**Feasibility Study and Needs Assessment
for a Canadian Searchable Online Resource for Workplace Accommodation
for Persons with Disabilities**

Final Report

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Executive Summary

This study of the need and feasibility of creating a Canadian online resource for workplace accommodation includes six distinct components, each with its own methodology, goals, and findings. Conducting these six sub-studies within the larger study has allowed us to summarize best evidence in peer-reviewed and grey literatures, highlight the voices of the various stakeholders who could benefit from the proposed online resource, examine how stakeholders' needs and perspectives intersect, and synthesize the findings to produce a holistic view of the subject. Findings are synthesized in last section (Component 7). In this executive summary we provide specific recommendations.

The findings of this study suggest that there is value in developing an online searchable resource for workplace accommodations specific to the Canadian labour market. An important caveat is that such a resource should not duplicate existing services, but rather, dovetail with them. Specifically, the web resource would need to work with existing service providers (e.g., referring clients to other services if they better meet clients' needs) to minimize duplication of efforts and ensure continuing service provision. The web resource could serve as an initial point of contact for employers and other stakeholders to provide quick and easy access to information and services for accommodation and/or direct them to where they can find needed information and services. We detail the findings of a stakeholder needs assessment and an environmental scan of suppliers of workplace accommodation products and services that serve as the basis for this conclusion in Components 3 and 4. The following is a summary of needs that could be served by a Canadian website:

- Accommodation options, best practices and concrete examples;
- Accessible information on legal responsibilities, standards and compliance;
- Contact information of local service providers;
- Funding sources to support accommodations;
- Information on creating and maintaining inclusive workplace cultures;
- Opportunities for peer support and guidance;
- Increased public awareness of the benefits of employing people with disabilities; and
- Information on education and employment opportunities for people with disabilities.

There are several resources that are currently available to Canadian employers and other stakeholders that provide information and services to support hiring people with disabilities and identify appropriate workplace accommodations for new and existing employees. Some are Canadian-based, while others are international-based. But employers are often uncertain about where to find information and services. The patchwork of resources available online and elsewhere is hard to navigate. Therefore, partnering with existing online resources or creating a portal that would bring existing resources and services together (such as suppliers of adaptive equipment/technology, disability service providers, employer groups), could enhance the reach and impact of current offerings. Equally important is the need to connect stakeholders with each other, as well as to learn from and communicate the experiences of others (e.g., through employer peer support). With regard to this latter point, supporting a community of practice (i.e., group of people who share a concern or a passion for something they do, and learn how to do it better as they interact regularly) to allow stakeholders to share information, experiences and

success stories may make the proposed resource more valuable to clients. This aspect was emphasized by some website administrators to whom we spoke. For details, see Components 5 and 6 where we review several websites and summarize interviews with website administrators.

Two key elements needed in a proposed online resource include promoting customized accommodation, and making available individual assessment and consultation (either directly or through a third party). The literature reviews in Components 1 and 2, as well as stakeholders we spoke to (see Component 3, 4, 5 and 6), emphasized that accommodations must ultimately be made at an individual level. Ideally every accommodation solution should be customized based on considerations that include the views of individuals themselves, their work function, the workplace environment, and the availability of funding. Therefore matching generic disabilities to generic accommodation solutions is not sufficient. In fact, the Australian Government's JobAccess Service noted that their website service forms one part of the suite of services they provide, which is enhanced by alternative support channels that take into consideration the user's accessibility requirements. An opportunity for clients to connect with allied health professionals who can guide them was consistently emphasized as central key means by which individualized accommodation solutions can be achieved. Also emphasized was the need for an inclusive workplace culture to enable the creation of job opportunities for people with disabilities, and help address negative stereotypes. This could be supported by the provision web-based information and training opportunities.

In developing a Canadian online resource, it is important to clearly define the target audience(s) of the resource, keeping in mind that different stakeholders have different needs, expectations, and preferences. A common principle espoused by interviewees was that information and resources need to be suited to clients' level of knowledge. For example, many employers know little about accommodation best practices and have little time to acquire sufficient knowledge; therefore, clear and simple information and services are needed for this group. The use of social media was also emphasized, given that technological advances have created a range of ways to access information, with different clients having different preferences.

One website administrator emphasized the importance of research. They noted that ongoing funding for research to support development and improvement of service and product offerings is a critical part of meeting clients' needs and ensuring ongoing relevance.

Both the up-front investment and resources required for maintenance are considerations in creating and maintaining a website resource. The calculation of maintenance costs should include the cost of ongoing evaluation and improvement, since client needs and technologies change over time. Continuous improvement would better ensure that new and existing clients regularly turn to the site for information and services. Inadequate budgeting could limit the sustainability of the online resource, although our interviews with website administrators also suggest that modest budgets are not an obstacle to providing service. For example, AbleData serves the US market and beyond with an operating budget of $700,000 per year. To oversee EARN, the Viscardi Center received grant funding of $1.8 million per year from the US Department of Labor for a period of five years. Yang-Tan Institute has a funding envelope of $4.5 million over 5 years for the "Employer Practices to Improve Employment Outcomes for Individuals with Disabilities Research and Training Center."

The types and amounts of human resources for various existing website resources are provided in the results for Components 5 and 6. The following is a summary:

- *AbleData:* In total, AbleData has about 5 full-time equivalents (FTE) including 2.5 FTE staff for the call centre and to update information on its site; part-time and full-time staff for IT (1 FTE in total); technical support (1 FTE); the development of information guides and graphic design (20-40 hours per year); and business/data analysis (20% FTE).
- *Employer Assistance and Resource Network (EARN)*: For EARN, the maintenance of its website is not overly expensive. Most of its funds go towards the development of content for the site. There are a total of 18-20 people spending a portion of their day on the EARN grant. In total, there are three people who are full-time, while the remaining people are part-time.
- *Job Accommodation Network (JAN)*: In total, JAN has less than 30 FTE, including IT support. JAN staff work in teams. JAN has a network team for hardware, software and backup; a web team (comprised of two individuals); a content management team; different teams based on the type of impairment, a small business team, as well as support staff (who update web addresses, phone numbers, etc., on the resource pages).
- *JobAccess Service Australia:* To maintain the core components of the JobAccess website one FTE staff member is responsible for its day-to-day management. The contracted JobAccess provider delivers updated content on an as needed basis (this work is covered as part of the contract to deliver the JobAccess). There is an additional 0.5 FTE staff members involved with the maintenance and monitoring of the website.

In terms of knowledge mobilization of the findings from this study, our plans are to post the report on the Centre for Research on Work Disability Policy (CRWDP) website. Other dissemination activities include:

- o Presenting findings at academic and stakeholder forums;
- o Preparing a manuscript of the report for publication;
- o Profiling the report and its findings in a newsletter article; and
- o Writing a one page layperson summary of the report for broad dissemination.

Questions Guiding the Study and Methodology Overview

This feasibility study and needs assessment is focused on identifying the merits of developing an online resource for workplace accommodation for persons with disabilities that will primarily serve employers, but will also be accessible to persons with disabilities and other organizations interested in workplace accommodation issues. The overarching questions guiding this study are:

1. What evidence is there in the peer-reviewed and grey literatures for best practice resources for employer accommodations, sources of information and services used by employers when accommodating workers, and costs/economic aspects of accommodation?

2. Within Canada, what are the existing online resources, support systems, and information centres that help support employers with workplace accommodations for persons with disabilities? Are these resources effective in terms of costs, encouraging partnerships, and positive employment outcomes such as increased recruitment and retention?

3. What information needs are required by employers to help them better recruit and retain persons with disabilities? What information needs could be gained from an online searchable resource? What information needs would likely not be met by such a resource?

4. Is there a perceived value amongst stakeholders in developing an online searchable resource for workplace accommodations specific to the Canadian labour market? Why or why not? What are the steps, resource requirements, and partnerships needed to develop and maintain such a resource?

5. What suppliers of accommodation products and services currently operate within and across Canada, including local, regional and national suppliers? How do they currently connect with their client bases? Are there forums where they connect with each other? Do they see value in an online searchable database?

6. What would be the resource needs in terms of people time, expertise and costs to develop and maintain an online searchable resource? What features and types of functionalities would it need?

A special focus is given to the evidence on best practices and resources that can improve employer confidence in the hiring, retention and accommodations of persons with disabilities. The results of our previous literature review study suggest that while many companies successfully employ persons with disabilities, employers recognize the need for education, connecting with expertise, and learning from best practices (Gates, 2000; Sanford and Milchus, 2006; Fredeen et al., 2013). We have identified several specific recommendations described in the literature that can help employers develop realistic and positive expectations, and build confidence in hiring and accommodation of persons with disabilities. These strategies include disability awareness training and training on the legal requirements of disability non-discrimination and accommodation (e.g. Erickson et al., 2014; Solovieva et al., 2011; Zolna et

al., 2007); learning from employers experienced in hiring persons with disabilities, and facilitating the membership of persons with disabilities in trade or industry associations (Lee, 1996); and establishing partnerships with rehabilitation and medical professionals, vocational service agencies, employment and community organizations (e.g. Erickson et al., 2014; Younes, 2001; Unger, 2007; Doogan and Playford, 2014). In order to further examine the needs of employers and other stakeholders in the accommodation process, and to expand on existing evidence on best practices and recommendations, the present study builds on the evidence we found in our previous study (Tompa et al., 2015).

The present study is built on the assumption that work disability is greatly influenced by the presence of physical and social barriers to participation. Removing or neutralizing these barriers by providing workplace accommodations and support to persons with health conditions or impairments can enable them to find meaningful employment, to stay at work, or to return to work if absent due to an impairment, illness or injury. One of the definitions consistent with this view is proposed by the Conference Board of Canada (2012):

> Accommodations can include accessible formats and communication supports for information, physical or structural modifications, changes in work demands and schedules, or the use of assistive devices. An accommodation allows an employee with a disability to fully access and participate in the workplace and to complete the same duties and requirements as other employees. It can be temporary or permanent, depending on the needs of the employee (p.24).

The study includes six components as outlined in the original proposal. They are summarized below and subsequently detailed in this report:

1. <u>A search of the academic literature in the field of rehabilitation and return to work, disability management, health and labour economics:</u> This component comprises a search that builds on our previous academic literature search (that considered both the Canadian and international literature on policies and practices on the types of accommodations for persons with visible disabilities). In this stage of the literature search, we take a deeper dive to focus on best practice resources for employer accommodations, sources of information and services used by employers when accommodating workers, and costs/economic aspects of accommodation.

2. <u>A search of the grey literature in the area of workplace accommodations for persons with disabilities:</u> This component comprises a search that also expands on our previous grey literature search. Here too, we take a deeper dive into the grey literature to identify best practices developed by both employers and non-profit organizations. In this review we also consider the role of employee engagement in developing solutions.

3. <u>An assessment of the need for an online resource for workplace accommodation:</u> To complete this component, we conducted interviews with stakeholders in the work disability arena to identify the information needs of employers and other stakeholders, their current sources of information on workplace accommodation, and whether they think a Canadian searchable online resource would be a value-added resource.

4. <u>An environmental scan of suppliers of workplace accommodation products and services operating within and across Canada, including local, regional and national suppliers:</u> This component draws on what we learned during the needs assessment component. It consisted of contacting suppliers to identify how they currently connect with their client base. We also inquire about any forums that currently exist for such suppliers to work together in providing services, and whether they think a Canadian searchable online resource would be a value-added resource.

5. <u>A review of existing web-based models of searchable online resources for workplace accommodation:</u> This component comprises a detailed review of the existing online services. The focus of this component is on mapping the different kinds of services provided. Another key element will be identifying what works and what does not work for these models. This is addressed by contacting the administrators of these services and interviewing them about the uptake of their services and feedback they have received from their client base. We ask these administrators about any formal or informal assessments they have done of the services they provide.

6. <u>Development of a cost estimate for building and maintaining an online resource for workplace accommodation:</u> Data for this component is gathered, in part, from interviews with web-based service providers. We ask them about the time lines involved in developing and maintaining their web-based services and the number of people/types of expertise involved. This information is then used to estimate the cost of developing a similar web-based service in Canada. The estimate makes a distinction between development and maintenance costs, and considers full-time equivalents required by category of expertise for both.

What follows is a detailed account of the methodology and findings for these six components.

Component 1: Academic Literature Review

I.   Goal and Objectives of Academic Literature Review

We conducted a search of the academic literature in the field of rehabilitation and return to work, disability management, health and labour economics. This component involved a search that builds on our previous academic literature search that considered both the Canadian and international literature on policies and practices on the types of accommodations for persons with disabilities. In this stage of the literature search we took a deeper dive to focus on best practice resources for employer accommodations, sources of information and services used by employers when accommodating workers, and the costs/economic aspects of accommodation.

The academic literature search component is guided by the following question:

➢ What evidence is there in the peer-reviewed literature for best practice resources for employer accommodations, sources of information and services used by employers when accommodating workers, and costs/economic aspects of accommodation?

II.   Academic Literature Search Methodology

This literature review builds on our previous academic literature search that considered both the Canadian and international literature on policies and practices on the types of accommodations for persons with visible disabilities. The current study involves syntheses of evidence on best practice resources for employer accommodations, sources of information and services used by employers when accommodating workers, and costs/economic aspects of accommodation.

We have conducted an academic literature search using the search terms listed in **Table 1.1** in six databases: Medline, Embase, Psychinfo, Social Science Abstracts, Sociological Abstracts, and ABI Inform Global. These databases were chosen as they represent international, peer-reviewed literature from a variety of disciplines, such as medicine, psychology, business, and the social sciences. Our search covered the literature published in English from January 1990 to October 2015.

We have identified three "must-have" articles to guide the development and refinement of the search strategy:

1)   Kirsh, B., Krupa, T., Cockburn, L. & Gewurtz, R. (2006). Work Initiatives for Persons with Severe Mental Illnesses in Canada: A Decade of Development. *Canadian Journal of Community Mental Health, 25*(2), 173-191.
2)   Bond, G.R., Becker, D.R., Drake, R.E., Rapp, C.A., Meisler, N, Lehman, A.F., Bell, M.D., & Blyler, C.R. (2001). Implementing supported employment as an evidence-based practice. *Psychiatric Services,* 52(3), 313-322.
3)   Schartz HA, Hendricks DJ, Blank P. (2006). Workplace accommodations: evidence based outcomes. *Work,* 27:345–54. http://bbi.syr.edu/publications/blanck_docs/2006/Work27_2006.pdf

The search strategy included terms from four broad categories: (1) people with disabilities; (2) employment; (3) workplace accommodations; and (4) best practices. The terms within each category were combined with an OR Boolean operator. The four categories were then combined with an AND Boolean operator. The search therefore captured references with at least one term in each of the four categories. As each database is unique, the search terms were customized to match the database's specific controlled vocabulary whenever possible. In cases where no such controlled vocabulary terms exists, the term was searched in the title/abstract fields. A list of customized search terms used to conduct the search in Medline database is provided in **Table 1.2**.

We found that one "must have" article out of the three articles listed above is indexed in Medline (Schartz et al., 2006). This article was captured by the search. The articles that represent an update on the study by Bond et al, 2001 were also captured by the search. The full text of the article by Kirsh *et al* was also reviewed for this study (Kirsh et al., 2006).

After conducting the final search in the databases identified above, we removed duplicates. A member of the research team then proceeded with the screening of titles and abstracts to identify the most relevant articles. We used the inclusion and exclusion criteria provided in **Table 1.3**.

Table 1.1: List of search terms that are not adapted to a search database

People with disabilities	Employment	Workplace accommodations	Best practices
Disabled Persons	Employee(s)	Architectural Accessibility	Practice Guidelines
Disabled [near] (Employment or	Employer(s)	Self-Help Devices	Best Practice(s)
Employed or Occupation(s) or	Employment	Assistive device(s)	Evidence-Based
Work(ing))	Job(s)	Communication aids for disabled	Cost-benefit analysis
Disability(ies) [near] (Employment or	Occupation(s)	Assistive technology(ies)	Effective(ness)
Employed or Job(s) or Occupation(s)	Worker(s)	Supported Employment	Literature Review(s)
or Work(ing))	Work	Equipment [near] Accommodation	Systematic Review(s).
Amputees	Workplace	Equipment [near] Adjustment(s)	Review(s)
Anxiety Disorders		Equipment [near] Modification(s)	Synthesis(es)
Attention Deficit Disorder with		Flexible Hour(s)	Successful(ness)
Hyperactivity		Flexible Shift(s)	
Blindness		Flexible Work	
Chronic Fatigue Syndrome		Modified Duty(ies)	
Deafness		Modified Job(s)	
Hearing Disorders		Modified Task(s)	
Hearing Impairment(s)		Modified Work	
Major Depressive Disorder		Training Support	
Learning Disorders		Working From Home	
Mental(ly) Ill(ness(es))		Work [near] Socialis(z)ation	
Mental(ly) (Impaired or		Technical Aid(s)	
Imparement(s))		Work [near] Accommodation(s)	
Mental Disorder(s)		Work [near] Adjustment(s)	
Migraine Disorders/		Work [near] Flexible	
Mobility Issue(s)		Work Initiative(s)	
Mobility Problem(s)		Employer Initiative(s)	
Vision Disorders		Information [near] (Employer(s) or	
Visually Impaired Persons		Employment)	
Visual(ly) and (Impaired or		Resource(s) [near] (Employer(s) or	
Impairment(s))		Employment)	
		Service(s) [near] (Employer(s) or	
		Employment)	

Table 1.2: List of search terms used to conduct the search in the Medline database

People with disabilities	Employment	Workplace accommodations	Best practices
Disabled Persons/	employee?.ti,ab.	Architectural Accessibility/	Practice Guidelines as
(disabled adj5 (employ$ or	employer?.ti,ab.	exp Self-Help Devices/	Topic/
job? or occupation$ or	Employment/	assistive device?.ti,ab.	best practice?.ti,ab.
work$)).ti,ab	job?.ti,ab.	Communication Aids for Disabled/	Evidence-Based Practice/
(disabilit$ adj5 (employ$ or	occupation$.ti,ab.	assistive technolog$.ti,ab.	Evidence-Based.ti,ab.
job? or occupation$ or	worker?.ti,ab.	Employment, Supported/	Cost-Benefit Analysis/
work$)).ti,ab.	work/	(equipment adj2 accommodation?).ti,ab.	Effective$.ti,ab.
Amputees/	workplace/	(equipment adj3 adjust$).ti,ab.	Review Literature as
Anxiety Disorders/		(equipment adj3 modif$).ti,ab.	Topic/
Attention Deficit Disorder		flexible hour?.ti,ab.	Systematic Review$.ti,ab.
with Hyperactivity/		flexible shift?.ti,ab.	review?.ti,ab.
exp Blindness/		flexible work$.ti,ab.	synthes?s.ti,ab.
Fatigue Syndrome, Chronic/		modified duties.ti,ab.	successful$.ti,ab.
Deafness/		modified duty.ti,ab.	
exp Hearing Disorders/		modified job?.ti,ab.	
hearing impair$.ti,ab.		modified task?.ti,ab.	
Depressive Disorder, Major/		modified work$.ti,ab.	
Learning Disorders/		Training Support/	
mental$ ill$.ti,ab mental$		"working from home".ti,ab.	
impair$.ti,ab.		(work$ adj2 socialisation).ti,ab.	
mental disorder?.ti,ab.		(work$ adj2 socialization).ti,ab.	
Migraine Disorders/		technical aid?.ti,ab.	
mentally ill persons/		(work$ adj2 accommodat$).ti,ab.	
mobility issue?.ti,ab.		(work$ adj2 adjust$).ti,ab.	
mobility problem?.ti,ab.		(work$ adj2 flexib$).ti,ab.	
exp Vision Disorders/		(work$ adj2 initiative?).ti,ab.	
visually impaired persons/		(employer adj2 initiative?).ti,ab.	
visual$ impair$.ti,ab.		(information adj5 (employer? or employment)).ti,ab.	
		(resource? adj5 (employer? or employment)).ti,ab.	
		(service? adj5 (employer? or employment)).ti,ab.	

Table 1.3: Inclusion and exclusion criteria

#	Question	Notes
1	a) Does the study describe or evaluate policies or practices of accommodation of workers with disabilities at a workplace? b) Does the study describe or evaluate resources for workplace accommodations such as sources of information or services that can be used by employers to accommodate an employee? c) Does the study describe costs or economic aspects of workplace accommodations? *If "Yes" to either (a), (b) or (c), move on to Question #2.* *If "No" to (a), (b) and (c), exclude article.*	Accommodation of disabled workers may include any physical or non-physical accommodation, including accommodation in hiring, recruiting, as well as accommodations for ongoing engagement and retention. Employer services/resources may include service providers, suppliers, disability support programs, municipalities, and provincial and federal governments. It also includes the services of occupational therapists in the workplace.
2	a) Does the study represent a high level summary or a synthesis of practices or policies of workplace accommodations? Example study designs include reviews of the literature on the topic, or reviews of several cases or interventions. b) Does the study represent a specific intervention/case study that provides novel/new evidence and is of particular interest to the current project? *If "Yes" to either (a) or (b), move on to Question #3.* *If "No" to (a) and (b), exclude article.*	We excluded the articles that describe specific cases or interventions, unless they provide novel/new evidence and are of specific interest. We excluded discussion pieces that don't have a research component.
3	Is this study published in a scientific journal, and is not a PhD dissertation, a book or a book chapter? *If "Yes," include article.* *If "No," exclude article.*	We excluded the studies published as PhD dissertations, books or book chapters

The full text of the included articles was reviewed. During the full-text review stage, we extracted data related to (a) specific supports/resources; (b) examples of relevant disabilities; (c) the methods or study types; (e) study location; (f) main findings; (g) best practice recommendations to employers. We then synthesized the evidence from the studies.

III. Findings of the Academic Literature Review

We conducted an academic literature search in six databases: Medline, Embase, Psychinfo, Social Science Abstracts, Sociological Abstracts, and ABI Inform Global. After removing duplicates, the search yielded 1,500 references in total. Title/abstract review identified 39 potentially relevant articles, which were given a full-text review. In addition, one article was identified through the internet search as a "must-have article," and seven relevant articles from the literature search of an earlier study undertaken for ESDC were given a review for this study. The following results and considerations are based on the review of 47 articles. The results of full-text review are available as Appendix A1.

Employer needs and barriers: two scenarios

For the purpose of this study it is helpful to distinguish between two possible scenarios in employing persons with disabilities, with the unique needs and barriers related to each one. Under the first scenario, employers may have some prior experience employing persons with disabilities, or are set to employ a person who has a mild disability or a disability they know how to address. Under this scenario, employers may in general possess the knowledge and/or experience in accommodation process, are confident of the success and aware of the costs and benefits, but might need to identify specific resources on how to accommodate their employee, such as where to purchase the necessary equipment and how to identify the best possible accommodations. In this case resources such as an online database, guides or toolkits that include a comprehensive record of specific barriers and relevant accommodations may be sufficient (Butterfield and Ramseur, 2004).

