a succinct review of recent research evidence on a high-priority research topic selected by decision makers in the province.

*Rapid Evidence Reports* include:

- A clear statement of the issue and the background to the issue/problem;
- A description of the scope and nature of the pertinent English-language scientific literature from the past five years;
- A summary of the principal features of the available evidence – points of consensus, points of disagreement, areas of uncertainty or silence on some or all of the following issues: effectiveness of interventions, potential benefits and harms, risks, costs, and cost-effectiveness; and
- A brief analysis of the types of issues that might affect the applicability of the evidence to the local context.

It is important to note that, unlike our other decision-support product, the '*Evidence in Context*' report, a *Rapid Evidence Report* is **not** a comprehensive and systematic synthesis of the literature on the topic.

A *Rapid Evidence Report* provides decision makers with a summary of the scope and nature of the recent scientific literature on the topic in question, an initial assessment of the strengths and gaps in this literature, and a review of the key points of agreement and disagreement among researchers.

### Researchers and Consultants

For this report, researchers from the Newfoundland and Labrador Centre for Applied Health Research were Sarah Mackey, Research Officer, Contextualized Health Research Synthesis Program (CHRSP) and Dr. Stephen Bornstein, Director of NLCAHR. Our team benefited from the advice and expertise of Dr. Eric Latimer, Research Scientist at the Douglas Mental Health University Institute and Professor in the Department of Psychiatry at McGill University. Dr. Latimer's credentials are included in Appendix A.

## Background

At one time, it was common to equate recovery from mental illness with the resolution or complete absence of symptoms. More recently, conceptualizations of recovery envision a more holistic, multifaceted process that follows a person-centered approach. The aim of recovery-oriented mental health services is to provide a foundation of hope, self-determination, and personal responsibility that is person-focused and empowering for individuals (1–4).

Increasingly, evidence shows that employment can be a key facilitator of recovery for those with mental illness (5,6). According to Thomas et al.

*The effort to find and maintain suitable employment is an integral part of the process of recovery—perhaps as much a part of the recovery process as medications and counseling (7).*

A number of strategies have been developed to help those with mental illness regain or obtain employment. For example, traditional forms of vocational rehabilitation use different methods such as skills training, sheltered workshops, trial work programs, work adjustment jobs, enclave jobs,<sup>1</sup> or businesses run by mental health programs to prepare individuals for competitive jobs. A stepped approach within a protected or controlled work environment is the hallmark of these approaches (8). However, not all of these traditional methods are fully in line with a recovery-oriented approach.

Experiences with traditional vocational rehabilitation along with the proliferation of more holistic notions of recovery have inspired a more integrated person-centered approach known as *supported employment*. Supported employment focuses on helping those with mental illness to obtain competitive employment in an integrated work setting. Rather than using pre-employment strategies, supported employment places the individual directly into a competitive work setting (9,10).

As evidence for the effectiveness of supported employment has grown, a standardized approach to supported employment called Individual Placement and Support (IPS) has emerged (11). IPS includes eight principles:

- 1) **A focus on the goal of competitive employment:** agencies providing IPS are committed to the notion that holding regular jobs in the community is an attainable goal for clients seeking employment;
- 2) **Zero exclusion:** every client who wants to work is eligible for services regardless of “readiness,” work experience, symptoms, or any other issues;

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<sup>1</sup> Some definitions: *Sheltered workshops* are work environments that employ people with disabilities separately from others. In a *trial work program*, individuals who receive disability benefits are entitled to a trial work period without the risk of losing their disability benefits. *Enclave jobs* are defined as positions in which a worker with a disability or a group of workers with disabilities are supervised by special work center staff.

- 3) **Attention to client preferences:** services align with a client's choices, rather than with practitioners' expertise or judgments; IPS specialists help their clients to find jobs that fit the client's preferences and skills;
- 4) **Rapid job search:** IPS programs help clients search for jobs soon after they express an interest in working, rather than involving lengthy pre-employment assessments, training, and counseling;
- 5) **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;
- 6) **Integration of employment services with mental health treatment:** IPS program providers are closely integrated with mental health treatment teams;
- 7) **Personalized benefits counseling:** IPS specialists help clients to obtain personalized, understandable, and accurate information about how working may impact their disability insurance and other government entitlements;
- 8) **Individualized long-term support:** follow-along supports that are tailored to the individual continue for as long as the client wants and needs them, whether to keep a job or advance career opportunities (11).

The collaborative approach offered by Individual Placement and Support enables mental health clinicians and employment specialists to work together with individuals to achieve their goals in a way that aligns well with holistic notions of a recovery-oriented approach (8).

### Relevance to Healthcare Decision Making in NL

Presently, health system organizations across the province are restructuring mental health services in accordance with *Towards Recovery: A Mental Health and Addictions Action Plan for Newfoundland and Labrador* (12). In order to provide more opportunities for recovery, decision-makers in NL recognize that the mental health and addictions system must offer a broad range of services that are person-centered and recovery-oriented. Upholding the value of recovery-focused services means that “programs and services must instill hope and empower people to seek mental health and well-being” (13).