The second scenario is that of an employer that does not have prior experience and is thinking about employing persons with severe disabilities or with disabilities they are not very familiar with how to address. Under this scenario, employers may need to overcome the fear of uncertainty (Klimoski and Donahue, 1997), for which simply obtaining the information about best practices in accommodations might not be sufficient. Rather, efforts should be directed to connecting employers with expertise and promoting organizational change:

"*Simple provision of information could be a waste of resources*" (Rudstam et al., 2013)

"*Continuing campaigns to ''raise employer awareness'' will have limited effect on actual employer hiring behavior without simultaneous improvements in connecting employers to actual applicants with intellectual disability*" (Luecking, 2011)

To describe the barriers facing employers under the second scenario, the concept of "knowing-doing gap" can be used (Rudstam et al., 2013). Simply having information about laws, policies and practices is not enough, as employers may still experience barriers in further applying this knowledge to create appropriate behaviors, practices or policies in the workplace. To bridge the "knowing-doing gap", assistance in identifying potential employees and performing the necessary organizational and behavior changes to "set the ball rolling" may be essential. For example, one of the studies concluded that unless and until employers are actually exposed to specific individuals with intellectual disability, they are unlikely to regard them as people who

could contribute to their operations (Luecking, 2011). Thus, resources for employers in this second scenario should be directed to both impacting "knowing" and impacting "doing" (Rudstam et al., 2013).

Impacting "doing"

While our previous literature review for ESDC yielded many studies concerning mostly the first scenario and specific experiences of accommodating persons with disabilities, many of the articles we have reviewed for this study are concerned with the second scenario described above, and the need for connecting with external resources and support to overcome the initial fear of uncertainty. Recommendations to overcome the barriers related to the second scenario can, in general, be described as both the need for employers to be pro-active in reaching out to available support, and at the same time, the need for more access and availability of external resources, consultation and support. For example, one review study concluded that employers have consistently been more positive about workers with intellectual disability when appropriate supports are provided (Luecking, 2011).

The external resources and support for employers described in the reviewed literature include:

- o **Training services for employers, supervisors and co-workers** (Kaye et al., 2011; Rudstam et al., 2013).
- o **Consultation services provided by rehabilitation practitioners**. In particular, the literature describes the rehabilitation practitioner playing the role of a consultant and trainer to the employer on accommodations and supports as opposed to their role of a "job coach" who accompanies and teaches the employee. Moving from training to consultation services and partnerships was described as a way to move from impacting "knowing" to impacting "doing" (Rudstam et al., 2013; Hagner and Cooney, 2003; Zivolich, 1997).
- o **Connecting with organizations (including rehabilitation organizations) that provide supported employment (SE) services** (please see the sub-section below for more details).
- o **Joining a business consortium**. A consortium might consist of 10 to 15 business representatives who meet bimonthly at locations which rotate among the members' work sites. Meetings are facilitated by the staff of a rehabilitation organization. Members are usually human resource staff or department heads within their respective companies. Participants exchange ideas on job matching or enhancing success on the job for individual consumers of the rehabilitation organization and receive updates on programs. Meetings also typically include an educational component such as a presentation or video relating to the impact of mental illness in the workplace (Hagner & Cooney, 2003).
- o **Developing Communities of Practice (CoPs)**. A CoP is a group of people involved in the social construction of knowledge (practice). Several CoPs exist in the rehabilitation field. For example, the U.S. Department of Labor's Disability Employment Initiative has created an online forum to promote the collaboration of partners aimed at helping people with disabilities obtain meaningful employment opportunities. CoPs can be developed as an online tool complemented by face-to-face contact with stakeholders. It can include accessible power point presentations, webinars, videos, chat rooms and blogs. CoPs can

help employers and rehabilitation professionals obtain and share disability information, materials and resources, information on accommodation costs, and develop social networking opportunities. CoPs can also provide information designed to decrease stigma towards persons with disabilities (Bezyak et al., 2014).
- o **Consulting with other employers who have experience in hiring persons with disabilities** (Lee, 1996).
- o **Joining trade or industry associations** can help find assistance from employers, agencies, and professionals in the fields of disability and rehabilitation (Lee, 1996).
- o **Using tax incentives or other financial assistance**. In particular, publicly funded rehabilitation organizations can assume the expense for accommodating an employee (McDowel & Fossey, 2015; Erickson et al., 2014; Hagner & Cooney, 2003).
- o **Partnering with rehabilitation organizations**. In particular, a rehabilitation organization can provide on-the job support and training of an employee with a disability (Hagner & Cooney, 2003; Unger, 2007). Consortium for Employment Success (CES) model is an example of such collaboration among placement/employment services professionals and employers. Employer benefits of joining CES include having a single point of contact and easy access to the database of persons with disabilities looking for work (Gilbride et al., 2007).

When developing an online searchable resource, learning from the concept of Communities of Practice (CoPs) described above could be helpful. *Setting up an online resource with the view of engaging employers and promoting their sharing the knowledge, rather than only consuming the knowledge provided by others, can be essential in keeping up the interest in the online resource, and keeping it attractive for a longer period of time.* In addition to thinking about the up-front investment in the development of an online resource, one needs to also be concerned with its' on-going improvement and updating. Allowing partners to use it as a vehicle to share information through uploading their power point presentations, videos, posting advertisements about upcoming webinars and conferences, using chat rooms and developing blogs, could help make this resource more valuable for engaged stakeholders. Also, the information about accommodation options, service organizations, suppliers of equipment and technologies, can change quickly and therefore needs to be kept up-to-date. Entrusting stakeholders with this task can ease the burden of updating the online resource, and facilitates administering the resource with limited investments.

Issues in reaching out and using external resources and support

Navigation problem

Research literature suggests that employers often experience difficulty finding applicants or understanding the array of disability-specific entities that have a role in promoting and facilitating employment (Luecking, 2011; Kirsh et al., 2006; Gilbride et al., 2007). Existence of the myriad of various service providers and the absence of a single point of contact for all their disability related questions can lead to employers' confusion and frustration (Gilbride et al., 2007). Therefore, providing employers with a list of possible support organizations and entities, and helping them navigate in this field, may be very helpful to employers.

Lack of access to occupational therapists and other rehabilitation professionals

An article by Shaw et al (2013) from Canada described the role of occupational therapists and audiologists in supporting the workplace health of employees with hearing loss, and barriers in sourcing these resources faced by employers. The findings from this article demonstrate a dearth of research literature on how such professionals assist persons with disabilities in the workplace.

Occupational therapists and audiologists can support the development of accommodations or adaptations for workers with hearing loss. Occupational therapists can: (1) provide worksite evaluations of the job demands focusing on the physical, cognitive, social, psychosocial, and communicative requirements; and (2) evaluate, intervene, and re-evaluate the accommodation process for persons with disabilities in the workplace. Audiologists can: (1) assess communication demands of the workplace environment; and (2) provide audiologic assessment, followed by assessment, fitting and orientation to hearing aids or other assistive listening devices.

However there is no data on how often in practice audiologists inquire about their patients' communication needs at work, or how often, and to what extent they assess the patients' work environments. Moreover, there is limited literature in the Canadian context on how audiologists or occupational therapists actually address workers' concerns about hearing loss or employers' concerns about accommodation when these concerns arise in the workplace. Beyond this, little is known about the defined roles of audiologists, occupational therapists, and other professionals such as ergonomists, vocational specialists, and occupational health nurses in assessing the needs of workers with hearing loss and in providing appropriate accommodations or interventions to enable supportive work environments. A gap exists in the research on the influence of professionals such as occupational therapists and audiologists in workplace assessment, work reintegration or work sustainability for adults with hearing loss.

However, a study by researchers from the National Centre for Audiology and a School of Occupational Therapy in Canada examined this gap (Shaw et al., 2013). The study reported a number of challenges in using the services of audiologists and occupational therapists at the workplace, including:

(1) Challenges in the workplace or worker context:
  o lack of awareness of workplace parties such as employers and workers on the consequences of hearing loss;
  o lack of knowledge on the types of accommodations for persons with hearing loss;
  o difficulties with disclosure; and
  o lack of knowledge about professional or provider services available to support accommodations.
(2) Specific professional challenges for audiologists and occupational therapists:
  o lack of a professional practice mandate for prevention of disability in the workplace for persons with hearing loss;
  o lack of graduate or post-graduate education on physical assessment of the workplace;

- lack of graduate or post-graduate education on hearing conditions and hearing assessment tools to inform how to assess the needs for and strategies to implement workplace accommodations; and
- lack of training on funding sources, assessment processes and training on roles of other professional expertise and knowledge.

(3) Inter-professional context-specific challenges:
- lack of opportunity for networking/interacting with other professionals who have knowledge on hearing loss or accommodation processes;
- lack of knowledge-sharing between audiologists and occupational therapists on issues including professional expertise, and evidence on assessment and intervention strategies in the workplace; and
- lack of a standard or protocol for conducting best practice assessment and accommodation for those with hearing loss.

The development of an online searchable resource could help address some of the challenges and may facilitate knowledge transfer by connecting occupational rehabilitation professionals to each other and to employers, and facilitating knowledge and information sharing among stakeholders.

Employers are not considered program customers

Employers are not commonly considered as active players or stakeholders in accommodation process. In many research studies the employers' perspective was omitted (Drake and Bond, 2011). The studies that did include the employers' perspective found that employers use their own language and have their specific success metrics that sometimes are not taken into account by supporting organizations. In particular, markers for service provider success typically include wages, hours worked, and length of time on the job. At the same time, employers measure time to fill positions, time to productivity, cost/productivity ratios, and retention. In particular, from the employer's perspective, the hiring of an individual must fulfill one or more of the following: save the employer money, help the employer make money, or help the employer's operation run more efficiently by providing a means to accomplish more work and deliver better products or services. Employers often have difficulty making the connection between the mission of disability employment initiatives and the inherent demands of their enterprises. For example, one review study found that employers have consistently perceived disability employment personnel as being naive about, or unfamiliar with, business practices (Luecking, 2011).

Both job seekers and employers are to be regarded as end users and customers of employment service initiatives (Luecking, 2011). Thus, when looking for support organizations that could be included in the online database and recommended to employers, it is important to include those organizations that are committed to finding the common ground with employers and positively contributing to the companies' operation and goals (Rudstam et al., 2013; Luecking, 2011)

The majority of reviewed articles concerned with external supports and resources examine supported employment programs. Based on our review, supported employment is the only evidence-based best practice where research has reached a sufficient level of evidence on its effectiveness and cost-efficiency.

Supported employment

Definition and process

Twenty articles discussed various aspects of supported employment (SE) and in particular Individual Placement and Support (IPS) model of supported employment.

Marshall *et al* provide helpful definitions of the key terms (Marshall et al., 2011). SE is a direct service with multiple components designed to help adults with mental disabilities or co-occurring mental and substance use disorders choose, acquire, and maintain competitive employment. The IPS model is the most well-defined and researched model of supported employment. The primary goal of the IPS model is to help participants achieve competitive employment, which is defined as jobs paying at least minimum wage that are located in socially integrated community settings and that are held by clients directly and not reserved for individuals with disabilities or held by provider agencies.

The IPS model includes the following key principles:

- o services focusing on competitive employment;
- o eligibility based on consumer choice (interest or desire) and not on traditional considerations of "work readiness" (for example, diagnosis and symptoms);
- o rapid job search rather than lengthy pre-employment assessment, training, and counseling;
- o integration of rehabilitation and mental health services, so that employment specialists participate regularly in clinical team planning;
- o attention to consumer choice, so that services are based on consumer preferences rather than on provider judgments;
- o time-unlimited and individualized follow-along support;
- o systematic job development; and
- o personalized benefits counseling.

The integration of mental health services, the focus on rapid job search for competitive employment, and the provision of supports while on the job differentiates supported employment from traditional vocational or rehabilitative approaches.

Wehman provided a good description of the steps in the process of SE support (Wehman, 2012). First, a rehabilitation specialist (often referred to as a job coach or employment specialist) provides an array of supports to assist a person with a significant disability with obtaining and maintaining competitive employment in the community. Job development services geared toward helping the person secure work are offered. Sometimes existing positions within a business are pursued and, at other times, employers may be approached about creating a specific position for the job seeker. If a job is found or developed that is a suitable match for the job seeker and the employer, the employment is secured. Long-term support services include the provision of specialized support or assistance to the employee with a disability either at or off the job site at least twice per month for as long as the person remains employed. Many individuals with psychiatric disabilities and brain injuries, who are independent in performing their job

duties, seem to struggle with employer or co-worker relationships. These individuals often request that support services be provided away from the job site to reduce the stigma of having an employment specialist.

While most of the reviewed studies describe supported employment for mental health or intellectual disabilities, Wehman suggests that it can be used for physical disabilities too (Wehman, 2012).

SE outcomes and their value for employers

Literature reviews and meta-analyses studies consistently demonstrate that supported employment, and in particular the IPS model, has better outcomes than traditional vocational rehabilitation approaches, for persons with mental disorders including severe mental illnesses, co-occurring mental and substance use disorders, and/or intellectual and developmental disabilities (Marshall et al., 2014; Campbell et al., 2011; Bond et al., 2008; Bond, 2004; Moll et al., 2003; Luciano et al., 2014; Latimer et al., 2006; Arbesman and Logsdon 2011; Crowther et al., 2011; Crowther et al., 2011a; Dowler and Walls, 2014). While most of the studies on the effectiveness of SE were located in the US, one article by Latimer et al., 2006 concluded that supported employment proved more effective than traditional vocational services in a Canadian setting. There are many SE organizations in Canada (Meaner et al., 2011; Corbiere et al., 2010). The reviewed studies concluded that SE is cost-effective from the taxpayers perspective (Cimera, 2010; Luciano et al., 2014). However, we have not found any cost-effectiveness studies of SE from the employer perspective.

A study by Gustafsson *et al* described the features of SE support that can be especially valued of employers (Gustafsson et al., 2013). This includes the threefold role of an SE organization:

- o the role of a broker, that includes creating contacts with a potential workforce "invisible" to employers;
- o the role of a guide, when a SE coach takes an active part in the employee's employability and the ability to adapt to employer needs; and
- o the role of a troubleshooter, when a SE coach can support an employer in resolving issues if employers feel they lack information or knowledge to address the issue themselves.

A study by Perkins *et al* suggested that employers are in general highly satisfied with SE participation and with employees' work performance (Perkins at al 2005).

In conclusion, the studies suggested that SE, and in particular the IPS model, are effective and cost efficient, and lead to high employer satisfaction. Employers are recommended to contact SE organizations and use their services to hire individuals with mental disabilities, intellectual disabilities, or severe physical disabilities. Partnering with SE organizations can help address employers' concerns and fear around employing persons with mental health issues or with severe disabilities. SE organizations can link employers to an individual that can perform the job, provide on-going support and resolve issues.

In Canada, SE exists in the form of specialized programs, or alternatively, as a component of other types of vocational programs (Kirsh et al., 2006). *For the development of an on-line resource, we recommend creating a contact list of organizations providing SE services in Canada and committed to meet employers' goals.* This list should be searchable by location and by the type of disability. Ideally, it would be helpful to have a one-step process for employers wishing to partner with a SE organization. For example, instead of an employer contacting multiple SE organizations to find the appropriate one, employer might simply place a request that could be reviewed by representatives of local SE organizations, and then the SE organization wishing to assist this employer could contact this employer.

External support available to Canadian employers

We have found one article by Kirsh *et al* that describes the specifics of Canadian work initiatives for the employment of persons with severe mental disabilities (Kirsh et al., 2006). The following is the list of the initiatives and short descriptions of each:

- o **Consumer-run businesses** are entrepreneurial ventures that provide goods and services to the public and are completely directed and staffed by clients of mental health services.
- o **Affirmative businesses** represent organizations that create jobs through partnerships with other businesses, clients and vocational service providers.
- o **Agency-sponsored businesses** are owned by health and rehabilitation agencies with a view to providing paid employment opportunities for people with mental illness who have been marginalized from the community labour force (examples of such businesses are provided in the article).
- o **Supported Employment (SE)** is also part of the Canadian landscape. SE in Canada exists in the form of specialized programs, or alternatively, as a component of other types of vocational programs.
- o **Clubhouses** provide services within a communal place where members can share experiences, access a range of services and supports, and contribute in meaningful ways to the functioning of the clubhouse.
- o **Sheltered** workshops have dwindled, but have not disappeared from the Canadian landscape.
- o A small number of documents outlining **supported volunteering programs** were found.
- o **Job counseling and planning** is a service commonly cited in the documents reviewed.

Key characteristics of work initiatives in Canada include flexibility (within services and across services), the provision of a range of options, and the importance of partnerships.

Existing/emerging practices in workplace accommodation

From our review we conclude that only SE can comfortably be called a "best practice," given its comprehensive peer-reviewed evidence base. Other practices, to our judgment, have not yet obtained a sufficient level of evidence in the peer-reviewed literature, and therefore might be called existing practices, or "emerging practices" (a term used by Wolf et al., 2010), rather than "best practices."

The literature (from mostly synthesis studies) reviewed for this report provides descriptions of the following employer accommodation practices: personal assistant services, assistive technology, natural supports, lighting, and universal design approach. The results of our earlier literature review completed for ESDC provides more details about each type of accommodation we identify in this study. Below we summarize studies on personal assistance services (PAS), natural supports, lighting and universal design. Component 4 of the study on *suppliers of accommodation products and services* includes the description of assistive technologies.

Personal assistant services (PAS)

Two articles, one of them a literature review, discussed the use of PAS at the workplace (Dowler et al., 2011; Solovieva et al., 2009). Workplace PAS (a) include job-essential task-related assistance at work, such as readers, interpreters, help with lifting or reaching, reassignment of nonessential duties to coworkers, and help related to performing work tasks, and (b) may or may not include personal care related assistance such as helping someone with toileting, eating, or drinking while at work (Solovieva et al., 2009). PAS are not a widely used workplace accommodation option.

There are a number of barriers related to PAS that are important for employers to be aware of:

- o Finding, recruiting and retaining personal assistants can be difficult;
- o Using personal assistants in the workplace can be costly;
- o Employers ought to explore the issue of liability related to having non-employees – personal assistants – in the workplace. Dowler *et al* (2011) indicated that fear of personal injury or other liability can make the employer resist having an individual who is not their direct employee at the worksite.
- o Asking for PAS from coworkers may be useful in the short term but may cause resentment from co-workers over time, and may raise a dignity issue of an employee with a disability who is a care recipient from a co-worker;
- o Bureaucracy and the amount of paperwork could be a barrier;
- o Lack of workplace policy and information related to PAS accommodations could lead to the confusion; and
- o As concluded by Solovieva *et al* (2009), ongoing costs of PAS accommodations could be higher than for non-PAS accommodations.

Recommendations for employers related to the provision of PAS accommodations include:

- o Employers should be aware of this accommodation option;
- o PAS should be considered for accommodating persons with disabilities when other accommodations cannot provide adequate workplace support;
- o Employer may explore available funding options (e.g. government programs) for the provision of PAS for their employees;
- o Coworkers can temporarily provide PAS services to their colleagues with disabilities; and
- o Development of policies related to the provision of PAS can be explored.

For the development of an on-line resource, we recommend including contact information for employment agencies or organizations that can assist employers with locating and hiring a personal assistant. We also recommend providing information on sources of funding support for personal assistants in Canada, e.g., supported employment organizations can provide PAS services if persons with disabilities are hired through these organizations.

Natural supports

Natural supports include interactions and relationships with co-workers who may assist a worker with a disability to maintain their employment and advance in their job. Natural support can be used in SE, where they can serve as an alternative or complement the services of a job coach or other paid professional (Storey, 2003; Zivolich et al., 1997).

The literature review by Storey (2003) described the evidence and practices of the following natural support strategies:

- o **Co-worker instruction**. Coworkers can provide a wide variety of supports as long as they receive appropriate training and support themselves. It is likely that the greater the support needs and learning difficulty of the supported employee, the more instructional skills will be needed by co-workers and they will need more consultation and support from job coaches and other specialists.
- o **Co-worker advocacy**. Both formal (for example, written contract, strategy planning meetings) and informal (for example, asking co-workers to provide supports) guidelines appear to be necessary to empower co-workers to advocate for supported employees. Co-workers need supports such as instruction, modeling, feedback and reinforcement for carrying out advocacy in the workplace.
- o **Mentoring.** One study on this topic was identified by the literature review by Storey (2003). In that study, managers were provided with training on instructional strategies for individuals with developmental disabilities. The mentors were directly responsible for training the worker with a disability and training other co–workers on how best to train the employee with a disability. This study found that employees with disabilities trained using the mentor model had more interactions with nondisabled co-workers than those trained using the job coach model (where a job coach was a paid professional who trained employees with disabilities).

For the development of an on-line resource, we recommend including the description of the natural supports as an accommodation strategy that utilizes existing workplace resources to provide assistance, and train and facilitate workplace integration of employees with disabilities. It can be emphasized that natural support strategy based on utilizing managers and co-workers of a person with a disability can be an alternative or can complement relying on specialized services or PAS. We note that each person with a disability must be considered as an individual and supports built around their needs, rather than deciding ad hoc that a specific approach is appropriate for achieving integration in the workplace (Storey and Certo, 1996).

Lighting

We identified one literature review/evidence synthesis that discussed the use of lighting for persons with vision loss, at home and at the workplace (Fisk and Raynham, 2014). Seven tenets for assistive lighting were proposed in this study:

- **Appropriateness of lighting**. Adjusting furniture positions, the use of curtains, blinds and shades, changes to light fittings, reducing the number and variety of items in the visual field (i.e. "visual clutter"), can help make the lighting more appropriate.
- **Sufficiency of lighting**. There is a minimum level of light that is desirable and should be provided (specific recommendations are given in the text). People with sight loss will usually prefer and get benefit from higher levels of illumination, provided that glare is minimized. Portable or fixed lighting fulfilling a localized need may be used.
- **An even distribution of light** means avoiding deep shadows or sharp changes in light levels. This need arises from the confusion that can arise where people with sight loss do not see or misinterpret objects or features. Vision of these people is slow to adjust when moving from a well-lit to a poorly-lit space.
- **Adjustability of light**. Dimmer switches can be used for this purpose, as well as the use of curtains, blinds and shades.
- **Sustainability and energy efficiency**. This tenet is related to adjustability of light.
- **Simplicity in lighting interventions**. Replacement of some switches and fittings, perhaps complemented by some portable lighting, may be all that is needed.
- **Adaptability**. The extent and nature of people's sight loss changes. Portable lighting, with accessible fittings and power sources, can be used.

The tenets support the ways of thinking that need to be emphasized when lighting needs are being considered. Some of these tenets relate to the principles of the universal design approach.

For the development of an on-line resource, we recommend including information on lighting strategies to accommodate employees with vision loss (based on the study by Fisk and Raynham, 2014, and possibly drawing from other resources). Assistive lighting may be an overlooked and underutilized accommodation strategy, and making a reference to it on the online resource could be helpful for employers and service providers assisting with workplace accommodation of people with vision loss.

Universal design approach

The universal design approach is based on the premise that accommodating persons with diverse abilities in diverse work environments can be addressed through a systems level approach, complemented by an individual approach for persons who require accommodations beyond those provided through universal design (Zolna et al, 2007). Many workers with and without disabilities can benefit from a variety of accommodations, including flexible work schedules and locations, ergonomic modifications to their workstation, open communication and support from coworkers. The use of universal design can reduce the negative impact of workplace barriers faced by employees for various reasons including disabilities. Not only can universal accommodation benefit all workers, but it can also minimize the necessity for individualized

accommodations and personal assistance for workers with disabilities (Zolna et al, 2007), as well as increase workplace morale and job satisfaction.