In particular, our partners are interested in delivering coordinated supported employment services that embrace both the Individual Placement and Support (IPS) model and a recovery approach. To help inform how employment services could be delivered to those with severe mental illness in the future, our provincial health system partners asked the Contextualized Health Research Synthesis Program (CHRSP) to examine high-level research evidence on the Individual Placement and Support model of Supported Employment.

In consultation with a national expert and with provincial health system decision-makers working in this area, we have arrived at the following research question for this *Rapid Evidence Report*:

**“What supported employment intervention that follows recovery principles addressed to people with severe mental illness is most effective at improving employment outcomes and mental health status?”**

## Key messages in this report

- This report is focused on research evidence that examined adults with severe mental illness in the community and the effectiveness of the Individual Placement and Support (IPS) model of supported employment.
- Research evidence indicates that when compared to traditional and alternative vocational rehabilitation options or “treatment as usual,” the IPS model has been shown to be more effective in helping participants to achieve a number of employment outcomes, most especially in its ability to help participants obtain competitive employment.
- For other employment outcomes such as the time taken to obtain competitive employment, job maintenance, and competitive employment rates/percentages, IPS also consistently outperforms comparator interventions.
- Non-employment outcomes such as mental health, functioning, and quality of life are less frequently examined in the literature and are often secondary outcomes of interest. However, there is modest evidence to indicate that participants of IPS experience improvements in some quality of life measures. There is also no evidence of negative effects of IPS on mental health, quality of life or functioning in any of the studies we reviewed.
- The effectiveness of IPS remains stable across jurisdictional settings and in different economic conditions that considered geographic region, unemployment rates and GDP growth. However, decision-makers should be aware that uncoordinated mental health policies and supports can create unintended barriers that may affect participants’ incentive to work and that may also reduce the relative efficacy of IPS.
- Research on adverse events was sparse; however, one high-quality systematic review found no evidence for adverse events in terms of hospitalization or dropping out of the program.

# Scope and Nature of the Scientific Literature

For this *Rapid Evidence Report*, we searched the health research databases PubMed, PsychInfo, and CINAHL to locate English-language systematic reviews and primary research studies published between December 2016-2020. To avoid double-counting the evidence, any primary studies that were also included in the systematic review literature were not given separate consideration. Throughout this process, we sought guidance from Kristen Romme, a health sciences librarian at Memorial University, who helped us develop search terms that reflected the various descriptors used in the literature and that aligned with the nature of the published research evidence on this topic.

## Inclusion and Exclusion Criteria

We specified a number of parameters to help us select the most relevant studies for review. We focused on studies that examined adults with severe mental illness living in the community. The main intervention of interest was the Individual Placement and Support (IPS) model of supported employment. We chose to focus on the IPS model because the preliminary research evidence we reviewed indicated that this model has been shown to be more effective than many other interventions. The principles of the IPS model also align well with the recovery-oriented approach preferred by provincial decision makers. Comparators of interest included treatment as usual or other forms of traditional or alternative vocational employment. We searched for studies that had employment outcomes and/or mental health outcomes.

Parameter	Inclusion Criteria	Exclusion Criteria
<b>Population</b>	<ul style="list-style-type: none"> <li>Adults with severe mental illness</li> </ul>	<ul style="list-style-type: none"> <li>Forensic populations</li> </ul>
<b>Setting</b>	<ul style="list-style-type: none"> <li>Community</li> </ul>	<ul style="list-style-type: none"> <li>Forensic mental health settings</li> </ul>
<b>Intervention</b>	<ul style="list-style-type: none"> <li>Individual Placement and Support</li> </ul>	<ul style="list-style-type: none"> <li>Augmented Supported Employment as the main intervention</li> </ul>
<b>Comparator</b>	<ul style="list-style-type: none"> <li>Treatment as usual, other forms of traditional vocational employment</li> </ul>	<ul style="list-style-type: none"> <li>Augmented Supported Employment as the main comparator</li> </ul>
<b>Outcome</b>	<ul style="list-style-type: none"> <li>Employment outcomes (e.g., obtaining at least one competitive job, job maintenance, hours worked, earnings)</li> <li>Mental health outcomes (e.g., reduced symptoms, quality of life, reduced hospitalization)</li> </ul>	

**Table 1: Inclusion and exclusion criteria for evidence in this report**

## Evidence included in this report

This report includes evidence from three systematic reviews and nine primary studies published too recently to have been captured in the review literature. Of the systematic reviews:

- one is a systematic review and meta-analysis of 17 randomized controlled trials (14);

- one is a network meta-analysis of 48 randomized controlled trials (15); and
- one is a systematic review of 16 randomized controlled trials (16).

The majority of the nine primary studies are randomized controlled trials. Specifically:

- four are multicenter randomized controlled trials (17–20);
- one is an assessor-blinded randomized controlled trial (21);
- one is a parallel single-blinded randomized controlled trial (22); and
- one is a secondary analysis of a pooled sample of four randomized controlled trials (23).