For the development of an on-line resource, we recommend including links to resources/information from organizations such as Société Logique in Quebec (which promotes universally accessible environments), and links to the websites of suppliers of architectural products for accessibility that include information on the benefits of creating a universally accessible workplaces. An information sheet on the principles and benefits of universal accommodation can be developed and presented on the website to introduce employers and other stakeholders to the universal design approach. Further recommendations related to including this topic in the online resource are provided under Component 4 of this report.

Cost effectiveness

Among the reviewed articles, ten included some analysis of cost effectiveness of accommodations. In general, research suggests that providing workplace accommodations to a person with a disability is low cost, beneficial, and effective (Schartz et al., 2006; Nevala et al., 2015; McDowel & Fossey, 2015; Graffman et al., 2002; Solovieva, 2011; Hernandez and McDonald, 2010). In particular, SE was found cost-effective from the taxpayers' perspective, though there is a lack of studies on its cost-effectiveness for employers (Cimera, 2000; Cimera, 2010). Natural support programs also were noted as economical in many cases (Zivolich, 1997). Some accommodations, such as PAS, may be more costly (Solovieva et al., 2009), while other accommodations, such as extra supervision, flexible schedule or more frequent breaks, may involve only indirect costs or no costs at all (McDowel & Fossey, 2015; Solovieva, 2011). It is important to note that costs are not constant over time. Initial costs such as modifications to the workplace, specialized equipment and training can give a skewed indication of the costs involved, as these tend to be one-time costs that can bring benefits for a long period of time (Graffman et al., 2002).

One study suggested that financial incentives (subsidies) to the employer have little impact on an employer's decision to employ a person with a disability. Factors such as ability to perform the job and a low risk of absenteeism may be more powerful determinants for employers than financial incentives. Although more than half of employers in that study had received a subsidy and/or incentive, receipt of a subsidy and/or incentive was associated with somewhat poorer employee working conditions and resulted in no difference in benefit-cost outcomes (Graffman et al., 2002)[1]. That finding suggests that the "business case" for employers should be based on realizing their production and operation goals through hiring qualified employees with disabilities, rather than on reimbursement of accommodation costs through subsidies and other financial incentives.

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[1] Approximately three-quarters of employers in that study were from very small or small organizations (0–49 employees), with approximately 15% from medium sized organizations (50–199 employees) and 10% from either large or very large organizations (200+ employees).

Accordingly, we recommend developing an information sheet that describes the benefits of employing persons with disabilities, or providing links to existing resources and/or information sheets.

Summary

The findings from the review of the academic literature indicate that for employers who have experience employing people with disabilities or who are set to employ a person with a mild disability, specific information on identifying the suppliers or choosing appropriate accommodations may be sufficient. For employers who do not yet have experience in hiring persons with disabilities, or who are thinking about hiring a person with a severe disability or a disability that they do not know how to accommodate, external expertise and support are essential.

It appears that Canadian employers could benefit greatly from an online resource designed as a single, comprehensive source for all their disability-related accommodation needs. A single online resource could help address the navigation problem faced by many employers, and assist with their search for relevant services and resources. This online resource could be designed with multiple tiers. For example, the first tier could provide accommodation information and be broadly accessible to all interested stakeholders, while another tier could be for registered participants to share and update information such as presentations, videos, and upcoming webinars and conferences. Features such as chat rooms and blogs could be invaluable features of the site. Thus, this resource could address employers' need for connecting with expertise and help overcome the "knowing-doing gap" by learning about organizational and behavioural characteristics that can be essential for the successful employment of persons with disabilities.

The academic literature reviewed for this study provides rich evidence on the effectiveness of supported employment services, particularly the individual placement and support model. Support organizations' services are not used to the full extent possible by employers due to the difficulties in navigating and understanding the array of available options, and also due to difference in the mission and success metrics between support organizations and employers. Challenges were also identified in utilizing the services of occupational therapists and other rehabilitation professionals, including specific professional challenges such as lack of relevant training, challenges related to the workplace or worker such as lack of knowledge about service availability, as well as inter-professional challenges such as lack of opportunity for networking with other professionals. The development of an online searchable resource could help address some of the challenges and facilitate knowledge acquisition and information sharing among a variety of stakeholders by connecting professionals with employers and with each other.

Component 2: Grey Literature Review

I. Goal and Objectives of the Grey Literature Review

We conducted a search of the grey literature in the area of workplace accommodations for persons with disabilities. This component involved a search that expanded on our previous grey literature search. Here too, we took a deeper dive into the grey literature to identify best practices developed by employers and non-profit organizations. In this review we also considered employee engagement in developing solutions.

The grey literature search component was guided by the following question:

➢ What evidence is there in the grey literature for best practice resources for employer accommodations, sources of information and services used by employers when accommodating workers, and costs/economic aspects of accommodation?

II. Grey Literature Search Methodology

For the purposes of this review, we define grey literature as that which is generally not produced for commercial publication; not available through standard distribution means; does not have standard bibliographic controls; is not peer-reviewed; and is historically difficult to find (Mahood, Van Eerd & Irvin, 2014).

The grey literature search built on our previous grey literature review in the area of workplace accommodations for persons with disabilities. This review was conducted on the internet to identify reports, tools, guides and other resources produced by government agencies, research centres, not-for-profit and community organizations, and business and industries. These types of documents are generally not published in scientific peer-reviewed journals, so the internet provides a resource for accessing them. An initial list of organizations and websites had been generated by the research team, based on the previous review.

Methods of finding relevant grey literature involved an iterative process that utilized several sources including:

- o Personal communication (i.e. telephone, email, etc.) with contacts from the environmental scan
- o Mining reference lists and bibliographies ('snowballing')
- o Search Engines (e.g. Google, Google Scholar, Yahoo, Bing) and social media tools (e.g. Twitter, LinkedIn)
- o Blogs, podcasts or videos on the web (to identify experts and see what types of recommendations and discussions are currently happening in the blogosphere)

Since websites are organized differently, we searched within various sites and resources to access publications, research, guides, tools, technical reports, etc. Simplified search terms and strings identified for our peer-reviewed search were entered into Google and other search engines to further identify relevant grey literature.

We developed a grey literature spreadsheet that assisted us with maintaining direction and focus in our searching. This spreadsheet includes a detailed audit trail of our previous search strategy which was utilized to dive deeper into the grey literature and identify best practices developed by employers and non-profit organizations. The template for this spreadsheet with an example entry is depicted in **Table 2.1**.

Table 2.1: Grey literature spreadsheet template

Date searched	Website URL	Description	Cited / Referred by:	Search String, if applicable	Resource Title	Resource Link	Description
Nov. 6 2015	Job Accomm -odation Network http://ask jan.org	U.S. source of guidance on workplace accommoda tions and disability employment issues.	Spinal Cord Injury Ontario	n/a	SOAR	askjan.org/ soar	Searchable Online Accommo- dation database

The grey literature provided information and resources that range in specificity from broad principles of conduct to explicit and concrete recommendations for effective communication, assistive technologies and workplace modifications. The previous review of grey literature identified more than 30 websites from across Canada, the UK, USA and Australia that provide helpful tools and recommendations to assist employers and employees with disabilities to develop and implement workplace accommodations.

With this review we also considered employee engagement in developing solutions and gaps in current online resources to meet the needs of employers and relevant stakeholders in the Canadian labour market. The grey literature search strategy was refined and modified as necessary to meet the goals of the present review. The current project begins with a review of the key resources identified in the previous grey literature review. These resources were found most helpful and comprehensive in the previous study and provide a starting point for the current review. These resources are listed in **Table 2.2**.

Table 2.2: Key online resources for further review

Key Resource	Online Availability	Description
A place for all: a guide to creating an inclusive workplace (Canadian Human Rights Commission, 2006)	Retrieved from http://www.chrc-ccdp.ca/eng	This guide sets out detailed elements of a model employer policy and procedures on workplace accommodation.
Employers' Toolkit: Making Ontario Workplaces Accessible to	Retrieved from http://www.conferenceboard.ca/	Comprehensive resource with a focus on compliance with Ontario accessibility legislation. Includes

Key Resource	Online Availability	Description
People with Disabilities (Conference Board of Canada, 2012)		information, templates, tools, business profiles and additional resources to support employers develop effective accommodation plans for employees with disabilities.
Searchable Online Accommodation Resource (SOAR)	Provided by the Job Accommodation Network http://askjan.org	Easy to use and comprehensive system allows users to obtain accommodation ideas by impairment type and occupation. An extensive list of specific products and assistive technologies are also suggested for various impairment types including hearing, vision and motor impairments.
Breaking the Sound Barriers: Employing People who are Deaf, Deafened or Hard of Hearing (Canadian Hearing Society, n.d.)	Retrieved from www.chs.ca	This guide for employers includes information on communication with employees who are deaf and/or hard of hearing, recruiting and introducing new employees to the workplace, concrete workplace accommodation suggestions and five steps to a successful accommodation (including employer and employee responsibilities).
Creating an Accessible Workplace: Quick Tips for Employers	Provided by the Canadian National Institute for the Blind www.cnib.ca	Quick tips for accommodations from recruitment, interviewing and retention. Also includes examples of low and high tech accommodations.
Opening the doors of small business to employees with disabilities: Critical concerns and strategies for success (Employer Assistance and Resource Network, 2014)	Retrieved from www.askearn.org	This report describes criteria for reasonable accommodations and examples of flexible work options. Although this guide is intended for small business, the research, strategies and resources may be applicable to medium or large enterprises. In this report small business is defined as a company with 500 or fewer employees.
Accommodation in the workplace: Resource Guide (Employer Assistance and Resource Network, n.d.)	Retrieved from www.askearn.org	Describes types of reasonable accommodations (job restructuring, leave, modified schedule, modified workplace policies, reassignment and other accommodations).
HR Tips	Provided by Cornell University - Yang-Tan Institute (YTI) Collection www.yti.cornell.edu	This site contains articles, checklists, a glossary, and links to useful disability resources to help human resource professionals develop accommodations for employees with specific impairments.

Similar to the methodology for the scholarly literature review, the grey literature review included websites and resources that addressed one or more of the following criteria:

- The site/resource describes or evaluates policies or practices of accommodation of workers with disabilities at a workplace
- The site/resource describes or evaluates resources for workplace accommodations such as sources of information or services that can be used by employers to accommodate an employee
- The site/resource describes costs or economic aspects of workplace accommodations
- The site/resource presents a high level summary or a synthesis of practices or policies of workplace accommodations. Examples may include reviews of the literature on the topic, or reviews of several cases or interventions.

Accommodation of workers with disabilities may include any physical or non-physical accommodation, including accommodation in hiring, recruiting, as well as accommodations for ongoing engagement and retention. Employer services/resources may include service providers, suppliers, disability support programs, municipalities, and provincial and federal governments.

III. Findings of the Grey Literature Review

This review further reinforces the value of grey literature in providing a variety of information and resources on workplace accommodations for people with various disabilities. Our previous search of the grey literature (Tompa et al., 2015) prepared for ESDC identified more than 20 websites and resources across Canada, the UK, USA and Australia that provide helpful tools and recommendations to assist employers to develop workplace accommodations for people with various disabilities. The majority of the resources identified in our search are intended to support employers to effectively recruit and retain employees with disabilities.

Much of the literature on workplace accommodations focuses on what employers are required to, or ought to do in order to retain people with disabilities in their workplaces according to relevant disability legislation (e.g., Accessibility for Ontarians with Disabilities Act; Americans with Disabilities Act). Most of this literature takes the form of how-to guides, toolkits and guidelines. Several documents provide suggestions and templates to assist employers to comply with disability legislation, promote human rights and avoid discriminatory behavior. Employers who have successfully hired and retained people with disabilities are often profiled as business diversity leaders.

Findings from the present review echo and expand on the results of our previous grey literature review. For example, most websites and documents we reviewed emphasize that accommodations must be made on an individual basis, with the active involvement of the individual with a disability. This process should be repeated for each candidate or employee with a disability, including people with the same or similar impairments. The present review also emphasizes flexible work arrangements as a low-cost form of accommodation which is already provided for all employees.

In addition to the findings from the previous review, the present review suggests that a comprehensive resource for employers to develop and implement workplace accommodations should include resources that support employers and employees throughout the employment cycle (from recruitment, hiring, onboarding, training, career development, performance management, and exit). This preliminary summary outlines how employer organizations, model employer practices and considerations of the costs and benefits of workplace accommodations can be helpful resources for employers who wish to learn about and develop inclusive work environments.

Employer organizations and business networks

According to the International Labour Organization's Bureau for Employers' Activities and Skills and Employability Department (ILO, 2011), employer organizations and business networks can play a major role in providing information and services to employers when accommodating workers with disabilities and developing an inclusive workplace. The ILO defines employers' organizations as those that represent one or more sectors of industry, generally advocate for employers' interests on a range of labour-market issues, and assist in disability related issues as one of the ways they serve their members. Similarly, disability-specific employers' organizations are those that focus on disability in business. These organizations are managed and typically funded by members with permanent staff that provide a range of services to members. Other business networks are similar to employers' disability organizations but typically do not have paid staff or membership fees. Network members often meet regularly to share experiences and perform or sponsor activities. These organizations and networks are well placed to link business interests and the inclusion of people with disabilities in the labour market.

The ILO (2011) features the activities and accomplishments of employers' organizations and business networks from countries in Asia, Europe, Oceania and North and South America to demonstrate their value to employers who are interested in hiring and retaining people with disabilities. The size of organizational membership from these case studies ranges from 15 to several thousand employers including small, medium, large, public, private and multinational enterprises.

According to the ILO report (ibid), common practices among employers' organizations and business networks include services to employers and policy level activities. Some organizations directly support people with disabilities and employers although some have made a conscious decision to work exclusively with their members.

Common practices across employers' organizations and business networks (ILO, 2011):

- o *Raising awareness and building capacity for disability inclusion* – mainly through workshops, training programs, consultancy services, networking events, and publicity campaigns.
- o *Providing information and tools on disability and employment* – mainly through websites and printed materials. Information and tools include facts on disability, best practice examples, and practical advice on disability-specific legislation, hiring and retention of

employees with disabilities, workplace accommodations and accessibility. Some organizations respond to specific needs of their members by, for example, developing benchmarking tools for employers to measure their progress in becoming more disability-responsive and inclusive.

o *Influencing policy on employment and training of people with disabilities*. Some organizations are involved in joint committees with government to develop policies on education, training and inclusion. Some organizations have also established corporate codes of disability inclusive practice to encourage the development of company disability policies among their membership.

o *Providing career development and vocational training opportunities* especially for students as well as other jobseekers with disabilities.

o *Linking jobseekers with disabilities with employers*. Linking activities may include organizing job fairs, developing databases of jobseekers, matching candidates with employers, and promoting entrepreneurship.

According to the ILO, the achievements of various employer organizations and business networks in their case studies "attest to the leadership potential and impact that groups of employers can have in making labour markets more diverse and inclusive" (p. 4). Some of these achievements include bringing members together to implement accommodation policies and procedures, developing internship programs for students with disabilities, providing skills training and education to employers and people with disabilities and building capacity on diversity management.

Lessons learned from employer organizations and business networks

The following are some common lessons learned from employer organization and business networks (ILO, 2011):

o *Organizations run for employers should be led and governed by employers* – in order to truly respond to employers' needs.

o *Collaboration and partnerships add value*. All organizations emphasized the importance and value of collaborating with government, other employers' organizations, trade unions, academic and vocational institutions, NGOs "and, importantly, with people with disabled their organizations…Partners are described as a source of disability expertise, experience, information, and human and institutional resources. Partners can help upgrade activities, and collaboration ensures that organizations complement and learn from each other." (p. 4).

o *Awareness raising is pivotal* to increase knowledge of the benefits of hiring people with disabilities and support sensitization to disability issues. Awareness raising may not be enough unless complemented with other activities that bring people with disabilities to the workplace.

o *Qualified jobseekers with disabilities should be matched to job*. Matching jobseekers to jobs should take into account the labour needs of employers and the interests and qualifications of candidates.

- *Employers' organizations can play a major role in making workplaces inclusive* by providing technical advice, advisory services and demonstrating leadership for changing practices.

In Canada, there appear to be very few employer organizations or business networks in operation. Based on the results of this preliminary grey literature review, we have identified three such organizations. These Canadian organizations include:

- **Ontario Job Opportunity Information Network (JOIN) – Business Leadership Network (BLN)**. JOIN is a network of job developers and agencies that specialize in the recruitment of people with disabilities in the workplace. JOIN's BLN include nearly 40 employers and other organizations that support and assist JOIN's provision of employment placement services for people with disabilities and employers who wish to hire.
- **The Employment Accessibility Resource Network (EARN) Ottawa** is a United Way-led community initiative that brings together employers and service providers with a goal to increase opportunities for meaningful employment of people with disabilities.
- **Canadian Business SenseAbility** is a recently created peer support network created by business for business. It help companies access the benefits of employing talented people with disabilities, focusing on lower turnover, training and safety costs, greater innovation, and access to untapped markets.

There is some membership crossover between Canadian Business SenseAbility and JOIN's Business Network[2] including Deloitte, Loblaw Companies Ltd., and Royal Bank of Canada.

Findings from the ILO (ibid) report resonate with recommendations from the Partnership Council on Employment Opportunities for People with Disabilities Initial Report (2015). In its initial report to the Ontario Minister of Economic Development, Employment and Infrastructure, the Council recommends proactively involving employers with planning in order to directly address the barriers and challenges that employers experience when hiring people with disabilities. According to the ILO (2011), employers' organizations and business networks can play a major role in supporting and engaging employers across sectors and industries.

Model employer practices

The Conference Board of Canada recently completed a report that explores common practices in the area of training and development for people with disabilities in the Canadian private sector (Armstrong, 2015). Their findings provide insight into "the varying approaches that businesses use to integrate and advance people in this important segment of the Canadian population" (p. 1). The Conference Board found that training for employees with disabilities differed little from training offered to employees without disabilities. When accommodations were necessary, they were minimal in their extent.

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[2] EARN Ottawa has not posted a list of their members online. We have requested this list, if available.

Interviews with six organizations in the Canadian private sector that are known to be proactive in their approaches to training and developing for people with disabilities revealed several best practices (Armstrong, 2015):

- o Simulating the working environment in a private setting reduces pressure and may particularly support people with intellectual or psycho-social impairments to better learn their jobs.
- o Mentoring from more experienced employees during training and development was also described as an effective workplace practice.
- o Allowing additional time to explain to employees how and why tasks are performed can increase training effectiveness. In some cases, support from a job coach was found to speed up learning and boost employees' comfort level.
- o A focus on the needs of the individual, rather than on the group to which they belong, can improve training and employment outcomes.
- o Soliciting the services of external training organizations and community associations can help the design and execution of training that is more tailored to the needs and abilities of people with specific impairments.

In terms of training resources, the study states (Armstrong, 2015):

> Companies that focus on hiring employees with disabilities generally provide internal training to perform specific tasks required of the job…External training suppliers (e.g., colleges, trade schools, etc.) can play a key role in an organization's overall training strategy. Training provided externally by community associations/organizations (e.g., disability employment support providers) and governments provide added support that can be tailored to the specific type of disability…The type of work performed is a key consideration for determining whether to resource training internally or externally. Jobs requiring a higher degree of knowledge work are more likely to have training that is designed and delivered internally. External service providers are more likely to be leveraged to conduct training for more general labour or customer service roles (pp. 5-6).

The report indicates that most organizations made use of a variety of internal and external resources to train and develop employees with disabilities.

In the USA, Barnett and Krepcio (2011) from the National Technical Assistance and Research Center to Promote Leadership for Increasing the Employment and Economic Independence of Adults with Disabilities, investigated several US state governments as model employers. This report stemmed from the realization that governments are looking to lead by example in making employment for people with disabilities a reality. Model state government employer practices identified include (Barnett and Krepcio, 2011):

- o *Improve organizational readiness and create a more welcoming environment for employees with disabilities*. This has been achieved through declaration of a goal or state initiative to increase hiring. Efforts may also include proactively incorporating equal opportunity or affirmative action language into states references to people with

disabilities. States may also institute education and awareness training of senior leaders, managers, supervisors, and other staff.

o *Proactively target recruitment and outreach efforts to better inform the disability community of state positions for which applications are being accepted*. These practices may also include establishing internship programs in state agencies. States may also partner with community-based organizations that serve people with disabilities in an effort to expand their recruitment pool.

o *Improve accessibility of the employment application and hiring process*. These activities intend to make learning about job openings and applying for a job opening easier and more accessible to job seekers with range of learning styles, languages, educational levels, and abilities.

o *Increase access to workplace accommodations* for job seekers in the hiring process and for existing state employees with disabilities.

Barnett and Krepcio (2011) conclude that states are faced with a number of challenges to becoming model employers. These challenges include resource constraints, hiring freezes, layoffs, staff furloughs, etc. However, the authors note that "states with limited resources can still make progress to expand and diversify their labour pools by pursuing several low- and no-cost activities" (p. 7). These strategies, noted below could also be relevant to private sector employers. Low and no-cost state employer practices identified include (Barnett and Krepcio, 2011):

o Examine existing hiring policies and practices to incorporate more inclusive language.

o Establish internship opportunities through partnerships between hiring managers, vocational rehabilitation, community-based organizations, and educational institutions.

o Engage in proactive and targeted marketing of job openings to job seekers with disabilities.

o Create and carry out education, awareness, accommodation, and etiquette training of senior leaders, managers, supervisors, and other staff to foster a more welcoming environment for a diverse workforce.

The studies by Armstrong (2015) and Barnett and Krepcio (2011) suggest that employers experienced in the development and realization of the different ways to integrate persons with disabilities into the workplace can be a good resource for less experienced employers who might be looking for resources and examples of best practices. An online resource might provide opportunities to link employers through a peer support/networking page, a blog or a discussion forum.

Suggestions for further development

A few key websites provide specific and practical recommendations on workplace accommodations that may be effective in supporting people with various impairments in particular occupations and industries. For example, the Job Accommodation Network is frequently cited in Canadian and US documents and websites as a helpful resource for employers to find a variety of accommodation options for particular impairments. Based on these views and on the previous review prepared for ESDC, Appendix A2 describes four websites that provide

the most comprehensive guidance on the accommodations to consider for different types of disabilities. These website are described in further detail in Components 5 and 6 of this study. The four websites are:

- o Job Accommodation Network (JAN) URL: http://askjan.org
- o JobAccess URL: http://jobaccess.gov.au
- o Employer Assistance and Resource Network (EARN) URL: http://www.askearn.org
- o Cornell University – Yang-Tan Institute (YTI, formerly the Employment and Disability Institute) URL: www.edi.cornell.edu

Content for three of these sites (JAN, EARN, Cornell's YTI) is produced in the United States, while content for the fourth is produced in Australia. Unfortunately, there are no equivalent resources available from Canadian organizations.

In Ontario, there are a few online resources intended to support employers and the public to comply with the *Accessibility for Ontarians with Disabilities Act, 2005* (AODA). For example, the Accessibility Directorate of Ontario's website includes an online Accessibility Compliance Wizard[3]. This tool tells users which requirements need to be met and when, based on answers to a few questions about an organization's size, type and activities. In the last legislative review of the AODA (Moran, 2014), stakeholders described the wizard as "a valuable tool and suggested that it should be publicized more widely" (p. 38). According to Moran, small businesses advocated for an integrated portal that would bring together support materials for various accessibility regulations by different ministries, in one place. The review also shared concrete suggestions to improve web portals including improving integration with other relevant regulations by different ministries and making it easier to locate information with more visuals and less text.

Another key priority noted in the review was the expressed interest in sharing of best practices. The review heard calls for the government to establish programs for the sharing of best practices and information within and across sectors. Stakeholders from the AODA review also stressed the need for more efficient delivery of training in order to meet the accessibility goals of the AODA (including the employment standard). According to Moran (ibid), stakeholders proposed more online training and praised the accessforward.ca website as a good start. In addition, the Ministry of Labour's online training module on health and safety awareness for all employees in Ontario[4] was also mentioned as a potential model.

As briefly described in the previous literature review prepared for ESDC, the Conference Board of Canada (2012) also identifies IBM's Accessible Workplace Connection Tool as a best practice. IBM describes this tool as "a single global accommodation process that helps ensure [IBM] employees who have disabilities [are given] equal opportunity to advance and contribute. This one-stop resource for employees with disabilities and their managers enables

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[3] Retrieved from https://www.ontario.ca/page/accessibility-laws
[4] Retrieved from http://www.labour.gov.on.ca/english/hs/training/

accommodations to be delivered, changed, supported and maintained effectively and efficiently".[5]

The tool is integrated into every employee's intranet portal and allows any employee to make a request directly to the request administrator. This tool, according to IBM, provides a simple way to acquire and support accommodations, eliminates process confusion, supports global consistency, improves hiring and advancement of employees and reduces attrition, as well as improves employee/administrator productivity. The tool can increase the quality of accommodations, and the ability to securely gather data and reports while maintaining privacy.

The Accessible Workplace Connection application consists of a web-based administrative program, a database component and an employee portlet. "The Accessible Workplace Connection administrative program includes:

- o *My Profile* – Settings summary and views of existing accommodations and all requests for each user.
- o *Catalog* – Catalog of all available accommodations.
- o *Requests* – Creation, modification, review or approval of requests for accommodation, and views of historical documentation.
- o *Application Help* – Documentation for every facet of the application.
- o *Alerts & Notifications* – Summary and convenience links to requests requiring action.
- o *Report & Administrative Functions* – Management of the catalog components and accommodation usage reports and statistics.
- o *Email Generation* – Generation of emails during specific stages in the accommodation process. Includes security to ensure anonymity.

The Connection database components deliver key data and request management capabilities."[6] The tool stores a record of all cases and requests as well as accommodations and support (accessories or ancillary services) available within the organization. The tool also stores the identifying information for all human resources personnel involved in fulfilling or managing the accommodations process.

Information regarding the costs and benefits of workplace accommodations

The Job Accommodation Network (JAN), based in the US, is one of the most frequently cited resources in this review for comprehensive information and supports to employers and people with disabilities who are interested in workplace accommodations. For example, JAN's Searchable Online Accommodation Resource (SOAR) provides an easy to use and comprehensive system that allows users to obtain accommodation ideas by impairment type and occupation. An extensive list of specific products and assistive technologies, as well as sample policies are also suggested for people with various impairment types.

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[5] http://www-03.ibm.com/able/accessibility_research_projects/AWCsolution.html
[6] http://www-03.ibm.com/able/accessibility_research_projects/AWCsolution.html

Since 2004, JAN has been engaged in an ongoing study on the costs and impacts of workplace accommodations for employers. The study now includes over 2,000 interviews with employers from a range of industry sectors and sizes. The most recent report from this study notes:

> *The study results consistently showed that the benefits employers receive from making workplace accommodations far outweigh the low cost.* Employers reported that providing accommodations resulted in such benefits as retaining valuable employees, improving productivity and morale, reducing workers' compensation and training costs, and improving company diversity. *These benefits were obtained with little investment. The employers in the study reported that a high percentage (58%) of accommodations cost absolutely nothing to make, while the rest typically cost only $500* (JAN, 2015 p.3 **emphasis added**)

Specifically, about one third (37%) of employers experienced a one-time cost for accommodations, while a small number (4%) said the accommodation resulted in an ongoing, annual cost to the employer, and 1% said the accommodation required a combination of one-time and annual costs. As a caveat, JAN notes that too few of all employers who have used JAN's services provided accommodation cost data to generalize these findings. Additionally, it is difficult to discern from this evidence the degree to which the low cost may be due to not all needed accommodations being provided, or if people with disabilities who needed costly accommodations were just not hired.

Other key findings from this report indicate that most employers (83%) who contacted JAN for accommodation information and resources were doing so to retain or promote a current employee. Other direct and indirect benefits of implementing a workplace accommodation are noted in the following table (**Table 2.3**).

Table 2.3: Employer benefits of workplace accommodations (Adapted from JAN, 2015)

Direct Benefits	%
Retained a valued employee	90%
Increased the employee's productivity	72%
Eliminated costs associated with training a new employee	60%
Increased the employee's attendance	55%
Increased diversity of the company	41%
Saved workers' compensation or other insurance costs	38%
Hired a qualified person with a disability	13%
Promoted an employee	9%
Indirect Benefits	
Improved interactions with co-workers	64%
Increased overall company morale	62%
Increased overall company productivity	56%
Improved interactions with customers	45%
Increased workplace safety	45%
Increased overall company attendance	41%
Increased profitability	28%
Increased customer base	17%

The Canadian Working Group on HIV and Rehabilitation (CWGHR) (2014) drew from the findings of the JAN study to conduct a Canadian based cost-benefit analysis in order to support the development of the business case for hiring people with episodic disabilities. The researchers who conducted the analysis identified three quantifiable factors:

1. *Turnover costs saved* - Researchers for this report use a cost of turnover calculator provided by the human resources firm Drake International (n.d.) to approximate turnover costs for each position.
2. *Accommodation costs* - Figures calculated from data collected by JAN (2013).
3. *Avoiding the costs of legislative penalties* - Cost savings from penalty avoidance was calculated at $7,500, based on the low end of the Ontario Human Rights Commission and Tribunal decisions.

The researchers used existing studies and research to assign a dollar value to each of the three factors and applied a formula to four scenarios at different salary levels and accommodation needs to show a net result in each case. The formula is as follows:

A *[Turnover costs saved]* – **B** *[Accommodation costs]* + **C** *[Legislative penalty avoided]* = **Monetary Return** + **D** *[Indirect benefits]* = **Net Return**

After working through this formula for four different scenarios (tax accountant with multiple sclerosis, administrative assistant with arthritis, manager with HIV, security officer with major depression) the monetary returns of employing people with disabilities ranged from $11,900 to $79,900 plus indirect benefits (e.g. improved interactions with co-workers and customers, increased overall company morale and productivity, increased workplace safety, etc.).

Based on their research, CWGHR (2014) provides several recommendations to help organizations make the most from hiring and retaining people with disabilities:

o   Create and communicate the strategic decision to recruit and retain people with disabilities using the business case.
o   Ensure buy-in at the executive level and across the organizations with good information and training. Also, designate a high-level organizational champion.
o   Set goals and objectives in line with business needs and decide how to measure results that are quantifiable and indirect benefits. This may also include revising recruitment strategies, policies, and targets in line with goals and objectives.
o   Revitalize accommodation policies, plan implementation and allocate or review an accommodation budget. Communicate these policies to employees, managers, and the public.
o   Throughout the process, get advice from experts and advocacy groups on the nature of various disabilities as well as accommodation measures, technologies, needs assessments, policy formulation, employee and manager training, communication, etc. Helpful advice will also come from talking to employees with disabilities. Peer support may be

facilitated through the online resource via a networking page, blog, and/or discussion forum.

Similar to the results of the academic literature review component, the grey literature review suggests the importance of communicating the various benefits of employing persons with disabilities to employers. Focusing on the variety of direct and indirect benefits listed above, rather than on cost-related information, may help engage more employers in hiring persons with disabilities.

Summary

Existing websites and online tools described in this section provide useful information and recommendations. Connecting with the teams that develop and support these websites and online tools and learning from their experience will be helpful for the development of an informative and sustainable Canadian online resource. A Canadian website could provide not only resources and tools to assist employer with accommodation, but also provide guidelines for best/good practice. Several resources described in this review emphasize the value of including employees and other people with disabilities as experts in the development and implementation of workplace accommodations. They also note that employers with more experience can play a key role in supporting other employers to hire, accommodate and retain people with disabilities in their workplaces. Additional, preliminary evidence suggests that, in most cases, the benefits of inclusion outweigh costs. In fact, the evidence suggests there is little to no cost for most workplace accommodations. When there is a cost, this appears to be outweighed by the direct and indirect benefits of employing people with disabilities. We note that there are some caveats to this information—the evidence provided by JAN, a principal source of this cost-benefit information, is not definitive. It needs to be verified with more rigorous cost-benefit / effectiveness studies.

Component 3: Qualitative Needs Assessment

I.   Goal and Objectives of the Qualitative Needs Assessment

We undertook an assessment of the need for an online resource for workplace accommodation. We conducted interviews with stakeholders in the work disability arena to identify the information needs of employers and other stakeholders, their current sources of information on workplace accommodation, and whether they think a Canadian searchable online resource would be a value added resource.

The needs assessment is guided by the following questions:

➢   Within Canada, what are the existing online resources, support systems, and information centres that help support employers with workplace accommodations for persons with disabilities? Are these resources effective in terms of costs, encouraging partnerships, and positive employment outcomes such as increased recruitment and retention?

➢   What information needs are required by employers to help them better recruit and retain persons with disabilities? What information needs could be gained from an online searchable resource? What information needs would likely not be met by such a resource?

➢   Is there a perceived value amongst stakeholders in developing an online searchable resource for workplace accommodations specific to the Canadian labour market? Why or why not? What are the steps, resource requirements, and partnerships needed to develop and maintain such a resource?

II. Qualitative Needs Assessment Methodology

The needs assessment of employers and other stakeholders draws on our linkages with partner organizations in the Centre for Research on Work Disability Policy (CRWDP), of which the project lead is co-director. The Centre has a critical mass of 60+ partner organizations with expertise on a range of issues related to work disability and accommodation. The Research Fellow and Coordinator/Research Associate on the team are also connected with other nonprofit community groups, employer organizations and policymakers that may serve as contacts for the needs assessment. In particular, Amin Yazdani is spearheading the Canadian Standards Association initiative on standards for work disability prevention management systems, and as part of this initiative has connected with employers, service providers, and other stakeholders across the country.

In-depth interviews were conducted for this study with individuals who have had experience employing people with disabilities or providing liaison services for job seekers with disabilities and employers. We planned to conduct at least 10 individual interviews with for-profit employers, nonprofit employers and support organizations (as such, we reached 17 participants – seven employers and 10 support organizations). Interviews were conducted by phone using semi-structured interview guides. Separate interview guides for each stakeholder group (i.e. employers

and support organizations) were developed. Participant interview guides include questions based on the following themes:

- o Experiences developing and implementing workplace accommodations and supports
- o Awareness and utilization of existing online resources, support systems and information centres
- o Information needs to better recruit, retain and support people with disabilities in the workplace
- o Perceived value of an online searchable resource for workplace accommodations specific to the Canadian labour market

Interviews were digitally recorded and then transcribed verbatim by a professional transcriber and checked against the tapes for accuracy by the research team. AY, AB and JD conducted the interviews. The transcripts were sent to each interviewee for their review and final comments. The interviewees were given two weeks to review the transcripts and finalize their responses. The final interviewee-reviewed transcripts were used for analysis.

Interview transcripts were analyzed using thematic content analysis to identify, analyze and report patterns (themes) within the data. Thematic analysis organizes and describes data as well as supports interpretation of various aspects of the research topic. The following steps were followed to conduct the thematic analysis:

1. Each interview transcript was read by AY, AB or JD to better understand the nature of data and in order to familiarizing the research team with the data.
2. The initial codes were generated by AY, AB or JD. The initial coding reflects participants direct experiences, thoughts and assumptions.
3. The initial codes were then sorted into potential themes. Then all relevant coded data were organized within the identified themes.
4. The potential themes were reviewed and finalized avoiding duplicate themes and to identify missing themes.
5. The identified themes were revisited by the researcher team to refine the specifics of each theme and defining themes.
6. The final analysis of selected extracts was undertaken and was used to summarize the findings of this study and produce the report.

Findings from the needs assessment interviews were compiled and reported in relation to findings from the reviews of literature, other web-based models, the environmental scan and cost estimate.

The following sections details the research process for the qualitative needs assessment. This process was reviewed for ethics approval from University of Toronto Research Ethics Review Board.

III. Findings of the Qualitative Needs Assessment

Participants

Seven employers from Ontario, Québec, and Newfoundland and Labrador participated in the needs assessment. These represented small local business, medium-sized enterprises and large multi-national and municipally based organizations. Industries and sectors included retail, financial services, applied research, social services, wholesale food trade and adapted enterprises. Four employers had experience employing people with various disabilities (hereafter referred to as *experienced employers*).[7] People with disabilities employed at these organizations occupied a variety of full time, part-time and temporary positions. According to these employers, most of their employees (including employees with disabilities) receive opportunities to engage in company sponsored professional development, health benefits, pension plans, as well as holiday, parental and sick leave. Two employers had limited experience employing and placing students with various disabilities. One employer had no current or previous experience employing people with disabilities (**Table 3.1**).

Table 3.1: Employer participants*

Industry	Size	Location	Scope	Experience with disability
Financial services	*Large*	Ontario	Multi-national	*Experienced* - 3.7% of all employees in Canada are people with disabilities (mostly full time positions and some in management)
Social services	*Large*	Ontario	Southern Ontario	*Experienced*- Currently and previously employed large number of people with various disabilities (exact numbers not available).
Adapted enterprise[8]	*Meidium*	Québec	Municipal	*Experienced* – Currently employing 124 people with various disabilities
Retail pharmacy chain	*Small*	Newfoundland and Labrador	National chain	*Experienced* - Currently employing 2 part-time and 2 full-time employees with disabilities
Applied research	*Small*	Ontario	Provincial	*Limited* - Previously employed 1 person with a disability
Wholesale food trade	*Small*	Québec	Provincial	*None* – Never (knowingly) employed people with disabilities
Food retailer	*Small*	Québec	Provincial	*Limited* – Previously employed 2 people with disabilities for short term work

*Size assignment based on following criteria: large≥500 employees, medium ≥100 employees and <500 employees; small≤100 employees

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[7] If flexible work arrangements and a good benefits package are available to all employees, the need to self-identify is reduced. This presents a little bit of a paradox – an employer with good practices (the universal design discussed earlier) may be less able to identify employees with disabilities than an employer with restrictive policies and practices.

[8] "Adapted companies are nonprofit organizations or cooperatives which have the particularity to employ people with disabilities [earning a competitive salary], which is described as productive but non-competitive regular business." (http://www.cqea.ca/en/adapted-enterprise/what-is-an-adapted-business.php)

In addition, 10 employment support organizations (hereafter referred to as *support organizations*) participated in the needs assessment portion of the study. These organizations were located in Ontario, Québec, Newfoundland and Labrador, and Alberta, and represented perspectives on employment services and support for people with various disabilities at the local, provincial and national level. The majority of these organizations are large and provide support to hundreds or thousands of stakeholders and clients per year. One small organization provided accommodation consultancy to an average of 25 people with disabilities each year (**Table 3.2**).

Participating organizations described their services and supports as customized and person-centered for people with disabilities. Person-centered approaches were described as supports for people with disabilities to obtain and retain competitive employment based on their individual interests, skills and abilities. Specific services offered include:

- o Job development
- o Assistance and support with self-employment and entrepreneurship
- o Training for employers on legal rights and responsibilities, disability sensitivity and accommodation options
- o Training for people with disabilities on their rights and responsibilities, enhancing skills and abilities, and preparation to enter the labour force

- o Job coaching
- o Ongoing job retention support to employers and employees
- o Access to financial assistance and wage subsidies for individuals with disabilities and employers
- o Workplace accommodation assessments, purchase and implementation of technology or equipment

Table 3.2: Support organization participants*

Area of focus	Size	Location	Scope
Employment and education resources for students and graduates with various disabilities	*Large* – 140,000 annual visitors to website	Ontario	National
Employment of people with various disabilities	*Large* – 1,300 clients served last year	Ontario	National
Employment and community support of people with intellectual disabilities	*Small* – 150 clients on roster	Ontario	Municipal
Supports employment of people with various disabilities	*Large* – 600 clients served per year	Ontario	Municipal
Employment and community support of people with various disabilities	*Small* – 100 clients served per year	Alberta	Municipal
Supports employment of people with intellectual disabilities	*Meidum* – 125 clients served per year	Newfoundland and Labrador	Municipal
Employment of people with various disabilities	*Large* – 900 clients served	Québec	National
Collaborative employment network	*Medium* – Hundreds of partners	Québec	Provincial
Adapted enterprise network	*Large* - 3,500 people with disabilities across 44 enterprises	Québec	Provincial
Accommodation consultancy for people with various disabilities	*Small* – served 25 clients per year	Ontario	Provincial

*Size assignment based on following criteria: large≥500 clients, medium ≥100 clients and <500 clients; small≤100 clients

Limitations

Participants were recruited from across Canada using a snowball sampling technique starting from an initial list we developed from our professional contacts of employer and support organizations. Participants were asked for contact information to help us recruit future subjects from among their professional acquaintances. This request was made in an effort to reach out to small, medium and large employers from various industries and sectors with a range of experiences with disability and to support organizations across the country with local, provincial and national perspectives. As such, we reached 17 participants – seven employers and 10 support organizations – who represented a variety of experiences and perspectives on workplace accommodations. Despite these recruitment efforts, we were unable to reach participants who could provide indigenous perspectives on disability employment and accommodation issues. We were also unable to reach participants from the territories, British Columbia, Manitoba, Saskatchewan, Prince Edward Island, New Brunswick and Nova Scotia.

Results

Findings from the needs assessment highlight the myriad of online resources, support systems and information centres available to employers to help with workplace accommodations for people with disabilities. However, there is no national portal to provide easy navigation through the plethora of resources, services and supports available to employers, support organizations and job seekers, or employees with disabilities. *The majority of participants in this needs assessment indicated that there is value in developing an online searchable resource for workplace accommodations specific to the Canadian labour market.*

The identified needs of employers were as varied as the range of industries and sectors they work in and the products and services they produce. Some employers expressed a strong desire to seek out information on disability employment and accommodations independently. Other employers preferred to work with a support organization and other specialists to help recruit and accommodate people with disabilities in the workplace. Employers stressed the need for supports and accommodations that save their time while promoting efficiency and productivity. Thus, a searchable online resource for workplace accommodations should be both easily and quickly navigable, easy to understand, and should provide clarity on disability employment issues and accommodations. Key considerations must focus on the effective and sustainable design of an online resource, including content that follows the employment cycle from recruitment, onboarding, retention, promotion and exit.

Results from the needs assessment describe the cross-cutting issues and considerations as described by the various participants in this study. Where applicable, we have highlighted any unique needs and considerations for stakeholders in specific geographic locations across Canada. This section summarizes the existing resources, support systems and information centres used by the participants in this assessment. Following this, we have characterized the needs of participants by outlining the influences of individual, organizational and system level issues that promote or hinder the effective implementation of workplace accommodations. The identified needs are followed by a summary of key design and content considerations in the development of a Canadian searchable online resource for workplace accommodations.

Existing online resources, support systems, and information centres

Findings from the needs assessment echo the value and variety of accommodation resources identified within the grey literature and across community support systems. Participants from the needs assessment identified a number of categories of supports they use to recruit, retain and accommodate people with disabilities. Employers and support organizations described using these resources to increase and share knowledge, and to connect people with disabilities to available employment opportunities. The majority of participants also described substantial efforts to stay abreast of information on government websites that provide resources on relevant laws and legislation. Other resources included industry specific websites and local community organizations that provide hands-on support and online information on a variety of disability and employment topics.

Given the number and extent of resources, support systems and information centres for employers and people with disabilities, potential value in the development of an online tool is that it will help stakeholders navigate the complexities of accommodation. An experienced employer in Ontario described the potential value of this resource.

> *"If you're able to collect data and provide some sort of tool to navigate the complexities of accommodation, especially within the workforce, it's always helpful.* Information is always the most important thing, and especially for disabilities, considering how it's evolved a lot in terms of not only how we define but how we integrate, how we view, how we diagnose, all of those things are changing fast. And there's a lot of complexities around managing persons with disabilities in the workforce, especially when you truly do want to find a great balance." (Ontario experienced employer)

In Québec, many participants described Emploi-Québec as a comprehensive web portal for information on disability employment and accommodation issues. This uniquely Québec online portal is designed to help stakeholders navigate through the various resources, services and supports available to promote employment of people with disabilities. While several experienced employers and support organizations described Emploi-Québec as a helpful resource, according to some study participants, the site is not well known by many stakeholders in the province. This fact points to the value of a national web portal that connects to and promotes awareness of the offerings within Québec, as well as other Canadian provinces and territories.

The following table lists all the online and community resources identified by participants (**Table 3.3**). Some of these sites, portals and services were also described in the previous grey literature reviews. The resources noted most frequently during the needs assessment are emphasized in bold.

Table 3.3: Existing online resources, supports and information centres

Recruitment	Retention and Accommodations	Laws & Legislation	Other
• *Career Edge / Ability Edge*	• *Canadian Council for Rehabilitation and Work (CCRW) Job Accommodation Service®*	• *Emploi-Québec* • *Office des*	• *Conference Board of Canada*

• Magnet • CareerConnect Canada (CNIB) • Jobs.gc.ca • Ableworks.ca • Career Cruising • Monster	• *Job Accommodation Network (based in USA)* • *Emploi-Québec* • Contrat d'intégration au travail • Réseau des entreprises pour l'intégration des personnes handicapées • Service externe de main d'oeuvre (SEMO) • Canadian Hearing Society • Canadian National Institute for the Blind (CNIB) • Great-West Life (for ergonomic assessments) • Calgary Alternative Employment Services (Calgary-employment.ca) • Episodic Disabilities Employment Network • LinkUp • Neil Squire Society • Assistive Devices Program (Ontario Ministry of Health and Long Term Care)	*personnes handicapées du Québec (OPHQ)* • *Ministry of Labour* • *Ministry of Economic Development, Employment and Infrastructure (AODA Directorate)* • Réseau des entreprises pour l'intégration des personnes handicapées • Employment Standards Act • Accessibility Works – Ontario Chamber of Commerce • Canadian and Ontario Human Rights Commission	• *Google* • Canadian Bankers Association • Human Resources Professionals Association • Ontario Nonprofit Network • Community Living Ontario • Canadian Association for Community Living • Episodic Disabilities Employment Network

Resources for recruitment were most often used by support organizations to connect people with disabilities to employment opportunities. Only one large employer noted using CareerEdge / AbilityEdge for recruitment. Most recruitment sites were recognized for their comprehensive approach to job searching and career development for people with disabilities (e.g. Career Cruising and CareerConnect Canada). Some of these sites use job matching technology to match employers and job seekers based on mutual interests and needs (e.g. Magnet). Other generic job search engines (e.g. Monster) were used but noted less frequently by support organizations.

Most experienced employers and support organizations described many resources and websites they use to accommodate employees with disabilities. Some of these resources include hands-on support for assessments and access to assistive technologies (e.g. CCRW Job Accommodation Service®, Canadian Hearing Society, Assistive Devices Program, and Great-West Life). Several participants also described using JAN for online information and ideas on workplace accommodations. These participants described JAN as a site with a wealth of information on job accommodations and a helpful search engine for accommodation examples by impairment type. Some participants also noted that the site is "pretty red, white and blue. It's…American", such that a Canadian equivalent would help them locate information on Canadian legislation, standards and local resources.