Two of the included primary studies have qualitative designs:

- one is a cross-sectional study (24); and
- one examines the feasibility and effectiveness of IPS in the Italian context (25).

### Appraising the evidence

We critically appraised all systematic reviews and primary studies included in this report using two appraisal tools:

- To appraise systematic reviews, we used the AMSTAR tool, an 11-item instrument that assesses methodological rigor. The quality of systematic reviews is rated using the categories: low, moderate, high, or very high (26).
- For primary studies, we used the Downs and Black checklist to assess the methodological quality of both randomized controlled trials and non-randomized studies (27). The quality of primary studies is rated as being: poor, fair, good or excellent (28).

Systematic Reviews   AMSTAR Quality Appraisal Results	
Suijkerbuijk, 2017 (15)	High Quality (71-100%)
Modini, 2016 (14)	Moderate Quality (41-70%)
Van Rijn, 2016 (16)	Low Quality (0-40%)
Primary Studies   Downs and Black Quality Appraisal Results	
Erickson, 2020 (21)	Excellent (93-100%)
Killackey, 2019 (22)	
Bond, 2016 (23)	Good Quality (71-92%)
Davis, 2018 (17)	
Gal, 2020 (24)	
Mueller, 2019 (18)	
Reme, 2019 (19)	
Rossler, 2018 (20)	
Pelizza, 2020 (25)	

**Table 2: Quality of the evidence included in this report**



## Characterizing the evidence

### Study populations in the literature

#### **Definition of severe mental illness and common diagnoses**

In our review of the evidence, we sought studies that focused on participants with severe mental illness. We found that studies varied in the criteria used to define severe mental illness but that overall, study participants had very similar mental illness diagnoses. All three systematic reviews focused on those with severe mental illness or severe mental health problems. The highest-quality review defined severe mental illness as:

*...schizophrenia or other psychotic disorders, bipolar disorder, depression with psychotic features or other long-lasting psychiatric disorders, with a disability in social functioning or participating in society, such as personality disorder, severe anxiety disorder, post-traumatic stress disorder, major depression or autism with a duration of at least two years (15).*

This review found that most study participants in included clinical trials had diagnoses of schizophrenia, schizoaffective or other psychotic disorders (15).

A second systematic review defined severe mental illness more narrowly, listing “schizophrenia or schizophrenia-like disorder, bipolar disorder or depression with psychotic features” but the authors did not attempt to describe which diagnoses were most common among study participants (14).

The third systematic review did not provide a detailed definition of severe mental illness; rather, the authors described study participants as being unemployed persons with severe mental health problems. However, in the analysis of included trials, a table of participant characteristics listed the following participant diagnoses: schizophrenia, schizoaffective disorders, affective disorders, bipolar disorder and other disorders (16).

Compared to these systematic reviews, the primary studies we reviewed reported a higher proportion of participants with diagnoses of schizophrenia (schizophrenia-spectrum) and mood disorders (e.g., depression or bipolar) (19–25). In comparison, mental illnesses such as anxiety disorders, substance abuse, disorders of adult personality and behavior, or diagnoses categorized as “other” were indicated for a smaller proportion of primary study participants (19,20,22,23). Uniquely, two primary studies examined military veterans with a main diagnosis of Post-Traumatic Stress Disorder (17,18).

#### **Participant age distribution and gender**

Two systematic reviews (15,16) and five primary studies (17–20,24) reported similar average ages for participants that ranged between mid-thirties and mid-forties. Four primary studies took a slightly different focus, examining young adults under the age of 30 or 35 (21–23,25). An average age of 20 was reported in two of these studies (21,22) while the other two studies reported average ages in the late twenties (23,25). The overwhelming majority of both the systematic reviews and the primary studies reported a higher proportion of male participants.

### **Population-based limitations**

The authors of two systematic reviews and two primary studies noted population-based limitations of their research. The systematic review authors and authors of one primary study outlined their concerns about having a relatively small number of study participants which made it difficult to generalize their findings (15,16,20). The authors of one primary study also highlighted that their findings might not be generalizable based on the specificity of examining veterans only (17).

### **Interventions included in the literature**

The main intervention of interest for this report is the Individual Placement and Support Model (IPS) of supported employment. As noted earlier, IPS is a well-structured model of supported employment that follows eight principles. According to Becker and Drake:

*IPS is based on the premise that working in regular community jobs with people who don't have a severe mental illness enhances people's lives, promotes wellness, and reduces stigma (8).*

All of the systematic reviews analyzed in this report included the IPS model of supported employment as the main intervention or as a main comparator under examination. Two reviews used the standard IPS model as their main intervention (14,16) however, van Rijn et al. also include a handful of studies that examined some derivatives of the IPS model, namely: Compensated Work Therapy, Assertive Community Treatment with Individual Placement Support (ACT-IPS) or integrated supported employment combined with work-related social skills training (16). The third systematic review compared several types of vocational rehabilitation with IPS being the most common intervention or comparator in 30 out of the 48 primary studies that were analyzed (15).

All nine of the recent primary studies investigated the IPS model exclusively. However, we should point out that two of these studies specified that participants received IPS plus "treatment as usual" (21,22). In these cases, treatment as usual included participation in early intervention programs for psychosis:

- In the case of Erickson et al., treatment as usual included services offered as a part of an Early Psychosis Intervention program (EPI) within a large health authority. Regular services offered included assessment, intake, and specialty services as well as case management and psychiatric appointments (21);
- Killackey et al. described treatment as usual as including medical management and review, outpatient case management, access to the Early Psychosis Prevention and Intervention Center group program, and peer and family support (22).

### **Fidelity Scales for IPS Interventions**

In general, fidelity scales<sup>2</sup> are an important tool used by healthcare providers to assess how closely an intervention adhered to a specific program model (29). Measures of fidelity taken

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<sup>2</sup> A fidelity scale is a tool to measure the level of implementation of an evidence-based practice. The IPS Supported Employment Fidelity Scale defines the critical ingredients of IPS in order to differentiate between programs that have fully implemented the model and those that have not.

over time ensure program quality and provide confidence that outcomes for participants will occur as expected (30). Fidelity scales developed specifically for IPS describe the IPS model in operational detail and flesh out how the principles are to be applied (29). We looked at all included studies to ascertain the level of fidelity to the IPS interventions that were presented in the literature. The majority of included studies cited the use of either the 15-item IPS Fidelity Scale or an updated version of this scale referred to as the Supported Employment Fidelity Scale, when describing how fidelity was measured. Regardless of the version of the fidelity scale employed, two systematic studies and four recent primary studies reported moderate to high fidelity for the IPS programming under study (14,15,18,19,23,25). The third systematic review added fidelity as an item in their quality assessment of included studies but did not elaborate further (16). Of the remaining five primary studies, two reported that fidelity improved from a lower range to a higher range as the study follow-up period went on (17,21). Rossler et al. purportedly assessed the fidelity the IPS intervention but did not provide a final value (20). Another study conducted an informal fidelity review and reported good fidelity for the IPS program in their study (22). The primary study that was more qualitative in nature did not provide any information on fidelity (24).

### Reporting on follow-up: observing IPS participants over time

The length of follow-up periods for IPS varied in the literature. In the systematic review literature, follow-up occurred anywhere from less than a year to 60 months after the IPS intervention, with an average follow-up time of 18 months (14–16).

In the primary studies, follow-up times ranged from six months to a total observation period of 36 months:

- one study had a 36-month follow-up (25);
- three studies had an 18-month follow-up (17,18,23);
- four studies investigated multiple follow-up intervals including follow-up at 6 and 12 months (21); or 6, 12 and 18 months (22), or at 12 and 18 months (19), or every 6 months for 36 months (20); and
- one study was unclear about the follow-up timeframe (24).

The authors of the systematic review by van Rijn et al. noted that the range of follow-up times in included randomized control trials—from 12 to 24 months— could be considered relatively short when compared to observational study designs that follow participants over several years (16). Similarly, four recent primary studies also observed that the intervention period was too short (22) or that the follow-up duration may have been too short to evaluate the long-term effects of IPS (17,21,24).

### Comparators in the literature

Rather than comparing the IPS model to a single type of vocational rehabilitation, a number of included studies compared IPS to a variety of similar pre-employment/ employment strategies to create an overall “comparison category.” Often, these comparison categories included two or more of the following: traditional vocational rehabilitation, alternative vocational employment or treatment as usual (14,16,19,21,23).

Of the remaining studies, one systematic review (15) and one primary study (24) compared different types of vocational services to one another. Specifically, Suijkerbuijk et al. compared randomized controlled trials of augmented supported employment,<sup>3</sup> supported employment (mainly high fidelity IPS), prevocational training programs (e.g., psychiatric care, job-related skills training, and sheltered workshops), transitional employment interventions and psychiatric care (15). Gal et al. compared three forms of vocational services including supported employment, sheltered workshops and vocational support (24).

Four recent primary studies focused on a single comparator. Two studies compared IPS against transitional work (17,18) and two used the comparators “treatment as usual” (22) or “high quality treatment as usual” (19).

Another primary study compared different placement budgets<sup>4</sup> for supported employment (20). Finally, one primary study was descriptive in nature and did not include any comparator group at all (25).

### Outcomes measured in the literature

For this study, we were interested in investigating the effectiveness of IPS on two main outcomes: employment outcomes and certain non-vocational mental health outcomes.

In the majority of included studies, employment outcomes were the primary outcomes of interest with particular attention given to obtaining competitive employment (14,15,17–19,21–23,25). Other outcomes related to employment that were commonly examined included: job maintenance/tenure, timeframes for job attainment, period of time worked, income, employment status, or type of job(s) (15,18,21,23,25).