Most participants used government websites to access information on relevant employment and disability laws and legislation (e.g. Provincial ministries of labour, AODA Directorate, Human Rights Commissions). All of these participants noted that the information available online is helpful but can be overwhelming or difficult to understand and apply in their organizations.

According to several participants, websites that provide templates and clear, concrete guidelines support practical application and implementation of legal requirements in the workplace. Participants indicated they are eager to learn how to manage employment and disability legislative requirements and regulatory requirements and, in the case of support organizations, to share that information to prevent undue stress and hardship on employers.

Other existing sites and resources (e.g. Google, Conference Board of Canada) are used by many participants to find answers to disability and employment questions. While these sources are perceived to be generally helpful, some are also quite broad in scope (i.e. Google) and take some time and effort to search and find specific information. Thus, a Canadian-specific web portal that provides quick and easy access to both specific and broad interests in disability employment issues could help meet the information and resource needs of stakeholders.

Characterizing needs

The majority of experienced employers described how the inclusion of people with disabilities in the workforce raises awareness of diversity within and outside their organization, helping them to reflect the diversity of the Canadian population and better understand their diverse customer base. Most support organizations described working with employers to enhance their knowledge and diversity practices. Support organizations also described how people with disabilities can boost productivity and reliability of the workforce. As such, most experienced employers and support organizations indicated that employees with disabilities can contribute to a positive workplace culture and better business practices.

According to participants, a number of challenges facing people with disabilities to enter and stay in the labour force include, but are not limited to: anticipated reductions in social assistance income for individuals with disabilities; community acceptance and stigma; limited private and public sector employment opportunities; and concerns over legal and safety risks.

Participants we spoke with indicated there are individual, organizational, technical and legal factors that bear on the effective implementation of workplace accommodations. These influences are described in the following section.

Key factors

Individual experiences and self-disclosure

Reinforcing findings in the grey and scholarly literature, participants in the needs assessment told us that individuals with disabilities are at the centre of any accommodation plan. Experienced employers and support organizations often described how employees with disabilities are the experts on their own needs, abilities and skills. However, whether to disclose one's disability in order to discuss accommodations is a complex personal decision.

Several support organizations noted that some people with disabilities have low self-confidence, and may lack knowledge about disability employment issues and accommodations. According to most participants, disclosing one's disability could positively facilitate the development and

implementation of accommodations. At the same time, disclosure could also negatively influence employers' expectations and opportunities for employees with disabilities, thereby reducing their capacity to excel in their job.

According to experienced employers, non-disclosure can have a negative impact on a person's job performance; an experienced multi-national employer said that "often employees don't speak up until it's too late, and the trust and the performance has already declined to the point where the relationship is not there". This employer described how disclosure builds trust between employer and employee; an individual that discloses opens up the possibility of working with an employer to ultimately enhance productivity. Experienced and inexperienced employers commented that disclosure is related to the issue of privacy, particularly when considering invisible disabilities. Employers experience challenges in managing privacy rules while simultaneously trying to offer support to individuals who appear to be struggling to meet productivity standards. To mitigate these challenges, the majority of all participants highlighted the benefits of an inclusive workplace culture.

Workplace culture

Most experienced employers indicated that embedded organizational knowledge and disability sensitivity training is a key influence on opportunities for, and the effectiveness of, workplace accommodations. These employers indicated that they provide all staff with formal or informal sensitivity training to promote understanding and awareness of the benefits and need for workplace accommodations. Most support organizations also said they will provide employers with training that promotes awareness and understanding of disability employment issues and accommodations.

To support an inclusive workplace culture, experienced employers have implemented various accommodation supports, such as:

- o Job-carving techniques for all staff based on employees' skill sets;
- o Flexible work options for all employees regardless of disability status (e.g. modified schedules, work from home options, etc.); and
- o Accessibility policies and procedures throughout the employment cycle (recruitment, onboarding, retention, advancement, exit) that explicitly state the organization's willingness and availability of accommodations. Specific examples include:
    - Providing candidates with job interview questions in advance to decrease interview anxiety;
    - Asking candidates if any accommodations are required before the interview;
    - Developing shared work processes with co-workers to provide natural and mutual supports; and
    - Maintaining HR records of accommodation supports to provide continuity of supports between departments.

These examples demonstrate intentional efforts to build a welcoming, inclusive and productive workplace culture. Even with these practices in place, employers continue to experience challenges with sufficient workplace awareness and understanding of accommodations. They

describe discrimination and prejudice exhibited by clients and customers as well as uninformed or unaccepting staff. According to most employers, this challenge relates to a general lack of awareness and understanding of disability employment issues in the general public.

The concerns noted by participants can be addressed through an online service that provides information and training on creating an inclusive workplace culture, flexible work options for all employees, and comprehensive accessibility policies and procedures. Additionally, information can be provided on how the lack of awareness among clients/customers can be addressed, as such information would be valuable to employers who engage heavily with clients.

Technical issues

In addition to the need for awareness and understanding in the workplace, the effective implementation of accommodations is influenced by technical and bureaucratic processes. Some employers and support organizations mentioned that assistive technologies can fail if they are incompatible with existing workplace technology systems. For example, some workplaces may have computer systems that are not compatible with speech-to-text software. Technical compatibility issues may present seemingly impossible challenges for employers. Some support organizations argued that even technical issues lend themselves to creative job-carving opportunities or to alternative communication methods that circumvent these challenges.

According to the majority of participants, the size of an organization can significantly influence its capacity to implement creative workplace accommodations. Large organizations have human resources or accessibility departments that can process formal and consistent accommodations across the workplace. Large organizations are also more likely to have the financial resources for accommodations which can range from $0 to $6,000. While large organizations may benefit from having more resources, one large experienced employer told us that bureaucratic processes can delay the implementation of accommodations, preventing employees with disabilities from meeting their productivity potential as soon as possible. In contrast, small businesses may be better able to quickly assess and accommodate the skills, abilities and needs of their employees or to identify accommodation needs informally without a detailed process. However, small business may not have the financial resources to conduct a professional assessment or purchase assistive technologies if needed. According to one accommodation consultant, the cost of a professional assessment and implementation of assistive technology or equipment and training can be upwards of $5,000 to $6,000.

As a result of delays and resource limitations, accommodations may only be partially implemented in the workplace. Complete implementation of accommodations requires resources for training and time to learn to use assistive technology and/or adapt to accommodation processes. One accommodations consultant noted that employers she worked with often do not realize the time needed for training and adaptation:

"There wasn't often the recognition that learning how to use these technologies, learning how to find a different way to use your job, getting used to having an accommodation in place, and creating a new work habit took time. Getting training on that took time. And there

tended to be, from what we would hear, a continued pressure to produce, but no time to learn and get your productivity levels up in this new way."

Similarly, there are challenges when employers and employees are overly reliant on the purchase and implementation of assistive technologies or equipment to "fix the problem". The mere existence of the technology may not, in and of itself, support increased productivity and accommodate the needs of employees with disabilities.

These technical issues identified by participants emphasize the need for on online resource to provide information on possible challenges related to using assistive technologies (e.g., compatibility issues). Emphasizing them can help employers be more proactive in using technologies rather than simply reacting to issues as they arise. Emphasis can be given to the importance of considering the full range of factors—a person's needs, work tasks and the workplace context (including existing workplace technology systems) when choosing assistive technologies.

Laws and legislation

Employer and employee interpretations and understanding of disability and employment laws and legislation influence the implementation and effectiveness of workplace accommodations. According to support organizations, employers are wary of vulnerability to human rights complaints and litigation if they hire employees with disabilities. This wariness may be based, in part, in confusion about intersecting employment and disability laws (e.g., how AODA standards exist alongside the Human Rights Act), health and safety requirements, and privacy rules. In this respect, one support organization representative said, "employers are most afraid of…their own inability to effectively supervise a person with a disability." Another accommodation consultant said:

> *"Recruiters and hiring managers still are quite fearful of disability, not really knowing what it means, not understanding what accommodations can be, and maybe not even having a vision that it's possible for someone to do the task that needs to be done, given their disability, just because they can't even imagine an accommodation."*

Moreover, one support organization said that there is a real fear of the cost of legal cases or arbitration. In Ontario, this fear may be based on a limited understanding about the AODA and human rights laws and legislations. In addition, some employers are concerned about their ability to be politically correct:

> *"They're terrified of using the wrong word, saying the wrong thing, because they're used to dealing with other folks; New Canadians, people in different language, women. They're used to that, they've had experience. How do I deal with this person who has Down's syndrome who gets upset if I wait 'til four o'clock to tell him that something he did at 10 o'clock was wrong?"*

According to support organizations, there is little government support to promote understanding and awareness of the rights and responsibilities of employers and employees with disabilities.

Several experienced and inexperienced employers are searching online to learn about their rights and responsibilities. Some employers find helpful information online, especially templates and clear concrete guidelines, but also an overwhelming amount of information that can be difficult to interpret and understand. For small employers, the amount of information on disability legislation may be overwhelming and could discourage them from employing people with disabilities. Concerns about health and safety regulations are also top of mind for many employers. As one experienced employer pointed out, "Health and safety trumps everything," so employees with disabilities are placed into the kinds of jobs where accommodations will promote both productivity and safety of all employees. Many support organizations will address health and safety concerns by proving statistics on the safety ratings of employees with disabilities and/or provide health and safety training to job candidates. Nonetheless, meeting health and safety standards is a concern for employers and must be balanced with employment equity and accommodation laws.

Needs of employers and support organizations

The above noted individual, organizational, technical and legal factors bear on the needs of employers and support organizations in relation to the recruitment, retention and accommodation of people with disabilities. The following set of needs have been identified through an analysis of these factors and suggestions from participants about the value of a Canadian searchable online resource for workplace accommodations for persons with disabilities. These needs give rise to corresponding considerations for the development of a web resource.

NEED: Accessible pathways to education and employment opportunities

Employers asked for:

- o Support to develop and implement diverse recruitment strategies;
- o Connections to organizations that support recruitment and job matching for people with disabilities;
- o Guidance on the administrative steps to access wage subsidies and financial incentives; and
- o Strategies that promote and foster an inclusive workplace culture that encourages employees and candidates to disclose and request accommodations, as needed.

Support organizations asked for:

- o A conduit for information on education, employment, co-op and paid internship opportunities to promote work experiences for people with disabilities;
- o Better informed mainstream career professionals to provide advice and support to people with disabilities;
- o Connections and partnerships with local colleges and universities to increase the employment of graduates with disabilities; and
- o More accessible public and private sector employment opportunities via consistent application of accommodation and accessibility policies and procedures across departments and agencies.

NEED: Connections with local service providers

Employers asked for:

- o Contacts and connections to well-informed local accommodation specialists and service providers with a holistic bio-psycho-social approach to assessment, training and implementation of accommodations; and
- o Support to work with people with specific impairments (e.g., how to communicate with an employee who is deaf).

Support organizations asked for:

- o A central database of support organizations and accommodation specialists in Canada to build the collective impact and efforts of service providers ;
- o A geographically searchable database of suppliers of workplace accommodation products and services along with information on how to operate workplace accommodation products and services; and
- o Opportunities for social networking and information sharing with similar organizations.

NEED: Increased public awareness of the benefits of employing people with disabilities

Employers asked for:

- o Greater public awareness of disability issues and the benefits of employing people with disabilities in order to reduce discrimination and prejudice from customers, clients and co-workers; and
- o Education for inexperienced employers about the opportunities and benefits of inclusive practices and accommodation options.

Support organizations asked for:

- o Greater promotion and awareness of the business case for hiring people with disabilities; and
- o Marketing and promotional support to inform employers of their services.

NEED: Accommodation options, best practices and concrete examples

Employers asked for:

- o Support to increase internal organizational awareness of the need and value of accommodations to promote full productivity;
- o   Information on creative, adaptable workplace accommodations that balance the needs of employers and employees with disabilities; and
- o Practical definitions of workplace accommodations that lead to practical development and implementation.

Support organizations asked for:

- o Best practices for accommodations and concrete examples for people with specific impairments (especially for people with invisible disabilities).

NEED: Accessible information on legal responsibilities, standards and compliance

Employers *and* support organizations asked for:

- o Information on the financial costs of meeting legal standards (i.e., AODA standards);
- o "Legalese" in plain language;
- o Templates for accessibility and accommodation policies, procedures and communications;
- o Support to understand employer and employee rights and responsibilities; and
- o Clarity on the content, interactions and overlap among human rights, health and safety, disability and employment laws and regulations (at the federal, provincial and municipal levels).

Key considerations

According to participants, a Canadian searchable online resource for workplace accommodations is valuable if it is updated regularly, easily navigable, accessible, and links employers and support organizations to local community resources. Key considerations in its development should focus on the sustainability and resource requirements to design, build and update the portal for maximum impact. *The majority of participants indicated that without regular updating and oversight, an online web portal risks becoming irrelevant*.

Such a web portal would help employers with and without experience in employing people with disabilities in gaining quick and easy access to information on services and supports. Accessing such information will in turn enhance the ability of employers to draw on the skills and talent of people with disabilities. Information and resources should respond to the various needs, preferences and circumstances of employers such that some would rather be connected to support from a community service provider, whereas others would prefer to access information and resources independently.

Design considerations

Enhance existing resources and portals

Several participants suggested there are benefits and drawbacks of a standalone web portal for workplace accommodations in comparison to building into or enhancing existing resources. Partnering with existing online sources could mutually enhance and strengthen the reach and impact of information on workplace accommodations. Some participants suggested that a potential portal could add disability specific content into existing employment resources (such as www.jobs.gc.ca). As one support organization pointed out "I don't think Canada needs another

new direction for people to look [for information]…National initiatives like this should be partnered with something else". Several participants in Québec suggested that a Canadian web portal should be designed as a complement to the Emploi-Québec site. Nonetheless, designing a disability specific resource could function well as a standalone resource for targeted searches, according to participants of the needs assessment. Participants who have used JAN indicated there are potential benefits in a similarly designed Canadian site. The sustainability and feasibility of a standalone resource versus an addition to an existing resource is also an important consideration.

Consult a web architect

A web architect can design and plan a portal based on technical, aesthetic and functional criteria so that the focus is on the user and on user requirements. The majority of participants emphasized the need for online resources that are easily navigable and fully accessible. While the engagement of subject matter experts will be important in the development of quality content, the architecture and accessibility of the portal will be essential for usability.

Allow users to find local information

The majority of employers and support organizations told us that resources and service providers are difficult to find. A Canadian searchable online resource could help employers and other stakeholders find the specific services and supports they are looking for in their province or municipality (e.g., a sign language interpreter in Moose Jaw, or a speech-to-text software trainer in Montreal). Searching by location, employers could find the contact information and links to local community resources, thereby facilitating easy access to services and supports as needed. Further, there is information on laws and legislation specific to each province that should be easily accessed by geographic location.

Provide a forum for information sharing

Several participants suggested they would benefit from a forum for information sharing and social networking between similar organizations. An online forum could support the collective impact of stakeholders working to promote the inclusion of people with disabilities in the labour market. One support organization suggested including a wiki that supports collaborative modification of content and structure of the resource directly from their web browser (similar to Wikipedia). These options would allow users to contribute to the development and sharing of content (e.g., successes, challenges, and examples of accommodations) which could facilitate updated information and encourage greater usage. If included, such a feature would require regular oversight and fact checking.

Content considerations

Highlight the voices of people with disabilities

According to previous research and testimonial from many experienced employers and support organizations, people with disabilities are the experts on accommodations in the workplace, at

home and in their communities. One accommodation consultant described that other web resources often present accommodation information from a top-down approach, effectively ignoring the voices of people with disabilities. A new resource should foreground the experiences, thoughts and ideas of people with disabilities as a facilitating factor for effective accommodation planning and best practices.

Links to existing online resources

As described in the grey literature review, and echoed in the needs assessment, there is a plethora of resources, services and supports available to employers who want to employ people with disabilities. We heard from participants that a Canadian searchable online resource should include an easily navigable portal to these existing resources. Whether designed as a standalone or built into and existing resource, a Canadian portal could provide links to other online resources, support systems and information centres that help employers with disability employment issues and workplace accommodations. Links to existing resources could be organized for recruiters and job seekers, employers and employees working to retain employment, laws and legislation and other disability employment issues and information. Canadian job matching and job search engines (e.g. Magnet, Monster, BioTalent Canada) could be included in this site to provide accessible pathways to education and employment opportunities.

Accommodation examples

The majority of participants indicated there is a need for concrete examples of how people with specific impairments, especially episodic and invisible impairments, have been accommodated in the workplace. Participants who have used JAN indicated they would like to have a Canadian version of the Searchable Online Accommodation Resource (SOAR) including the option to search by impairment type. Further, most employers and support organizations expressed a desire to share success stories, testimonials and concrete accommodations examples to promote awareness of the options and benefits of employing people with disabilities. Support organizations would like this information to help develop job opportunities for their clients. Employers would like this information to help them meet their legal responsibilities and increase the productivity of their employees with disabilities. Experienced employers and support organizations are looking for ways to develop creative solutions to disability employment issues. Many concrete examples for people with various impairments in various occupations will help to address this need.

Marketing support and the business case

The majority of support organizations are seeking support to market their services to employers. Many employers are seeking support, when needed and requested, from local disability service providers. A Canadian online resource for workplace accommodations could connect employers and support organizations to raise awareness of the various services, supports, options and opportunities for employers. As noted above, many participants are working to increase the efficacy of employers to manage employees with disabilities. Similarly, several experienced employers and support organizations want to promote the business case for hiring people with

disabilities to help them address internal and external criticisms of discrimination and prejudice toward employees and candidates with disabilities.

Summary and conclusions

Providing support for the development and implementation of workplace accommodations must be grounded in the understanding that accommodations are as varied as the needs and interests of people with disabilities, and the nature of the labour market itself. Each participant we spoke with carried a different set of expectations, values and circumstances, which created nuances and variation in their experiences with disability and employment. Creating solutions and strategies will need to reflect the interplay among multiple issues and processes that influence the implementation of workplace accommodations and adaptations. Each of these influences and needs identified through this assessment may be seen as a potential leverage point for creating the conditions to enhance accommodations and inclusion of people with disabilities in the Canadian labour market.

Component 4: Scan of Suppliers of Workplace Accommodation Products and Services

I. Goal and Objectives of the Scan

The goal of this component was to conduct an environmental scan of suppliers of workplace accommodation products and services[9] operating within and across Canada, including local, regional and national suppliers. This component drew on our learnings from the needs assessment component. It involved contacting suppliers of workplace accommodation products and services (hereafter referred to as *suppliers* or *participants*) to identify how they currently connect with their client base. We also inquired about any forums that currently exist for such suppliers to work together in providing services, and whether they think a Canadian searchable online resource would be a value added resource.

The environmental scan of suppliers was guided by the following questions:

- o What suppliers currently operate within and across Canada, including local, regional and national suppliers?
- o How do they currently connect with their client bases?
- o Are there forums where they connect with each other?
- o Do they see value in an online searchable database?

II. Scan Methodology

Defining workplace accommodation and assistive technology products and services

We drew on the conceptual base for this environmental scan from our previous literature review of workplace accommodations for persons with visible disabilities (Tompa et al., 2015). In this component we focused on contacting suppliers of *assistive technology*. The term *assistive technology* (AT) has been identified as any technology that can assist or improve the functional capabilities of individuals with a disability (Wissick & Gardner, 2008). AT includes high- and low-tech devices that can be used to overcome barriers to successful employment. Sometimes relatively simple adapted equipment or tools such as tape recorders, wrist braces, and accessible phones can be all that a person with a disability requires to be successful at work.

According to Schneider (1999), there are numerous types of assistive devices that can be used to accommodate workers with a variety of specific disabilities, including:

- o Sensory limitations (vision, hearing, speech);

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[9] Initially this component of the study was named "Scan of the vendors of assistive technology and devices". After interviewing the participants for this component, we updated the terminology to reflect how our participants identify themselves and their products. In particular, participants identify themselves as "suppliers", "manufacturers", "consultants", or "providers", rather than "vendors". Also, the range of products and services they provide includes assistive technology designed specifically for persons with disabilities, as well as ergonomic devices and products for universal design that can be used to accommodate or prevent a disability.

- o Mobility limitations (loss of limb, paralysis, carpal tunnel syndrome);
- o Neurological functioning (learning disabilities, mental illnesses); and
- o Multiple limitations (multiple sclerosis, cerebral palsy, muscular dystrophy).

The range of products provided by the suppliers we spoke to, goes beyond AT equipment and devices, and includes products designed for the workplace that are optimized for convenience of use, can prevent unnecessary physical and environmental stressors, and thus can prevent a disability or accommodate some injuries or illnesses. These products include, for example, ergonomic equipment for the workplace, and some architectural products developed with universal design perspective.

In this study we focused on contacting suppliers of the following workplace accommodation products, including but not limited to AT products (the categories are adapted from Schneider, 1999):

- o *Communication Aids*: Electronic and non-electronic devices and software designed to assist with oral or written communication.
- o *Computer Access*: Equipment and software which enables a person with a disability to use a computer. Examples include special or modified keyboards and mice; pointers; voice recognition systems; image magnification devices; screen readers.
- o *Environmental Control Systems*: Primarily electronic systems that enable someone with limited mobility to control various appliances, electronic aids like automatic door openers or lighting control, security systems, etc;.
- o *Ergonomic Equipment for Workplace*: These accommodations are used to make the work environment safe and comfortable by creating an optimum relationship between the workplace and its user.
- o *Architectural Products*: These accommodations can be used to create barrier free / universal design workplaces.
- o *Aids for Vision Loss*: Examples of AT for this group include magnifiers, Braille or speech output devices, large print screens.
- o *Aids for Hearing Loss*: Examples of AT for this group include captioned telephone systems, live remote captioning, listening devices, remote video conference sign language interpreting, visual and tactile alerting systems.
- o *Aids for Hearing and Vision Loss*: An example of AT for this group include deaf and blind communicator combining electronic Braille and texting technologies in one device.
- o *Assistive Technology (AT) Consulting Services*: This category includes consulting, evaluation and training services to help employers and workers select and use AT technologies to overcome workplace barriers.

Our previous literature review suggests that the common barriers to successful accommodation include insufficient training, lack of knowledge about accommodation options, and inappropriate selection of equipment or technology (Gamble et al., 2006; De Jonge and Roger, 2006). To overcome these barriers, on-site evaluation of a worker's technology needs, education and training of employers and workers, as well as instruction on technology use and ongoing support are recommended (De Jonge and Roger, 2006; Inge et al., 1998). It is critically important that the

employer arranges for accommodations as soon as the need for them is identified, rather than trying to procure the necessary items in a time of crisis.

Employer responsibilities are not always completed once appropriate accommodations are in place. If required, employers will ideally arrange for the worker to receive training on how to use their assistive devices, either from the supplier or from specialists/consultants familiar with the technology. In addition, many employers meet regularly with their workers who have disabilities to review the appropriateness and effectiveness of their ATs, and expediently solve any problems that arise.