One systematic review focused primarily on non-vocational mental health outcomes such as functioning, mental health and quality of life (16) as did three primary studies (18,20,24). Even though non-vocational outcomes were the main focus of the systematic review by van Rijn et al., the authors noted that the studies they analyzed “were not primarily designed for demonstrating differences concerning health outcomes” (16). These type of outcomes were also a secondary focus in one review and one primary study (15,19).

Of note, Modini et al., in addition to examining employment outcomes, also looked at the generalizability of IPS across geographic regions (14). A minority of included studies reported on adverse outcomes as well, such as the rate of dropouts from IPS programs or the rate of hospital admissions (15,17).

### Defining “competitive employment”

The following components were most common in the literature when defining what is meant by “competitive employment”:

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<sup>3</sup> We note that Suijkerbuijk et al. included Augmented Supported Employment as a comparator; however, for the purposes of this report, we focused on examining only those comparisons related to IPS Supported Employment (15).

<sup>4</sup> Rossler et al. defined placement budgets as “a pre-defined time budget with a maximum number of hours of help provided for job search (25, 40, or 55 h)” (20).

- competitive employment includes jobs paying minimum wage or higher (14–17,22,23);
- competitive employment involves an open job opportunity (i.e., a job where anyone can apply – not just those with severe mental illness or other disabilities (14–17,23,25).

Other than these two central components, studies included in this report varied in the additional elements they incorporated in their definitions of competitive employment. Two of the highest-quality systematic reviews pointed out that competitive employment was not consistently defined in the primary research they analyzed (14,15).

Studies often used job duration to determine whether participants had successfully obtained competitive employment. For example, the review with the highest quality defined competitive employment as involving a “minimum number of hours worked a week or a minimum number of consecutive hours.” Consecutive work hours ranged from a minimum of five days to three months and “from five hours’ to 20 hours’ working a week” (15). In the second review, what was counted as a successful employment outcome “ranged from being in employment for 1 day to being in employment for 1 month” (14). The third review noted that:

*Some studies used supplementary criteria like that the job was independently held with the participant in continuous employment for at least 30 days; that fewer than 50% of the participant co-workers had disabilities; and self-employment was also reckoned as competitive employment (16).*

## Findings from the literature

### Employment Outcomes

#### Obtaining competitive employment

Two systematic reviews and five primary studies examined whether IPS was effective in helping participants to obtain competitive employment. These studies consistently found IPS to be more effective than a variety of comparators (see list below) in terms of its ability to help participants obtain competitive employment over a range of follow-up periods (14,15,17,19,21–23).

Both systematic reviews found IPS to be more effective for obtaining competitive employment than the following comparators:

- IPS compared to traditional vocational rehabilitation with follow-up periods ranging from six months to 60 months (14),
- IPS compared to transitional employment with follow-up periods of one year or less (15),
- IPS compared to prevocational training or transitional employment with follow-up periods of one year or more (15), and

- IPS compared to psychiatric care only with follow-up period of one year or more (15).

Similarly, five primary studies reported that IPS was more effective in obtaining competitive employment than the following comparators:

- IPS compared to transitional employment over an 18 month follow-up period (23),
- IPS compared to stepwise vocational rehabilitation over 18 months follow-up period (17),
- IPS compared to high -quality treatment as usual that included vocational rehabilitation over 12 and 18-month follow-up periods (19), and
- IPS plus treatment as usual compared to treatment as usual<sup>5</sup> with six and 12 month follow-up periods (21) and also with only a six month follow-up period (22).

Only one of these primary studies reported a slight deviation in its later follow-up periods. The study found that the group that received “IPS plus treatment as usual” had a significantly higher rate of employment at the 6-month follow-up period but not at the 12 or 18-month follow-up periods when compared to the group receiving only “treatment as usual.” In this study, the “treatment as usual” that both groups received was quite robust and involved early intervention. In addition, the authors explained that other factors such as improvements in clinical culture and training, and new governmental policy changes supporting this population might have bolstered employment rates for the comparison group, allowing groups to obtain more similar levels of employment than might otherwise have been expected (22).

### Time taken to obtain competitive employment

A handful of studies investigated the time it took participants to obtain competitive employment. One systematic review and two primary studies agreed that IPS groups obtained competitive employment more quickly than comparator groups. Comparator groups included transitional and prevocational training (15), alternative vocational services (23), and stepwise transitional work (17) with study follow-up periods ranging from 12 to 18 months.

A third descriptive study by Pelizza et al. examined associations between IPS participant characteristics and the number of days it took them to start working. The study authors found that “days to first job appear to be related to gender, with young females starting to work earlier than young males” in the Italian context (25).

### Obtaining Competitive employment: Rates and percentages

Many of studies we reviewed reported the likelihood, percentage, percentage ranges or rates of competitive employment for IPS participants.

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<sup>5</sup> Notably, treatment as usual for both of these studies included participation in an early intervention program for those with psychosis (21,22).

Findings across these figures point to higher levels of competitive employment for IPS versus comparator conditions, as summarized in the Table 3 below.

Study Type	Reference	Intervention	Comparator	Findings: Competitive Employment (rates, %)
Systematic Review	Modini, 2016 (14)	IPS	Traditional vocational rehabilitation	IPS group was more than twice as likely to gain competitive employment
	van Rijn, 2016 (16)	IPS	Traditional vocational rehabilitation	Percentage of participants in competitive employment for the IPS group ranged from 13%-74% compared to the traditional vocational rehabilitation group that ranged from 2%-68%.
Primary Study	Bond, 2016 (23)	IPS	Alternative vocational rehabilitation	The competitive employment rate during follow-up for IPS participants was 82%. For control participants, it was 42%
	Davis, 2018 (17)	Veterans with PTSD randomized to IPS	Veterans with PTSD randomized to transitional work	38.7% of veterans receiving IPS intervention obtained steady work compared to 23.3% in the comparator group
	Reme, 2019 (19)	IPS	“High quality treatment”	Competitive employment rate of 36.6% for IPS participants at 12 months, and 37.4% at 18 months. For the comparator group, competitive employment rate of 27.1% at 12 months unchanged at 18 months
	Erickson, 2020 (21)	Adults with early psychosis randomized to IPS	“Treatment as usual”	Employment rates for IPS group increased over time whereas rates for the comparator group did not.

**Table 3: Competitive employment: rates and percentages**

As noted in the table above, one systematic review reported that individuals receiving IPS were more than twice as likely to gain competitive employment as the control group undergoing traditional vocational rehabilitation. These authors also found that the positive impact on competitive employment rates remained for at least two years regardless of economic conditions (14). Similarly, a primary study that compared IPS participants to those receiving alternative vocational rehabilitation found that

*The competitive employment rate during follow-up for IPS participants was nearly twice than for control participants (82% versus 42%) (23).*

### Maintaining competitive employment (job maintenance)

The best evidence about maintaining competitive employment comes from a high-quality systematic review that found IPS to be more effective in helping participants to maintain employment when compared to pre-vocational training, transitional employment, or psychiatric care only. This study also noted no increase in drop-out rates and hospital admissions for participants in the IPS cohort. The authors reported that the average duration of work for participants who were followed for less than a year was 13.26 weeks. The average duration of work for participants followed for more than one year was 32.74 weeks (15).

Primary studies echoed these results with one study recording an average of 30.20 weeks of job tenure over the 36-month follow-up period (25). Another study reported an average of “more than triple the number of weeks worked, job tenure in the longest job and total hours worked” for IPS participants. This amounted to an average of 25.0 weeks of employment for IPS participants, compared to 7.0 weeks for participants receiving alternative vocational services (23). A third primary study found that the IPS intervention resulted in participants achieving significantly longer job tenure as compared to those in the transitional work group that included working more weeks, more days and more weeks in full-time competitive employment (17). As well, in a study by Erickson et al., the IPS participants had a higher number of days worked over the 12-month period than the group receiving treatment as usual (21). Finally, in one other study, 34.4% of IPS participants reported that they worked six hours per day or more, as compared to 7.1% for sheltered workshop participants and 2.6% of vocational support center participants (24).

### Economic outcomes (including job earnings)

Unfortunately, we found very little evidence from the literature related to income/ earnings for IPS participants. Three primary studies (17,18,23) sought out earnings as one of their employment outcomes but only one of these studies formally reported on earnings in its findings (17). Davis et al. examined veterans with Post-Traumatic Stress Disorder and reported significantly higher earnings for those competitively employed in the IPS group than for the transitional work group over the 18-month follow-up period (17).

### Effectiveness of IPS in different contexts

Significantly, one of the systematic reviews comparing IPS to traditional vocational services examined the effectiveness of IPS across international settings and in different economic conditions, considering geographic region, unemployment rate, and GDP growth:

*This study provides strong evidence that IPS is effective in a variety of international settings, with its impact on competitive employment rates remaining for at least 2 years irrespective of economic conditions (14).*

The authors of this review caution that the relative effectiveness of IPS is impacted by a country’s GDP growth; however, participants of IPS remained significantly more effective at



obtaining competitive employment compared to those with traditional vocational training even when GDP growth was below two percent (14).

## Non-Vocational Outcomes

### Quality of Life

Two systematic reviews and three primary studies reported on quality of life as an outcome, with most reporting neutral findings. The systematic review with the highest quality found no positive or negative effects related to quality of life for participants in any of the interventions examined (15). Similarly, a recent primary study that compared three types of vocational services, including IPS, found no difference in participants' self-reported quality of life in different interventions (24).

On the other hand, some evidence indicated that IPS had a positive effect on participants' quality of life:

- A lower-quality systematic review that focused only on non-vocational outcomes found that IPS had a “modest positive effect on the quality of life” (16).
- One primary study found that IPS participants' health-related quality of life was significantly improved compared with participants given high-quality treatment as usual (19).