Suppliers of workplace accommodation products and services in Canada

There are numerous suppliers of products that can be used for workplace accommodation, operating in Canada. The companies that provide AT supplies and services for workplace accommodation can be found in the directory of Assistive Device Companies on the Innovation, Science and Economic Development Canada website: http://www.ic.gc.ca/eic/site/ict-tic.nsf/eng/h_it06119.html. This directory provides the list of the companies working in the Information and Communications Technologies sector. At the time of this study, the list included 193 companies operating in Ontario; 77 companies in Quebec; 56 companies in British Columbia; 44 companies in Prairie and Northern Region (including Alberta, Manitoba, Northwest Territories, Nunavut, Saskatchewan, Yukon); and 17 companies in Atlantic Region (including New Brunswick, Newfoundland and Labrador; Nova Scotia, and Prince Edward Island). Besides location, these companies are organized in the directory by specific categories, including the type of impairment (the categories include "blind", "deaf", "hard of hearing", "low vision", "mobility"), and the category of AT (including "accessible web consultants", "accommodation consultants", "alternative and augmentative communications", "ergonomics", "multiple format companies", "prosthetics and orthotics", "research centres", "training and evaluation").

Not all of the companies listed in the directory provide supplies and services that can be used for workplace accommodation. Some of the companies rather focus on aids to the daily living of a person with a disability.

Forums for suppliers to work together

The following AT conferences and workshops were recently conducted in Canada:

i. International Summit on Accessibility, Ottawa, Ontario, Ottawa Convention Centre, July 12-15, 2014 http://carleton.ca/accessibilitysummit/: One of the sessions in this conference was entitled "The Promise of Technology: Finding Solutions for a More Accessible and Inclusive World". This session was focused on the strategic use of information technologies to empower persons with disabilities and to improve their health.

ii. The Accessibility Conference, University of Guelph, July 23, 2015 http://accessconf.ca/: The topics included: Accessibility issues related to the use of information in a range of formats and settings; Standards, tools and strategies for identifying and correcting

information accessibility barriers; Strategies for incorporating the issue of accessibility into the real-world environment of competing interests and limited resources

iii.   The 30th International Seating Symposium, Vancouver, BC, March 4-7, 2014. http://www.interprofessional.ubc.ca/ISS2014/default.asp: The symposium addressed current and future developments in the areas of seating, positioning and mobility.

There are a great number of conferences, symposiums and workshops in other countries representing forums addressing the issue of AT at workplace setting, where suppliers of AT can connect. A list of Canadian and international accessibility conferences scheduled for 2016 is available online at:
http://john.foliot.ca/accessibility-conferences-2016/ and at
http://www.starlingweb.com/adp/current.htm

We have conducted a preliminary web search for associations or organizations in Canada that can serve as a forum for suppliers to connect. We found the Canadian Assistive Devices Association (CADA), which represents Canada's manufacturers, distributors and vendors of assistive devices and supplies. However, the products are mostly designed for everyday use, rather than for workplace accommodations (e.g. wheelchairs, walkers, incontinence products, hearing aids, masks, gloves, portable oxygen supply devices, patient transfer systems, feeding devices, prosthetics, and orthotics). We further inquired suppliers about participation in such associations or organizations (see "Forums to connect with other suppliers" under Results section below)

Identifying potential participants

We contacted the suppliers identified through the directory of Assistive Device Companies on the Innovation, Science and Economic Development Canada website by email. We offered the option to reply by email or connect with us by phone to discuss the questions. If we did not receive a response from the supplier within two weeks, we followed up with them by email to ask about their interest and possibly discuss the questions.

We have reviewed about 300 companies from the 387 companies listed in the directory of Assistive Device Companies on the Innovation, Science and Economic Development Canada (ISED) website, to identify relevant companies for this study. In particular, we have reviewed all companies located in Quebec, Atlantic region, Prairie and Northern Region, and British Columbia, and more than a half of the companies located in Ontario. Out of the companies we have reviewed, we identified 19 relevant ones from Ontario, 5 from Quebec, 3 from the Atlantic region, 7 from Prairie and Northern Region, and 4 from British Columbia (38 in total) (see Appendix A3). We have further reduced this number to 22 companies to contact (8 from Ontario, 3 from Quebec, 3 from Atlantic region, 5 from Prairie and Northern Region, and 3 from British Columbia), based on the following considerations:

    o   The selection of companies should represent all or most of the provinces and all or most of categories of accommodation products services identified above;
    o   Companies should have working websites and/or available contact information ;

- o We aimed to reach out to small companies (less than 10 employees) as well as medium and large-size companies. We used the information about the company size, if available on the ISED website or on the website of the companies;
- o We considered companies that rent as well as sell equipment; and
- o We sought evidence that companies were dedicated and committed to improving the lives of persons with disabilities. Specifically, this information can be found on the "About Us" section of the company website, or on the LinkedIn, Twitter or Facebook pages of the companies. By contacting more dedicated and committed representatives, we anticipated a higher response rate and more detailed/rich replies to our questions.

We have further collected and updated the contact information as well as information about the products and services of these 22 companies, using the companies' websites and social media vehicles such as linkedin.com and facebook.com (the list of these companies is not provided due to confidentiality considerations). In particular, we looked for the contact information of representative(s) of the companies, including their name, email and phone number. While the ISED website provides this information, sometimes it is not current. We confirmed or updated contact information by searching the company's website, and/or by looking at the LinkedIn, Facebook or Twitter profile of the person who was identified as a contact person for that company.

The 22 companies that we contacted represent Ontario, Quebec, Nova Scotia, Saskatchewan, Alberta, and British Columbia. We were unable to find relevant companies from Manitoba, Newfoundland and Labrador, New Brunswick, and Prince Edward Island[10]. The companies represent all categories of accommodation products and services. They include small and medium-sized companies, though for many of the companies in the list the business size was not available. We have found evidence of a dedication to improving the lives of persons with disabilities in many of these companies. Only one company in the list offers to rent equipment, while the remaining companies sell equipment and/or services.

Contacting suppliers of workplace accommodation products and services

We contacted the 22 companies identified to gather information for this study component. We were further directed by participants to contact two more companies. In total, we contacted 24 suppliers of accommodation products and services in Canada. We conducted interviews or received replies by email from representatives of 10 suppliers, including five companies in

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[10] We have reviewed all Assistive Devices companies from the ISED website listed under "Prairie and Northern Region" (that includes Manitoba). We have found only one company from Manitoba that potentially could be relevant for our study. After a closer look at their website, we have found that they are using the term "accessibility" with a different meaning rather than accessibility for persons with disabilities (e.g. they mention accessibility for mobile devices), and though they offer accessibility checks, this is not their primary interest or service. We have reviewed all companies listed under "Atlantic Region" that included Newfoundland and Labrador, New Brunswick, and Prince Edward Island. We have found only three companies in the Atlantic Region that provide services relevant to workplace accommodation for persons with disabilities. All three companies were contacted for this study.

Ontario, two in Saskatchewan, one in Alberta, and two in British Columbia. These companies represent all categories of accommodation products and services except Environmental Control Systems, and include companies that were established before 1990 or later, as well as companies that started operating two to three years ago.
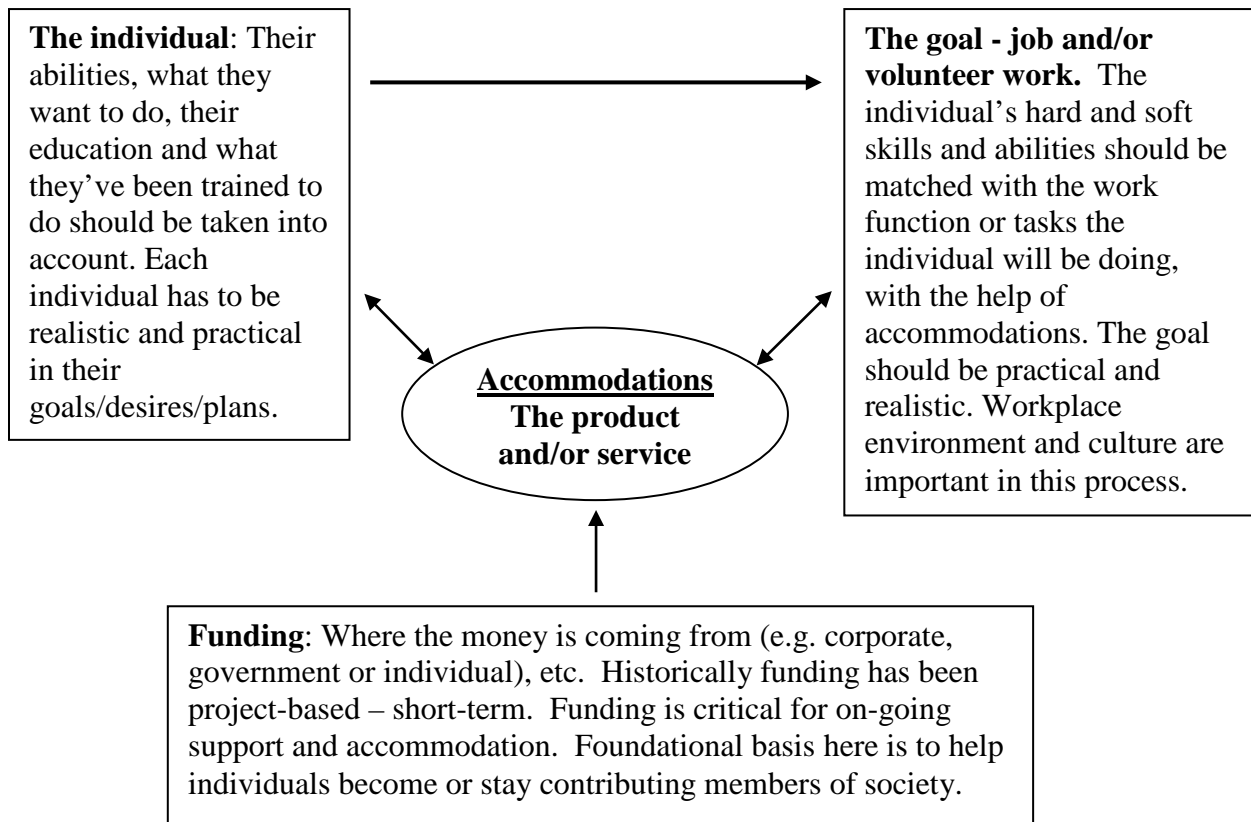
Details of the research process, including participant recruitment, protection of personal information, informed consent, as well as possible risks and benefits, was reviewed and approved by University of Toronto Research Ethics Review Board.

III. Findings of the Scan

The process of choosing and purchasing products/services for workplace accommodation

Interviews with suppliers confirmed and expanded on our view of the process and parameters of choosing workplace accommodations for persons with disabilities. The interviews confirmed that accommodating a person with a disability in a workplace should be undertaken at the individual level since each case is unique. The key parameters for choosing workplace accommodations include *the individuals themselves, workplace environment and culture, the tasks and responsibilities at work, and availability of funding*. The details of these parameters, described by one of the participants, are presented in **Figure 4.1**.

Figure 4.1: Decision-making for workplace accommodations (provided by one of the study participants)

The individual: Their abilities, what they want to do, their education and what they've been trained to do should be taken into account. Each individual has to be realistic and practical in their goals/desires/plans.

Accommodations The product and/or service

The goal - job and/or volunteer work. The individual's hard and soft skills and abilities should be matched with the work function or tasks the individual will be doing, with the help of accommodations. The goal should be practical and realistic. Workplace environment and culture are important in this process.

Funding: Where the money is coming from (e.g. corporate, government or individual), etc. Historically funding has been project-based – short-term. Funding is critical for on-going support and accommodation. Foundational basis here is to help individuals become or stay contributing members of society.

Several participants have noted that it is almost impossible to standardize or automate the accommodation process, and to find an optimum solution that is generalizable, even in cases where people have the same disability and perform similar job functions. The need for customized accommodation challenges the feasibility of creating a list where specific disabilities would be matched with possible accommodations.

Another important aspect that needs to be considered by all stakeholders in the accommodation process is that choosing products such as communication aids, ergonomic equipment, or architectural products are best undertaken in consultation with experts and specialists such as architects or occupational rehabilitation professionals. While representatives of companies often have a technical background and can make recommendations based on their experience, they may not always make workplace assessments and may not be able to recommend a product related to specific work goals or tasks. For example, when purchasing architectural products to enhance accessibility of a building or a workplace, one needs to be aware of, and follow, architectural standards and requirements, such as evacuation requirements.

Employment support organizations can be a good resource for assistance with products for workplace accommodations. However, one of the suppliers we spoke to mentioned that one such organization relied on them (the supplier) to provide recommendations on the products. Rehabilitation professionals or other specialists working at employment support organizations or independently are often involved in assessment and in designing accommodation solutions, including directing an employer or an individual with disability to specific products they need to purchase. Very often there several accommodation options available and only a professional can help choose the appropriate solution. Ideally, the consultant should be impartial, rather than promoting one type or brand of products. Several participants have stressed that employers or employees who do not possess professional knowledge on accommodations should not directly contact suppliers and should not choose the products themselves.

The need for expert opinion in the accommodation process should be taken into account when creating a list of suppliers that would be readily accessible by employers and people with disabilities. If an employer or an individual with a disability contacts a supplier directly, rather than through a rehabilitation professional, there is a risk that an optimal solution to accommodation may not be found.

Employers' needs and barriers

While large organizations may have comprehensive policies and resources in place to arrange workplace accommodation, small- and medium-size employers who do not have experience with workplace accommodations face a number of challenges. A few participants mentioned that most of their clients represent large or governmental organizations:

> "The only employers I would know who would hire a person with a disability would be the big banks, the government. Small companies don't contact us." [participant from a company supplying office ergonomics and assistive technology products]

The following is a list of challenges of employers, especially small- or medium-size employers, identified by participants:

- o Lack of awareness of the possibility of hiring a person with a disability;
- o Lack of knowledge of accessibility standards e.g. AODA;
- o Lack of knowledge about the benefits of hiring a person with a disability;
- o Lack of knowledge about accommodation options and the necessity for customized accommodation;
- o Lack of knowledge about where to get support for workplace accommodation;
- o Lack of time to conduct research to learn more about disability and workplace accommodations;
- o Lack of knowledge on the resources required to meet accessibility criteria;
- o Lack of information on sources of financial support to employers who hire persons with disabilities;
- o Financial constraints in cases where the employer has to bear some costs of accommodation; and
- o Psycho-social factors and workplace culture, including traditional ideas of how work and workplace should look like, including place of work, hours of work and how work should be performed

These challenges create barriers for persons with disabilities at all stages of the employment process. One participant mentioned that the biggest challenge for a person with a disability is first getting a job (or even getting an interview).

Employees who have invisible disabilities or who develop a disability over the course of their employment sometimes get inadequate support from employers. Participants mentioned that employers are often reactive, rather than proactive in providing supports (i.e., they only deal with employee health needs when they become critical). Lack of disclosure by an employee with a disability may also reinforce reactive behaviour.

Information needs of occupational therapists and other professionals

Two participants noted that there is a need for continuous education for occupational therapists as well as for human resources professionals about new technologies and solutions for workplace accommodation. Technology is changing very quickly, and sometimes occupational therapists, doctors or other professionals providing support to a person with a disability do not keep up to date or are not aware of how some of assistive technology can be used in the workplace. There is a need in linking rehabilitation professionals and other specialists with the suppliers who can share information about new AT products and solutions to benefit a person with a disability at a workplace. As noted by one participant,

"Most employers don't understand, they are scared, they see the dollar signs"

The ways suppliers reach out to their clients

Six participants mentioned that they connect with clients through "word of mouth," including referrals from former or current clients and referrals from specialists such as occupational therapists, ergonomists, employment support organizations, or other specialists such as engineers or architects supplying architectural products for building and workplace accessibility. Several participants noted that they encourage their clients to work with a professional who has the knowledge in a specific area of disability and accommodations, and choose a product according to their assessment.

Another helpful avenue to reach their client base is through their online presence, which was mentioned by seven participants. This includes online advertising (Google AdWords), attracting potential clients through an online retail "storefront" (a website that attracts traffic, using Facebook, Twitter and LinkedIn profiles). Suppliers sometimes send out monthly updates on new products by email to their regular clients.

What appears to be a less common way to connect with clients was through trade shows and other events, as well as organizing their own events. These avenues were mentioned by two participants. Events are sometimes not directly focused on workplace accommodations, but rather target supporting people with disabilities in various settings.

Forums to connect with other suppliers

Surprisingly, not all suppliers we contacted connect with similar companies in the field. Fewer than a half of the participants mentioned connecting to, and sharing information with, other companies. With some participants, we noted a sense of competition and reluctance to share information with others whereas some noted that they all work for the same goal and that it could be beneficial to connect more.

Among those who actively connect with other similar companies, the forums they use to connect differed by the types of products and services provided. For example, suppliers that specialize in products to aid/improve hearing impairments may connect with other organizations through the Canadian Hard of Hearing Association (CHHA), and Canadian Hearing Society (CHS), in addition to setting up information/demonstration booths at their conferences and shows. One participant is a member of International Association of Accessibility Professionals (IAAP), which is focused predominantly on standards and training members on technical processes. Another participant mentioned that they find and connect with other companies through websites, email, and phone calls, since they do not have time to participate in forums.

We found that there is potential for more collaboration among companies who offer accommodation products and services to employers and people with disabilities, although some suppliers may be reluctant to share information and be listed alongside their competitors on a website.

Creating an online resource for workplace accommodations

General considerations

While some participants mentioned that an online resource for workplace accommodations would be helpful to them and to their clients, others noted possible issues.

Do not duplicate the effort of others

There exist a large number of organizations providing information and support related to workplace accommodations. These organizations can support the needs of employers mentioned above, as well as the needs of other stakeholders. One participant said,

> "We need to make better use of the organizations and give better support to the organizations in place"

The organizations mentioned by the study participants include:

Société Logique in Québec: Its mission is to promote and continue the development and creation of universally accessible environments. Its services include providing information on regulations and standards, equipment and products, suppliers and installers of equipment, financial aid programs; on-site evaluations; developing solutions; organizing workshops and training, etc. http://www.societelogique.org/contenu?page=quid/mission

The Accessibility Consultants Association of Ontario (ACAOntario): This is a voluntary association of "fee-for-service" accessibility consultants. The ACAOntario website includes the list of the companies providing accessibility services including web design, training, technology, event planning, and architectural companies, with details on the services and contact information of each company. http://www.acaontario.ca/ac100.asp

The Global Alliance on Accessible Technologies and Environments (GAATES): This is a leading international organization dedicated to the promotion of accessibility of the built and virtual environments, with its main office in Ottawa. The resources available on its website include publications, a glossary of terms, and a database of vendors that provide accessible information and communication services. http://gaates.org/

The Ergonomic Encyclopedia (ErgoPedia): This is an ergonomic resource for individuals seeking to learn more about ergonomic products. It includes a list and comprehensive description of risk factors and sources of injury, injuries and conditions, ergonomic products including potential uses, glossary and other useful information. http://www.ergopedia.ca/

Symmetry Solutions: This organization offers a unique employment service to Calgary and Edmonton job seekers and employers, by providing a service to facilitate transition into the workplace for deaf and hard of hearing people. Among its services is a work experience program that includes job coaching and job placements for persons who have hearing impairments. http://www.symmetrysolutions.ca/

March of Dimes Canada: This organization's services include free employment services for persons with disabilities and employers.
https://www.marchofdimes.ca/EN/programs/employer/Pages/EmployerServices.aspx

CNIB: This organization offers employment services throughout Canada, including providing workplace assessments and accommodation assistance.
http://www.cnib.ca/en/services/community/employment-services/Pages/default.aspx

Inclusive Design Research Centre: This organization, based in OCAD University, supports the SNOW website where an assistive technology glossary and additional information is located.
http://idrc.ocadu.ca/resources

Avoid standardization of accommodations recommendations

Several participants noted that giving the perception that accommodations could be standardized could be harmful for people with disabilities and for employers. In particular, listing examples of accommodations for specific illnesses or disabilities on the website could be understood as a prescription for these specific accommodations (even if a disclaimer to discourage this understanding is provided). This could lead to limiting the options/budgets for employees with disabilities who in fact need other/more expensive accommodations. As noted above, people with the same limitations often have quite different needs and work goals, and thus may require different accommodations. As described by one participant,

> "[E]quity in input (the same disability, the same accommodations), doesn't result in the equity in output (the results, if the individual is comfortable and productive)".

Personalized assessment is best encouraged every time an employee is being accommodated and every accommodation situation should be considered as a separate "case" to be treated individually. Accommodations cannot be standardized, and any attempt to do so may harm stakeholders. In general, the possibility of misinterpretation of the information on a website should be minimized. For example, rather than providing specific guidance, suppliers noted that it might be more useful to provide generic guidance on the steps and important aspects of workplace accommodation. For example: 1) the disability needs to be identified; 2) the employer and the employee should assess what could pose a barrier to the employee in the specific work environment; 3) a specialist (a rehabilitation professional) should be available to make the assessment; and throughout, information on what type of specialists need to be consulted can be also helpful [synthesized from the interviews with suppliers].

One participant noted the importance of providing the full range of product and supplier options.

> All opinions, solutions and examples provided on the website "must be backed up by professionals".

Be visible

To be effective, an online resource needs to stand out and be accessible to stakeholders. An awareness campaign directed to employers could help employers understand the benefits of employing people with disabilities, and could promote the online resource to help them with workplace accommodations.

Proposed website tools

When developing a website, one needs to have a clear idea about the target audience. Among stakeholders who might benefit from using the website are:

- o Employers who do not have experience employing a person with a disability, and who are reticent about hiring a person with a disability;
- o Employers who would like to hire a person with a disability but who do not know where to start;
- o Larger organizations who have their own departments/resources for workplace accommodations, and who are looking for news or up-to-date information on new technologies;
- o Persons with disabilities who are seeking a solution that would help them with work functions;
- o Persons with disabilities seeking employment opportunities; and
- o Rehabilitation professionals who would like up-to-date information on the suppliers of specific accommodation products.

When choosing the "must-have" components for the website, it is important to consider what audience(s) the website will target, as different stakeholders may have different needs and look for specific resources to accommodate these needs. Below we list a few tools proposed by the participants, suggest possible audience(s) who might be interested in these tools, as well as identify potential issues that might arise with these tools.

Tool 1: List of suppliers of accommodation products and services

One of the tools could be a list of suppliers of accommodation products and services, along with detailed descriptions of these products and services. Such a list could be separated into physical (workplace) and virtual (web, documents) accommodations, and further organized by the category of accommodation. The description of each participating supplier could include the contact information, the range of services and products, and further descriptions of the products and differences among them. The list could help users identify "distinguishing elements between the ranges of services provided by each vendor"; e.g., "to help match with the vendor that covers all accessibility needs and not need to use multiple vendors and/or risk missing key elements" [participant quote].

One participant suggested that a checklist of 'gaps in accessibility' that vendors can help resolve could be useful:

Does the vendor:
Produce accessible documents?	☑
Offer online storage?	☑
Offer website conversion?	☑
Offer website accessibility validation?	☑
Offer webmaster training?	☑

That being said, such a feature may require more research and investment into implementation. If possible, the list could also include the price range for specific accommodation options.

The list would need to be searchable by various parameters, including the category of accommodation, the type of product, location, the availability of assessment/consultation services provided by the company, key words in the title or description, etc. The list could also include a "sort" function which would allow the user to sort results (e.g., by the number of reviews to the supplier, etc.)

Though suppliers can be competitive with each other, many of them would likely agree to be listed on a website, for the following reasons. First, there exist other similar listings where suppliers are listed side-by-side. Second, if the online resource attracts traffic, it could be regarded as "free advertising" by suppliers. Third, the suppliers might agree to "get together" on this online resource as they are ultimately working towards a common goal.

> "We are all competing, but ultimately the big winner needs to be the client, the individual" [participant quote]

Several interviewees identified potential issues related to the development of this tool (described above). It is advisable that the list of the companies be followed by a suggestion to contact an occupational rehabilitation professional (or another specialist, as appropriate) to help select a product. The companies that have specialists/doctors on staff, or that provide job coaching support, would need to include the details of these services in their profiles.

The quality assurance of the products supplied by the companies listed on the website could be an issue: "trust is a major issue as clients worry about liability for solution performance" [participant quote]. To address this potential issue, allowing ratings (e.g. a star system) and reviews of suppliers, as well as including a disclaimer, could be helpful.

The list would need to be kept up-to-date, which could be done by the experts who will moderate and verify the information provided in the list. Also, in order to stay on the list, the suppliers could be required to update their information regularly (yearly). . Having a membership fee was discouraged by the participants, as it could lead to selection on the basis of affordability of the fee, and might discourage some suppliers from participating.

Tool 2: Information on legislation/standards and guidelines

Regulations and standards, such as the Accessibility for Ontarians with Disabilities Act, the accessibility requirements in the National Building Code of Canada and web accessibility standards, could be included in the online resource.

Links to resources from other organizations could be helpful, such as guidelines for including a universal design perspective in the building of workplaces and offices including parking, outdoor access, lighting, signage, etc. (available in various places, including the Société Logique website); a guide for small business on accessible information and communication (available at gaates.org website); and other guides developed by Canadian and international organizations.

Tool 3: Information on employer/disability support organizations and service providers

There are many private and non-profit organizations that provide various types of support to people with disabilities and employers, including support with finding a job, matching an employer seeking a person with a disability with a potential employee, job coaching, workplace assessment, consultation on accommodation, among other supports.

> "There are a lot of good organizations out there ... All of them want to help people, but they may have limitations. It needs to bring everybody together and not say "you are not part of us". You need to get a lot of people involved" [participant quote].

Bringing everyone together will help to ensure that no one falls through the cracks, and may help identify any existing gaps that must be addressed.

Employment support organization profiles could include descriptions of the services they provide; relevant disabilities (if applicable); location; and information on specific features that could differentiate one organization from another. The list of support organizations should be easy to search and sort based on location, relevant disability, free versus "fee-for-service" supports, and types of supports provided.

Tool 4: Information on financial supports available

As noted, the availability of financial support can affect the decision of an employer to hire an employee with a disability. Listing available financial assistance programs, as well as free assessments, consultations and job coaching supports offered by various organizations, could help organizations with financial constraints.

The list of financial assistance programs and other supports need to be easy to search and to sort based on location, relevant disability, and types of supports.

Tool 5: Other important information identified by participants

- o Include generic guidance on the steps and important aspects of workplace accommodation;

- Provide information on what specialists can be consulted for workplace assessment and accommodation (ergonomists, occupational therapists, kinesthesiologists, etc.), and a description of the focus of different types of professionals;
- "Have a question and answer segment on the site, such as a place where people can leave a question. The question would then be emailed to a main contact person from each company on the site and then the company representatives have the ability to reply to the questions." [participant quote]; and
- "Having some sort of conference would be beneficial for various employers" [participant quote].

Tool 6: Provide "Scenarios"

Several participants noted that employers sometimes do not know where to start when accommodating an employee with a disability, complying with legislation, or reaching other goals related to employment of a person with a disability. Employers may experience difficulties navigating through a wide range of available resources, and may need help in locating the resources they require. To respond to these challenges, different employer scenarios and related solutions/resources could be developed. Such scenarios could be aimed at an employer: i) who does not have experience employing a person with a disability, and is reticent about hiring a person with a disability; ii) who is aware of the benefits of hiring a person with a disability, but does not know how to hire and choose appropriate accommodations; iii) who needs guidance in accommodating a person with a specific disability; and iv) who would like to learn more about workplace accommodation process, and develop an inclusive culture. The front page of the website could include an option for the user to choose the scenario among several that are provided; that way, the user can access the most appropriate resources that address their particular needs.

Summary and conclusions

Background considerations to keep in mind when developing a website

- Individual accommodations cannot be standardized or automated; ideally every accommodation solution should be customized based on considering various parameters including the individuals themselves, work function, workplace environment, and availability of funding;
- Choosing a specific accommodation product should often involve consultation with professionals who can guide an employer or an employee with a disability, and ideally should include a workplace assessment conducted by a professional;
- There are a lot of employment support organizations, suppliers of accommodation products, rehabilitation professionals and other specialists that can support workplace accommodation, but these organizations and specialists are often not connected among themselves or sometimes are even unaware of other organizations providing similar services;
- Various online resources are available in Canada and internationally such as information on regulations and standards; guides developed to educate employers and employees about disability, workplace accommodation process, rights and responsibilities related to

workplace accommodation; lists of companies providing specific accessibility services and supplying workplace accommodation equipment; lists of products that can be used for workplace accommodation; job boards; information about financial support available, etc.; and

o Employers and other stakeholders who visit a website may have different goals, and may be at a different point on a "journey" to workplace accommodation, and therefore require different types of guidance.

Website development considerations

o Using existing online resources on workplace accommodations and linking various service providers are essential to address existing communication gaps among stakeholders;

o Matching disabilities to possible accommodation solutions is not recommended, as it would undermine the idea of customized accommodation;

o In order to ensure it attracts traffic, ways to promote the online resource should be developed;

o Employers will benefit from core website resources such as accessible and easy to search information on available financial supports; a list of employer/disability support organizations and service providers with description of their services; information on regulations and standards, as well as guidelines on different aspects of accommodation, gathered at one place;

o Additionally, a list of products and suppliers who offer such products could be helpful, provided the potential issues outlined above are taken into consideration;

o Focusing on the specific goals of stakeholders, and including a feature where a user can choose their "scenario" to reach most relevant resources, can be helpful;

o Any opinions, solutions and examples on the website must be backed up by research or by professional knowledge; and

o Information on the website must be updated on an ongoing basis to ensure it is up-to-date and continues to be relevant to stakeholders.

Component 5 and 6: Review of Existing Web-based Models and Cost Estimates for Building and Maintaining an Online Resource

I. Goal and Objectives of the Review of Existing Web-based Models

We undertook a preliminary review of existing web-based models of searchable online resources for workplace accommodation. It involved a detailed review of existing online services for four websites. The focus of this component was on mapping the different kinds of services provided. Another key part was to identify what works and what does not work for these models. This was addressed by contacting the administrators of these as well as two additional services, and interviewing them about the uptake of their services and feedback they have received from their client base. We asked about any formal or informal assessments they have done of the services they provide.

We also inquired about cost estimates for building and maintaining an online resource for workplace accommodation. Data for this component was gathered, in part, from interviews with web-based service providers. We asked them about the timelines involved in developing and maintaining their web-based services and the number of people / types of expertise involved.

The review of the existing web-based models was guided by the following questions:

- o What features and types of functionalities does a web-based searchable online resource need?
- o What features and types of functionalities have been found to be most used by clients?
- o What resources are needed in terms of people time, expertise and costs to develop the online searchable resource?
- o What are the resources needed to maintain the resource?

II. Review of Existing Web-based Models Methodology

This component is focused on the top four websites identified in our previous/preceding review, namely:

1. Job Accommodation Network (US) https://askjan.org/
2. Employer Assistance and Resource Network (US) http://askearn.org/
3. The JobAccess Service (AU) http://www.jobaccess.gov.au/
4. The Yang-Tan Institute on Employment and Disability (US) http://www.yti.cornell.edu/

Each of the websites was reviewed in detail to map out their structures, core components and services, and their target audiences. The four sites offer somewhat different services, and this was a key element we kept in mind. Interviews with site owners/administrators helped unpack some of the details. The review of the websites considered the following elements:

- o Mandate/purpose and history
- o Key clients served
- o Types of information/knowledge, products and services provided

o   Other activities promoted or supported
o   Ownership and funding

The review was followed by interviews with the website administrators to gather incremental information not available on the sites themselves. In addition to the four services identified above, we conducted interviews with the representatives of two more services – Able Data, and the Canadian Council on Rehabilitation and Work (CCRW). This component followed a similar structure to the needs assessment (Component 3) and the scan of suppliers (Component 4) in terms of contacting individuals, setting up interviews, and undertaking data collection, though ethics approval was not sought for this component. Interview questions were open-ended and focused on better gathering knowledge on the successes and challenges of the sites as perceived by the administrators, and the resources involved in developing and maintain the sites. The questions and related analysis of this component were integrated with components 3 and 4 to determine to what degree the needs of employers and service providers/venders are promoted through the four websites under review.

III. Findings of the Review of Existing Web-based Models

Below we provide a review of the four websites: 1) Job Accommodation Network (US) (https://askjan.org/), 2) Employer Assistance and Resource Network (EARN) (http://www.askearn.org/), 3) The JobAccess Service (AU) (http://www.jobaccess.gov.au/), and 4) The Yang-Tan Institute on Employment and Disability at Cornell University (http://www.yti.cornell.edu/).

Job Accommodation Network (JAN)

Table 5.1 provides a summary of the JAN website. This site provides free, expert, and confidential guidance on workplace accommodations and disability employment issues.

Table 5.1: JAN website

Job Accommodation Network JAN is a leading source of free, expert, and confidential guidance on workplace accommodations and disability employment issues.	
WEB	http://askjan.org
Description	Easy to use and comprehensive system allows users to obtain accommodation ideas by impairment type and occupation. An extensive list of specific products and assistive technologies are also suggested for various impairment types including hearing, vision and motor impairments.
Funding agency	JAN is one of several services provided by the U.S. Department of Labor's Office of Disability Employment Policy (ODEP). Its development has been achieved through the collaborative efforts of ODEP, West Virginia University, and private industry throughout North America.
Services	JAN helps people with disabilities enhance their employability, and provides employers with resources on how to capitalize on the value and talent that people with disabilities add to the workplace. JAN's consultants provide one-on-one

	guidance on:
	a. Workplace accommodations;
	b. The Americans with Disabilities Act (ADA) and related legislation; and
	c. Self-employment and entrepreneurship options for people with disabilities.
	These services are available both over the phone and online. Private employers of all sizes, government agencies, employee representatives, and service providers, as well as people with disabilities and their families, can benefit from services provided by JAN.
Resources	JAN provides job accommodation resources. These resources include an ADA library, resources for employers, individuals, others and a searchable Online Accommodation Resource (SOAR) system.
Social media	Facebook, Twitter, LinkedIn, YouTube
Other features	Ask JAN Blog Webcasts Podcasts Request a training form Ask a JAN consultant Feedback form Live help News tab Hot topics

The following paragraphs describe, in depth, the resources provided by JAN:

1. *Searchable online accommodation resource (SOAR) system*

This system is the main resource provided by JAN. It is designed to let users explore various accommodation options for people with disabilities in work and educational settings. In addition, there is a widget that can be installed on host website.

The user can navigate through the site identifying appropriate accommodation ideas using a four step system. The following paragraphs and graphical images elaborate on these steps:

Step 1: Select the impairment: In this step, the user selects an impairment from a list.

Step 1: Select the Impairment

- Arthritis
- Back Conditions
- Cancer
- Chronic Fatigue Syndrome
- Cumulative Trauma Disorders (e.g., carpal tunnel syndrome and tendonitis)
- Deaf or Hard of Hearing
- Epilepsy/Seizure Disorder
- Heart Conditions
- Learning Disabilities
- Lupus
- Intellectual or Developmental Disabilities
- Mental Health Impairments
- Multiple Chemical Sensitivity
- Multiple Sclerosis
- Vision Impairments
- Wheelchair Use

Step 2: Select the limitation: The user then selects the limitation. The list of limitations is a non-inclusive list that results in common accommodation situations. There are three other sources of information including questions to consider, accommodation examples (case examples), and a tap to direct the users to a list of organizations providing further assistance.

Step 3: Select the job function: The user then selects the job function from a list. The system then generates a series of recommendations for accommodation.

Step 4: Choose the accommodation: In this last step, the user can read about available types of accommodation and then choose an appropriate solution.

There is also a feature that provides a shortcut to the list of accommodations for a list of impairments called "explore JAN's Quick List." Finally, the system has a "General Product Listing" for cognitive/neurological impairments; hard of hearing impairments; motor impairments; speech-language impairments; and vision impairments. This feature provides contact information for thousands of companies, organizations, resources, products, and services.

2. *Training*

In order to share its knowledge and skills, JAN provides training opportunities through a variety of media and in various locations. Clients can request training, information on conferences around US, webcasts, podcast, and training on demand. In addition, there is a Multimedia Training Microsite that provides training resources for site users.

3. ADA library

The library contains the ADA Amendments Act and regulatory information for five titles including: Employment, Public Services, Public Accommodations, Telecommunications, and Miscellaneous.

4. Publications and resources

This section contains publications and other resources for accommodation ideas by disability, limitation, occupation, product or service, and topic. In addition, a newsletters subsection contains JAN news and consultants' corner. There is also a subsection with other publications in Spanish. A final subsection contains information on federal, state, and local resources, legal resources, and websites with disability resources.

5. Other features

The website has FAQs and "About JAN" sections as well. There is also a "live help" feature and other contact info using email, voice, and TTY.

Employer Assistance and Resource Network (EARN)

Table 5.2 provides a summary of the EARN site. This site provides resources for employers to assist them with recruitment, hiring, retention and advancement of employees with disabilities.

Table 5.2: EARN website

Employer Assistance and Resource Network (EARN) **Target audience:** Employers **Overall objective:** To provide resources to help employers recruit, hire, retain and advance individuals with disabilities. **Focus:** Disability and employment issues	
WEB	http://www.askearn.org/
Description	The Employer Assistance and Resource Network (EARN) provides resources for employers to assist with recruitment, hiring, retention and advancement of employees with disabilities. This site provides general information to employers to assist them in the process of employing people with disabilities from recruitment to retention and advancement. Users are referred to the Job Accommodation Network for specific information on accommodations. Information available online assists employers to comply with the Americans with Disabilities Act (ADA).
Funding agency	It is a service of the Employer TA Center, which is funded by the United States' Department of Labor's Office of Disability Employment Policy under a cooperative agreement with The Viscardi Center. The Viscardi Center is a network of non-profit organizations that provides a lifespan of services for children and adults with disabilities. http://www.viscardicenter.org/

Services	EARN supports employers in recruiting, hiring, retaining and advancing qualified individuals with disabilities through: 1. Technical assistance; 2. Individual consultation (over the phone or online); 3. Customized trainings (on-site); 4. Reference Desk; 5. Webinars and events; 6. Regular updates on disability employment news; and 7. Connections to college students and recent graduates with disabilities through The Workforce Recruitment Program.
Resources	There are several resources provided to help employers recruit, hire, retain and advance individuals with disabilities under the following headings: 1. Diversity Goals: Develop and retain diverse workforce; 2. Recruitment and Hiring: Recruit and hire people with disabilities; 3. Supervision and Management: Supervise, manage, and develop employees; 4. Inclusive Workplaces: Promote a disability inclusive workplace; and 5. Disability Laws: Know your legal rights and responsibilities.
Social media	Facebook, Twitter, LinkedIn, YouTube eFedLink: This is a separate site requiring membership that supports a community of practice (a sort of online gathering, group or hub) to advance federal employment for persons with disabilities. The site provides tools to assist federal managers and human resources personnel in hiring and advancement of persons with disabilities in the federal government. It contains information to help find the right web and agency resources to support such efforts; interactive features for online discussions, document and media sharing among members; email messaging to other users of the website; and strategic planning and progress development for hiring and advancement.
Other features	Ask a question online Request employer training News feed Event calendar Employee spotlight Publications

We describe each of the resource categories identified in Table 5.2 in depth below.

1. Diversity goals

    a. *Benefit of diversity:* In this sub-section the importance and advantages of having a diverse workplace is discussed. Disability is discussed as a unique diversity category across all racial, gender, education, and socioeconomic lines.

    b. *Diversity requirements:* The Requirements for Federal Employers and Federal Contractors is outlined in this subsection. In addition, there is a link to state government resources regarding the employment of people with disabilities.

c. *Diversity plans:* This subsection includes:
  a. Affirmative Action Plans;
  b. Encouraging Disability Disclosure (the importance and the need to create an environment in which employees and applicants are comfortable disclosing their disability identity);
  c. Incorporating Disability into Diversity Plans (including the employer best practices for diversity and inclusion); and
  d. FAQ about strategies for recruitment and retention.

d. *Retention policies:* In this section, some tools and resources are introduced for retaining older workers. These include the AARP Workforce Assessment Tool for HR Managers, a recommendation to accommodate experienced workers in order to retain them, and strategies for minimizing declines in workplace performance that are the result of age-related physical, cognitive or sensory disabilities. In addition, the benefits of disability management programs are introduced. Four domains related to disability management are presented (based on Certification of Disability Management Specialist (CDMS) commission). They are:
  a. Disability and work interruption case management;
  b. Workplace intervention for disability prevention;
  c. Program development, management and evaluation; and
  d. Employment leaves and benefits administration.

Additionally, the strategies for successful disability management are introduced. The section also presents the implications of absence and the elements of an effective absence management program. Employee engagement and related strategies are other important issues discussed. This section provides additional information and resources on retention including advantages and strategies for retaining persons with disabilities. Finally, there is a sub-section on the Americans with Disabilities Act (ADA) and workplace safety which reflects on the regulations.

2. *Recruitment and hiring*

a. *Recruitment planning:* It is suggested that a detailed and well-created job description is useful in attracting and retaining employees with disabilities. In this section, the minimum requirements/elements of a detailed job description are listed. In addition, a list is provided of hiring incentives available to employers. There is a sub-section describing "non-competitive hiring authorities", their benefits, and Veterans' Hiring Preference. The Schedule A Hiring Authority is recommended for expedited, non-competitive hiring of qualified individuals with disabilities for federal positions.

b. *Contingent employees:* The section discusses contingent employees, recruiting through staffing agencies, the benefits of utilizing contingent employees, the contingent workforce benefits, and best practices for contingent employment. In particular, it is mentioned that persons with disabilities and the aging workforce might prefer contingent work due to the possibility of a flexible work arrangement, adding skills and experience to their resume and to gain valuable experience in the workplace; and exploring work in a different industry or career.

c. *Recruiting older workers:* Some resources, recommendations and information are provided for recruiting/job posting, and attracting older applicants through flexible work arrangements.

d. *Veterans:* In this section, the regulations and tax incentives for hiring veterans are discussed and additional references are provided.

e. *Community resource linkages:* In this section highlights the importance of formal and informal partnership between an employer and any organization that provides employment services or referral of candidates with special emphasis on hiring programs. There is some information on forming community linkages, type of workforce partners, linkages and compliance, and finding community resource linkage organizations.

f. *Posting jobs:* In this section a list (with hyperlinks) of online job boards that are specifically designed for job seekers with disabilities including Veterans with Disabilities is provided.

g. *Interns and recent graduates:* The benefits of employing interns with disabilities and recruiting employees from this group are discussed. In addition, there are some recommendations about interviews and the selection process, supervision of interns with disabilities, compensating interns, and additional information and resources on workforce recruitment programs.

h. *Workforce recruitment program:* This section provides users with required information and resources for posting their jobs and internships to www.WRP.jobs. There is also a video providing a walkthrough training to use www.WRP.jobs.

i. *Community college partnerships:* The importance and benefits of increasing the involvement of people with disabilities in community college-employer partnerships is discussed in this sub-section.

j. *Interviewing:* In this sub-section, several recommendations are provided for interviewing candidates with disabilities including preparation for the interview and basic do's and don'ts for keeping a job interview focused on applicants' qualifications.

k. *Pre-employment testing:* Benefits of pre-employment testing are discussed here. Several types of assessments, including pre-employment and post offer, are elaborated. In addition, the legal issues related to assessments are briefly discussed. Additional information on requirements for assessment use, reasonable accommodation, medications, criminal background checks, and best practices in assessments are also provided.

l. *Candidate selection:* In this section the importance of considering the potential adverse impacts of tools for candidate selection for persons with disabilities is highlighted. These tools may include job analysis and accessible selection tools. More specifically, the potential of adverse impact and some recommendations with respect to applicant screening practices and common selection tools are briefly discussed, including telephone interviews, credit history checks, preference for individuals currently employed, social media, online application systems, structured interviews, cognitive assessments, physical fitness tests, and personality assessment and integrity tests.

m. *Onboarding:* This section provides suggestions for a process for integrating new employees into the organization, preparing them to be productive at their job, and becoming fully engaged and comfortable in their new position. This section describes and presents the importance of this concept, the goals of the onboarding process, the

importance of making employees feel welcome, onboarding and reasonable accommodations, and onboarding checklists.

n. *Encouraging disability disclosure:* In this section, which is similar to the diversity plans sub-section, the benefits of disability disclosure and understanding of the disclosure decision is discussed. There is also a link to a webinar on "research and practices for promoting disability disclosure". A series of strategies for employers and some tips for creating an environment that encourages disclosure are presented.

o. *Working with job coaches:* This sub-section specifies the responsibilities of a job coach and the do's and don'ts of working with a job coach.

3. *Supervision and management*

a. *Employee development:* In this sub-section, mentoring and its benefits, a federal workplace mentoring primer, a private employer mentoring primer, and strategies for training and professional development are discussed.

b. *Employee performance:* Proactive practices in implementing a formalized performance management system are outlined. In addition, written policies and job descriptions are encouraged to better communicate job functions and expectations. There are also some tips for small businesses. Other resources and information including those for Employment Assistance Programs and working with a job coach are also provided.

c. *Making an accommodation:* There is a list that consists of examples of reasonable accommodation and a basic guideline for employers. There is also a recommended approach to request an accommodation by employee, a recommended procedure to respond to requests for reasonable accommodations, a recommended approach for implementing an effective reasonable accommodation, and a formal accommodation process. There is also a description of assistive technologies and a sub-section on the benefits of job analysis and the role of vocational rehabilitation providers.

d. *Employee leave and return to work:* In this sub-section, information is provided for employee leave, managing the workload of an employee on leave, and quick tips for managing employee leave. In addition, return to work programs, the advantages of return to work strategies, and elements of successful return to work strategies are presented and discussed.

4. *Inclusive workplaces*

a. *Disability awareness:* The principles of disability etiquette are discussed in this sub-section. Disability etiquette refers to respectful communication and interaction with people who have disabilities. In addition, specific tips are provided for communicating with individuals with each of the disability types including mobility impairments, visual impairments, speech impairments, learning disabilities, deafness, cognitive disabilities, and people who are hard of hearing. The importance and the advantages of an inclusive work environment and an inclusive culture are discussed. There are some additional resources including a webinar on disability inclusion practices, improving accessibility, and some tips for human resource professionals and managers.

b. *Workplace accessibility:* This sub-section includes information on workplace accessibility requirements, universal design, and benefits of web accessibility and its

requirements. The significance of disability in the United States (approximately 36 million people have a disability in the United States) is highlighted and the business cases of hiring these people and turning the requirements into potential opportunities are discussed.

    c. *Workplace inclusion:* There is a specific sub-section with resources designed for small businesses and includes the recommended steps that small businesses can take to recruit and retain qualified people with disabilities. There is also a link to the Notice of Proposed Rulemaking (NPRM) on increasing the representation of people with disabilities and other historically under-represented groups in apprenticeship programs. In addition, there is a sub-section linking the users to "Private Sector Employee Resource Groups" and "Federal Sector Employee Resource Groups". Finally, similar to sub-section 4a, there is a section on creating an inclusive work environment.