Another primary study (20) examined quality of life from a few angles, including:

- the effect on quality of life of pre-defined time budgets of 25, 40, or 55 hours allotted for job searching;
- the effect of baseline quality of life scores on the probability of obtaining competitive employment; and
- the effect on quality of life of obtaining competitive employment.

The authors found that quality of life improved over time when viewed in terms of participants' financial resources and home environment. Other quality of life indicators that measured physical health and psychological health improved for participants receiving IPS who obtained competitive employment (20).

Findings from another recent primary study with neutral findings on quality of life indicators may help to explain the modest effect of IPS on this measure in the research overall:

*Since in the current study the majority of consumers (92%) perceived themselves as workers, regardless of the service type, it is possible that work itself is a major factor contributing to enhancing QoL [quality of life] in this population (24).*

It is also notable that systematic reviews and primary studies used a variety of scales or measures to assess differences in quality of life for participants—presenting a limitation when comparing findings for quality of life outcomes between studies.

## Mental Health Outcomes

As was the case when measuring quality of life, included studies also used a number of different scales to measure mental health outcomes among study participants. Two reviews that examined mental health outcomes found no evidence of mental health benefits for any of the vocational rehabilitation interventions studied (15,16).

Two primary studies examined aspects of mental health outcomes. Reme et al. investigated changes in psychological distress (using the Hospital Anxiety and Depression scale) and changes in subjective health complaints (using the Subjective Health Complaints inventory). The study authors reported that the IPS group showed improvements in both symptoms of depression and subjective health complaints (19). Another primary study that compared IPS to transitional work reported that Post-Traumatic Stress Disorder (PTSD) symptoms improved for participants of both groups over the 18-month study period. The study authors pointed out that at the very least this means that PTSD symptoms did not get any worse for either group (17).

## Functioning

Only a small number of studies looked at changes in levels of functioning for study participants and most of these studies didn't formally define functioning. However, if we look to the scales that studies used to measure participant functioning, most scales were designed to assess how well an individual functioned in daily life. One poor-quality systematic review analyzed five studies that used the Global Assessment of Functioning scale to measure levels of functioning in participants and found no evidence of improved functioning for IPS participants (16). However, two primary studies did note improvements in functioning for IPS participants using different scales:

- Mueller et al. compared functioning in the areas of work/school, relationships, and lifestyle for IPS participants versus participants of stepwise vocation and found that the functioning score for IPS participants improved significantly over the 18-month follow-up period (18).
- Gal et al. compared measurements for a number of outcomes, including functioning. The measurements included both patients' self-reported functioning and reports by providers (including areas such as personal hygiene, household chores, finances, mobility, coping with daily problems, medication intake, medical supervision, social life, community participation and work/studies, illness management and recovery, and effects of symptoms). Providers rated IPS participants as having both improved functioning and improved illness management whereas patients self-reported improvement only in terms of functioning measures and not for illness management (24).

## Hospital admissions and adverse events

One systematic review examined hospital admissions and other adverse events. These authors found "no evidence for adverse events such as dropping out of the programme or hospitalization" (15).

## Potentially Relevant Contextual Issues

Throughout the course of this project, we have tried to identify potential factors unique to our provincial health and healthcare context that might influence the relevance and applicability of the research-based evidence on the Individual Placement and Support (IPS) model of supported employment. This section of the report sets out potentially relevant contextual issues for decision makers to consider.

### Patient/Client Factors

Evidence from our synthesis shows the effectiveness of the Individual Placement and Support (IPS) model for people with severe mental illness, especially when it comes to obtaining competitive employment. Some studies also found that IPS participants experience modest increases in certain aspects of quality of life. These are important considerations given that a growing body of evidence recognizes the key role of employment in recovery from a mental illness (6,31). According to the Canadian Mental Health Association, those with severe mental illness face numerous barriers to employment such as gaps in work history, mental health stigma and the rigidity of income-support benefit-programs (32):

*The unemployment rate of persons with serious mental illness reflects these obstacles and has been commonly reported to range from 70-90%, depending on the severity of the disability (31).*

Despite these obstacles, many of those with severe mental illness want to work (33)(Bond, 2014).

Statistics from 2017 gathered by the Newfoundland and Labrador Statistics Agency indicate that 23.6% of people in the province over the age of 15 have a disability (34). Of these disabilities,<sup>6</sup> statistics indicate that 31.6 % have mental-health related disabilities (35). A number of employment-related programs operated by government and community organizations, are available to persons with disabilities in the province; however, a recent local study identified a lack of programs and services specifically designed to assist with employment-related matters for those with mental health issues (36). IPS is a potential service model that could fill these service gaps and help those with severe mental illness to achieve competitive employment in the Newfoundland and Labrador context.

### Geographic and Economic Factors

The distribution of the NL population over a vast geographical area makes access to services an important contextual variable to consider when planning employment programs and services for those with severe mental health issues. A benefit of the IPS model is that evidence shows that the effectiveness of IPS remains stable across various settings and economic conditions regardless of a country's unemployment rate (14). However, the research does not explicitly address the question of population density or rurality.

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<sup>6</sup> Overall disability types included: pain-related, flexibility, mobility, mental health-related, seeing, hearing, dexterity, learning, memory, developmental, and unknown.

## Health System Factors

Decision-makers in Newfoundland and Labrador are now well-positioned to make necessary mental health services changes at the systemic level. The report *Towards Recovery: Mental Health & Addictions Action Plan for Newfoundland and Labrador* outlines recommendations for the restructuring of mental health services throughout the province and describes the intention to implement a system for those with mental health and addictions that is integrated, person-centered and recovery-focused (12). Importantly, the province's All-Party Committee on Mental Health and Addictions recognized that beyond access to counselling, the province needs to address and support other areas that affect mental health, including employment (13). The IPS model fits the criteria of change outlined by the Committee and has the potential to provide recovery-oriented employment support for those with severe mental illness.

In considering the adoption of an IPS model for those with severe mental illness, health system decision-makers will need to collaborate and coordinate with stakeholders from across the province to remove barriers and support enablers at the system, community, employer, and individual levels when implementing the IPS support model. The Mental Health Commission of Canada reviewed disability support policies in their 2013 report and recommended that:

*Income support programs should operate in collaboration with other stakeholders, including employment support programs, mental health service providers, and employers. Interaction between policies should be examined to ensure unintended barriers are not being created (32).*

In the case of IPS where users would be gaining competitive employment, it will be important to avoid any scenarios in which uncoordinated mental health policy or support systems create a lack of incentive to work because of how the rules for obtaining certain benefits affect a user's eligibility for, or access to, different supports (32,37).

Educational materials from the IPS Employment Center outline some key factors for implementing IPS that will be important to consider in the local context. These factors include:

- building consensus with key stakeholders to oversee implementation,
- determining and maximizing funding, examining the service agency's alignment with recovery-oriented IPS approach,
- identifying leadership at different levels to oversee and ensure implementation,
- providing an adequate organizational structure to integrate IPS specialists, mental health treatment team and IPS supervisors,
- providing initial and ongoing training/ technical assistance for staff,
- allowing for adequate time to implement and organize IPS, and
- tracking the implementation process and outcomes (38).

It is beyond the scope of this report to review evidence on the barriers and enablers of implementing IPS. However, in Appendix B of this report, readers will find a list of research studies investigating the barriers and facilitators of implementing IPS in other jurisdictions.

## Summary of Key Points

- The research evidence on the Individual Placement and Support (IPS) model of supported employment primarily focuses on employment outcomes. Competitive employment is the key outcome of interest to the majority of researchers. Non-employment outcomes such as mental health, functioning, and quality of life are less frequently examined in the literature and are often secondary outcomes of interest.
- Despite differences in the way that studies defined competitive employment, evidence from systematic reviews and recent primary studies consistently showed that the IPS model is more effective in helping participants obtain competitive employment than numerous traditional and alternative vocational rehabilitation options or treatment as usual.
- Often studies examined additional employment outcomes such as time taken to obtain competitive employment, job maintenance, competitive employment and competitive employment rates/percentages. IPS consistently outperformed comparator interventions for these employment outcomes.
- We found evidence that the effectiveness of IPS remains stable across international settings and in different economic conditions that considered geographic region, unemployment rate, and GDP growth. However, in the context of individual jurisdictions, decision-makers should be aware that uncoordinated mental health policies and supports can create unintended barriers that affect participants' incentive to work and may reduce the relative efficacy of IPS.
- Very little high-quality systematic review evidence considered non-vocational outcomes; however, we did find modest evidence that participants of IPS experience an improvement in certain quality of life measures. We found no evidence of IPS having negative effects on mental health, quality of life or functioning.
- Evidence regarding adverse events was sparse; however, one high-quality systematic review found no evidence for adverse events e.g., hospitalization or dropping out of the program.

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## Appendix A: Our Consultant

### **Dr. Eric Latimer**

Eric Latimer is a health economist, based at the Douglas Research Centre and McGill University in Montreal. For the past 25 years, he has focused his research on evidence-based practices for people with severe mental illness, including the IPS model of supported employment. In collaboration with the originators of the IPS model in the United States, he led the first trial of IPS conducted outside the United States, the results of which were published in 2006 and are included in the reviews cited in this report. In 2008, he wrote a monograph on the applicability of the IPS model to the Québec context for the province's then *Agence d'Évaluation des Technologies et Modes d'Intervention en Santé* (Agency for the evaluation of technologies and intervention methods in health). This monograph has contributed to the spread of IPS in French-speaking Europe. He has also written on the economics of IPS and has given presentations on this topic in several countries. More recently, he led an evaluation of the implementation of supported employment programs in seven Canadian provinces, including Newfoundland and Labrador, the results of which are cited in this review.

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