5. Disability laws

Laws and legal topics: This section provides information and links to disability regulations and laws to familiarize the users with their legal rights and responsibilities.

6. Other resources

On the bottom of the main page, there is a section called **"Employer Spotlight"**. It provides some material about employers' successful practices for outreach, recruitment, hiring, and accommodation of workers with disabilities. For example, there are stories about NASA, US Air Force, 3M, Microsoft, at&t, Deloitte, and Best Buy. These case studies provide examples for employers on how they can benefit from recruiting and retaining of people with disabilities.

The JobAccess Service

Table 5.3 provides a summary of the JobAccess site. This site provides information and advice on workplace solutions for people with disabilities and their employers. It includes a comprehensive, easy to use website and a free telephone information and advice service, where one can access confidential, expert advice on the employment of people with disability.

Table 5.3: JobAccess website

The JobAccess Service **Target audience:** People with disabilities and their employers **Overall objective:** To provide a comprehensive range of information about disability employment and workplace solutions and adjustments. **Focus:** Disability employment information and advice	
WEB	http://www.jobaccess.gov.au/
Description	The JobAccess Service is an information and advice service funded by the Australian Government and delivered by a contracted service provider. It offers help and workplace solutions for people with disabilities and their employers. It is an initiative of the Australian Government to support the employment of people with disabilities.

Funding agency	Australian Government , The Department of Social Services
Services	This website is designed to provide information written specifically for people with disabilities, employers and Australian Government employment service providers. It has a comprehensive range of information about different disabilities and workplace solutions and adjustments. The website has information on recruitment, job searching, adjusting a workplace, employer incentives, understanding rights and responsibilities at work, among other resources.
Resources	A range of information sheets in accessible formats, translated information sheets in over 20 languages, videos showcasing people with disabilities and the diverse experiences of people with disabilities in the workforce, a centralised online application process to apply for financial support and easy access to report complaints and allegations of abuse of people with disabilities.
Social media	N/A
Other features	Contact Us Accessibility

The following paragraphs describe, in depth, the resources provided by The JobAccess Service:

1. *Resources and publications*

A range of information sheets are available for download from the JobAccess website in accessible formats. These information sheets aim to help people with disabilities and employers to understand the free supports that are available to help people with disabilities to find work and keep it. The information sheets cover a range of topics including funding, programs and services available for people with disabilities and employers, services available to young people with disabilities who are looking for work, and an accessibility checklist for employers. There are also translated information sheets in over 20 languages available for download from the JobAccess website. These information sheets were developed in collaboration with the National Ethnic Disability Alliance (NEDA) as the national peer organisation representing people with disabilities, their families and carers, from culturally and linguistically diverse (CALD) and non-English speaking backgrounds (NESB). This relationship with NEDA seeks to address the fact that people with disabilities from non-English speaking backgrounds often face additional barriers to access support and services that could help them fully participate in society, including finding work. The development of the translated information sheets adopted an innovative approach through "road testing" them in workshops with respective CALD communities across Australia, to help people access information about disability employment in their own language.

2. *Disability and work*

The website contains information about the importance of work for people with disabilities and information on the types of employment available for people with disabilities. In addition, there is information on working with people with disabilities, best practices, disclosure, privacy, and

health and safety. Moreover, the website provides some facts and myths about disability, and information on disability awareness training. There is also a list of "peak bodies" (national organizations that represent disability employment service providers and the interests of people with disabilities)[11] that can provide assistance in identifying disability awareness training courses. This list includes Disability Employment Australia, Jobs Australia, National Disability Services, The National Employment Services Association, and Volunteering Australia. The website also introduces a number of employment services, incentives and programs funded by the Australian Government for job seekers and employees with disabilities and their employers.

As well, the JobAccess Service provides a step-by-step guide for users on how to access and register with the right type of Australian Government employment service provider.

3. *Government services*

The Australian Government funds a range of employment and employment-related services and supports, including training and apprenticeships for people with disabilities. JobAccess claims that help is available at every stage of the employment process, from preparing to look for work, searching for a job and, if needed, ongoing support once in a job. There are instructions for how individuals can apply for the Employment Assistance Fund and how they may apply for the supported wage system. The information is available for employers, service providers, and people with disabilities. The website also includes information about workplace assessments that form part of the Employment Assistance Fund process. JobAccess suggests that "Australian Government has established a panel of workplace assessors for easy access to qualified workplace assessment professionals. The JobAccess Advisers will assess the need for a workplace assessment and can arrange a free assessment on an individual's behalf".

4. *Employers*

This section has been designed to help employers in hiring and retaining people with disabilities. This is done through providing necessary information and resources including information on preparing the workplace, having a safe and flexible working environment and making any required workplace modifications and adjustments; information about the National Disability Recruitment Coordinator; how to become a disability confident organization; information on financial support and wages; information on free expert help and help from other employers; managing a successful return-to-work for an employee with disability; where to post a job vacancy online; necessary information on recruiting, supporting, and retaining new staff; and information on training and development for organizations and their staff.

5. *Employees and jobseekers*

The website provides information on:

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[11] https://www.dss.gov.au/our-responsibilities/disability-and-carers/program-services/consultation-and-advocacy/national-disability-peak-bodies

- o services and supports to help people with disabilities get job and manage work responsibilities;
- o completing study, training or apprenticeships;
- o getting work for first time jobseekers, for people returning to work after a break and for people who want to try something new;
- o starting job;
- o practical tips on how to keep the job and learn new skills;
- o successful return-to-work; and
- o searching for advertised jobs online.

There is an online enquiry form and a toll free number for additional assistance.

6. *Service providers*

Several resources and information are available for service providers, including training and development, government services and support, assisting job seekers, and assisting employers.

7. *Other features*

The home page contains a news feed, an introduction to the JobAccess Service, direct links to areas of the website that are targeted to the stakeholders (people with disabilities, employers and service providers), streamlined access to apply for financial supports and complaints resolution.

The Yang-Tan Institute on Employment and Disability

Table 5.4 provides a summary of the Yang-Tan Institute site. This site serves to advance knowledge, policies and practices to enhance opportunities for all people with disabilities. The name of the organization was recently changed to Yang-Tan Institute (YTI) from Employment and Disability Institute (EDI).

Table 5.4: The Yang-Tan Institute on Employment and Disability website

Cornell University – The Yang-Tan Institute on Employment and Disability **Target audience:** Businesses, people in the disability community, policy makers, advocates, federal and state agencies, and other stakeholders. **Overall objective:** To advance knowledge, policies and practices to enhance opportunities for all people with disabilities. **Focus**: Inclusive workplaces, education, work, income, healthy living, community membership, and engaged learning.	
WEB	http://www.yti.cornell.edu/
Description	The Yang-Tan Institute on Employment and Disability aims to advance knowledge, policies and practices to enhance opportunities for all people with disabilities. The Yang-Tan Institute focuses on inclusive workplaces, education, work, income, healthy living, community membership, and engaged learning.
Funding agency	This information is not provided. However, it appears that the Institute

	receives research funding through multiple federal and state agencies.
Services	The Yang-Tan Institute advances equal opportunity for people with disabilities in partnership with federal and state government and philanthropic organizations. This institute provides research, online training, scholarly projects and reports/publications to support the employment contributions of people with disabilities and ensure community inclusion. The Yang-Tan Institute offers a wealth of information and research on employment and disability issues and outcomes.
Resources	There are several resources available through website. These include: 1. Information on several projects; 2. Online learning; 3. Consultation; and 4. Research.
Social media	Information not provided
Other features	Event calendar Profile of researchers and staff Links to publications

The following paragraphs describe, in depth, the resources provided by the Yang-Tan Institute:

1. *Projects*

There are several projects introduced and described under the following themes. For each project, a project overview, project activities, contact information, funding agency, name of principle investigator, and collaborating partners are provided.

a. *Inclusive workplaces:* The purpose of projects under this theme is to engage with employers to promote equal opportunity and inclusive workplaces for people with disabilities. They are: i) An investigation of trends and changes in claims filed under the age discrimination in employment act; ii) Diversity partners employment; c) ediOnline ("edi" stands for electronic data interchange); and iii) Northeast ADA (Americans with Disabilities Act) center.

b. *Work:* In order to enhance meaningful participation of people with disabilities in the labor market or other entrepreneurial ventures, seven projects are introduced. These projects are: i) Career link mentoring project with US Business Leadership Network (USBLN) and Mitsubishi Foundation; ii) New York State Consortium for Advancement of Supported Employment (NYS CASE); iii) Outpatient recovery services; iv) Career transition: a mentoring program for veterans with disabilities; v) A study of community based rehabilitation models in Karnata State, India; vi) Strategies for gaining insights into the employment challenges of veterans with disabilities (Woodruff Foundation); and vii) Diversity partners employment DRRP.

c. *Income:* There are three projects under this theme aimed at advancing the economic well-being of people with disability and providing pathways out of poverty through financial and entitlements literacy. The projects are: i) Promoting the readiness of minors in

supplemental security income (PROMISE); ii) ediOnline; and iii) The National Training and Data Center.

d. *Healthy living:* This theme aims to support quality of life across the life span, through work/life balance, health and well-being. Three projects are introduced under this theme are: i) Fits in: an inclusive fitness and wellness technical assistance and evaluation program; ii) Keeping people with disabilities in the workforce: negotiating work, life and disability-field initiated research project; and iii) An investigation of trends in charges filed under the Age Discrimination in Employment Act.

e. *Community membership:* This theme focuses on advancing person-driven practices to promote leadership development and social inclusion with individuals with disabilities. Projects under this theme are: i) New York State partners in policymaking; and ii) Citizen-Centered Leadership.

f. *Education:* Three projects are introduced that seek to improve inclusive education and successful adult living, learning and earning outcomes for youth with disabilities. These projects are: i) Transition services professional development centre; ii) Promoting the Readiness of Minors in Supplemental Security Income (PROMISE); and ii) NYS Community Employment Specialist Technical Assistance Support Centre (CES TASC).

g. *Engaged learning:* This theme promotes using innovation and coursework to support pre and post-service learning in authentic environments both domestically and globally. The projects under this theme are: i) The just-in-time toolkit for mangers; ii) ediOnline; iii) Training ACCES-VR supervisors-a community of practice; iv) Citizen-centred leadership; v) Customized manager training series; and vi) A disability studies program.

2. *Online learning (ediOnline)*

This online learning service provides an affordable, convenient, and learner-friendly environment for today's busy professional. ediOnline offers courses and certificate programs on topics critical to supporting people with disabilities in the workplace. Three main domains are described in ediOnline, and are as follows.

a. *Essentials for managers:* A series of webinars that provide tips for managers to use to help them lead productive, high-performance teams that include people with disabilities. Six essential topics for managers are provided.

b. *Certificate for business planners:* This program provides a unique and scientifically based webinar series, that includes an on-line examination and file review process to ensure that participants are able to understand Social Security disability programs and work incentives, and apply that information to real life situations. This credentialing program aims to provide learning opportunities for work incentives planning and utilization.

c. *Leadership for person-centred planners:* This course is designed for citizen-centred leadership development. This course considers how person-centered planning, leadership development, community- building, employment and organizational planning relate to supporting the ideals of citizenship with, and on behalf of, people with disabilities who are vulnerable to social exclusion.

3. *Consultation*

The Yang-Tan Institute provides consultative services to organizations to support advancing the contributions of people with disabilities and ensuring their full inclusion. The Institute provides training, technical assistance and organizational development support. In addition, it offers online courses on disability and employment support.

4. *Research*

The website notes that the organization conducts research to inform businesses, people in the disability community, policy makers, advocates, federal and state agencies, and other stakeholders. In addition, the Yang-Tan Institute also provides research consultation in both the public and private sector. The Yang-Tan Institute research team conducts research on: a) employment and disability; b) disability statistics; c) program evaluation; and d) specialized topical issues.

5. *Events*

There is a list of upcoming events including online and in-class training on different topics.

IV. Interviewing website administrators

Job Accommodation Network (JAN)

The funding for JAN comes from the US Department of Labour's Office of Disability Employment Policy (ODEP). JAN began providing services off-line in 1983, long before the development of its website. The website was developed in the mid-1990s and became fully functional in 1996/97. So its services were, and continue to be, focused on customized support provided through direct consultations with clients. In general, the website only serves as a starting point for information and guidance on accommodation issues. Originally, the website only had static pages, but JAN staff started adding publications and other resources over time so that users could easily access key information. If clients have additional questions they can contact JAN directly. The website gets approximately 700,000 hits per month and the 2015 case load for JAN staff was 50,000.

The key stakeholders who visit the website are employers, people with disabilities, rehabilitation and medical professionals, researchers, students, and reporters doing research. Clients help promote and support the development of the website.

JAN regularly undertakes surveys to assess the needs of its clients. In addition, comments are gathered from the web and follow-up surveys are undertaken. The follow-up surveys are done over the phone through a sub-contractor. The sub-contractor contacts people who have used JAN's services to inquire about how the service performed, as well as to determine what worked and what did not. The surveys have been very informative for JAN. For instance, one issue that

they identified was that their name– "Job Accommodation Network" – gave people the impression that they provide job searching and matching services, which they do not.[12]

The JAN website administrators we interviewed suggest that people use the website as a starting point, and that many clients subsequently contact JAN staff for more customized guidance. JAN receives many individual calls where clients describe their specific situation, and JAN staff provide suggestions on the accommodation that they may need. The interviewees noted that while people may find some information on the web, there is always something that is not covered anywhere on the web, and that is why they see their customized services as essential. JAN provides different ways for people to ask questions. The website has a chat function and an online tool for questions. The cross-communication platform has been improved by expanding the way that clients can contact JAN. It also has a virtual office in Second Life (http://askjan.org/SL/office/index.htm) where clients can ask questions through their avatar.

The virtual office is a different method of communication than what was used in the past. It was established to enable JAN to handle clients with disabilities who may not want to talk about their disabilities directly with staff. These individuals can enter and "live" in a virtual world, taking on an avatar who talks about their disability in a virtual world. Other organizations have sections in Second Life, including the American Cancer Society. JAN intends to reach all people, including people in the virtual world, who want information about accommodations.

While its core services have remained the same, JAN has expanded the amount of information available to clients. For example, JAN takes advantage of new technology by offering many online training and development modules so that clients can view them at their convenience. The interviewees suggested that the call volume is very high. Hence, JAN uses the website as the way to expedite its services, so that JAN staff does not have to answer the same question over and over again. The feedback from clients resulted in changing the way JAN organizes personnel to maintain its website. This was done by adjusting the infrastructure so that additional staff can be involved in keeping the site up-to-date. JAN staff noted that the site is updated on a daily basis.

Since it does not have a full-time programmer, JAN used sub-contractors to design and develop its website. While the foundation (i.e., design, re-design) has been contracted out, the maintenance of the website is done in-house. Different staff members are tasked with different aspects and services. JAN has divided its services by medical conditions, but there are also consultants who work with employers and with persons with disabilities.

JAN staff work in teams. To ensure smooth and secure operations, networking teams are responsible for hardware, software and back-up. JAN has a web team (comprised of two individuals), a content management team, different teams based on the type of impairment, as well as support staff (who update web addresses, phone numbers, etc., on the resource pages). JAN has a sensory team (vision, hearing), a cognitive team, and a small business team, among others. The teams are further broken down based on specific impairment (e.g., staff who specializing in learning disabilities, etc.). In total, JAN has less than 30 full-time equivalents

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[12] We did not inquire why the organization did not consider changing their name to resolve this issue. It might be that there name has substantial familiarity with a large number of clients.

(FTE), including IT support. JAN serves all US states and territories, and demand has been increasing while its resources (i.e., budget) have remained flat for several years.

The website administrators believe that their key strength is the unique knowledge they can offer, together with a focus on customer service. Their perceived key weakness is the lack of budget and insufficient staffing to keep everything up-to-date.

Employee Assistance and Resource Network (EARN)

To oversee EARN, two years ago, the Viscardi Center received grant funding of $1.8 million per year through a "cooperative agreement" from the US Department of Labor for a period of five years. The website (AskEARN) has been in operation for seven to eight years. The US Department of Labor's ODEP has several technical assistance centers, including JAN (the oldest), EARN, among other centres.[13] EARN works hand-in hand with ODEP and all partners that comprise the EARN team. These partners include the Viscardi Center, Georgetown University, George Washington University, Concepts Communication, Centre for Disability Law and Policy, the National Council of State Legislators, US Business Leadership Nework (BLN) and a couple of consultants.

EARN's mission is to educate and train employers, including private, public and federal agencies, primarily in the US. The knowledge level of employers on issues related to inclusiveness is low, so they have much to learn about how to attract, hire, retain, and promote people with disabilities. People with disabilities rarely use the website, and generally turn to JAN for support since it is a better fit for them.

The AskEARN website is just one component of EARN. Currently the key modules of the site include:

- o Policy briefs and new information on accommodation issues;
- o Bi-monthly webinars;
- o Social media (updated daily);
- o A newsletter to keep in touch with clients and to attract clients;
- o Free technical assistance and personalized training (trainers provide in-person and webinar training). It should be noted that this service is not well-known and that EARN is trying to scale it up;
- o An employer spotlight; and
- o A workforce recruitment program that serves students with disabilities (wrp.jobs).

The website's development is determined by EARN's mission: to assist employers. In order to improve the website's user interface, the EARN team is planning to re-design the entire website (based on an informal team review of the site). It has begun transferring the data to the new website.

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[13] We did not speak with ODEP, and therefore are unable to explain why it funds several centers.

In order to assess the needs of clients, at the end of every webinar EARN invites participants to take part in a survey. In addition, certain organizations that are looking to improve their disability practices have a two-hour phone meeting with EARN once every quarter. EARN also moderates a panel (about an hour-long) that focuses on special topics; such panels allow employers to hear what top performers have to say about topics, including best practices on self-identification and issues around employer resource groups.

EARN finds that the information small business owners are seeking is completely different from what human resource managers at large corporations are seeking. Therefore, EARN tries to provide a wide range of information to accommodate the needs of small and large businesses. There are organizations that try to do the right thing, but have no idea where to start. EARN uses a simplified approach using a feature called "don't know where to start – click here" and they make it very visible. If the client clicks that button, they will encounter very introductory language about hiring people with disabilities, where to start, and a decision tree so that they will see where they are at and what resources they need. For more knowledgeable users, EARN offers information on more advanced topics.

As suggested by the interviewee, the maintenance of its website is not overly expensive. Most of the $1.8 million goes towards development of content for the website. With respect to human resources dedicated to the maintenance of the website, there are two to three people working part-time; an IT manager who spends between 1/3-1/4 of his time on the website, and a web designer who works on an ad hoc basis designing a new feature, page, etc. In addition, a team of 4-5 staff with more leadership roles work on this project (but who also have responsibilities through other research grants). There are a total of 18-20 people spending a portion of their day on this grant. It should be noted that the interviewee is working only on this project. In total, there are three people who are full-time on the project, while the remaining people are part-time.

The JobAccess Service (Australia)

Funding for the JobAccess website is provided through the Australian Government's Department of Social Services. It comes from the Department's annual funding for the delivery of disability employment services.

JobAccess is the national hub for workplace and employment information for people with disabilities, employers and service providers. The website content is tailored to the needs of key stakeholders: people with disabilities, employers, and service providers.

The website was first established in 2006 following an extensive national inquiry. In 2005, the Australian Human Rights and Equal Opportunity Commission launched the National Inquiry into Employment and Disability (the Inquiry). The Inquiry sought to identify the main reasons for the low participation and employment rates among people with disabilities, and to work towards practical and achievable solutions.[14]

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[14] WORKability 2: SOLUTIONS – Final report of the National Inquiry into Employment and Disability

The Inquiry sought feedback from individuals with disabilities, community groups representing people with disabilities, unions, employment service providers and their peak bodies, employers and their peak bodies, and government agencies. One of the Inquiry's key recommendations was for the Australian Government to develop a one-stop-information-shop where people with disabilities can learn about matters relating to disability employment in Australia. Accordingly, the JobAccess Service was the Government's response.

Ongoing consultation and opportunities for feedback are also built into the JobAccess Service, which is contracted for delivery through a third party service provider. The JobAccess website is managed by the Department of Social Services (the Department) with the contracted service provider assisting with the development of content based on stakeholder feedback. The Department also receives feedback from key stakeholders through other consultations with disability and employment industry stakeholders, for example, consultations and feedback undertaken as part of broader disability employment services reform processes. The JobAccess website is hosted in the Department's IT Server and is managed by the internal Information Management and Technology Group. New content or changes to the structure of information can be submitted from within the Department via an online publishing request.

The first iteration of the JobAccess website (Sharepoint platform) was developed and launched in 2006 and was based on the model adopted by Job Accommodation Network JAN website (noting agreement between both parties). An updated JobAccess website was developed and went live in 2012, informed by feedback received from users through various channels. Because of its ability to meet the Australian Government's accessibility requirements, this version of the website was based on a Drupal platform, which achieved a Triple A accessibility rating against the Web Content Accessibility Guidelines[15].

The Australian Government's 2015 Budget for disability employment included funds for the development of a new central information entry point to streamline employment services for job seekers with disabilities and potential employers. This included funds dedicated to the development of a new JobAccess website to streamline services and programmes and create a virtual disability employment marketplace through a new online and client relationship service centre. The new JobAccess Service and website commenced on July 1, 2016, to comply with the Digital Service Standard[16] (which replaced the Web Content Accessibility Guidelines on 1 July 2015).[17]

Consistent with the Government requirements under the Digital Service Standard, understanding user needs was the first step in the process that was adopted for the development of the new JobAccess website.[18] For example, consultation on the development of the new website was

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[15] Web Content Accessibility Guidelines – Web Guide
[16] The Digital Service Standard sets the criteria for government agencies to ensure that government services are simpler, clearer and faster for all users. The standard includes 13 criteria, the first of which is "understand user needs". https://www.dto.gov.au/standard/
[17] Digital Service Standard
[18] Digital Service Standard

undertaken with people with disabilities and their peak bodies[19], employers and their peak bodies, and employment service providers. These stakeholders were involved in various stages of the development process, including through user testing and through the development of an image library for use on the website.

A needs assessment was undertaken through exploratory research and working groups held with stakeholders. These activities identified the following high level needs:

- o Users expect a highly accessible, simple, and easy to use website;
- o There is a clear need for presentation of tailored, relevant information; and
- o Users expect a range of videos on the website.

Findings from the needs assessment were incorporated into the new JobAccess website where they were:

- o Consistent with the Australian Government's overall objective of increasing sustainable employment for people with disability;
- o Feasible within the scope of accessibility requirements; and
- o Feasible within the scope of the development timeframe and budget.

In 2015, an internal review of the existing JobAccess Service, including its website, was undertaken. This review has not been publicly released. The review highlighted the following high level points that could be considered as enhancements to the JobAccess website:

- o Improved website navigation to increase accessibility to information;
- o Improved awareness of the service and its available supports across broader audiences; and
- o The opportunity for follow up contact.

The key strengths of the JobAccess website are:

- o User centric design following an extensive co-design process with stakeholders;
- o Access to tailored support and advice either direct from the website, via email enquiry, or with access to an Adviser over the phone—the various forms of communication channels cater to the diverse communication needs of people with disabilities;
- o Information on, and access to, financial incentives to support the employment of people with disabilities (e.g., the Employment Assistance Fund and the Supported Wage System); and
- o Access to disability employment videos that describe the diverse experiences of people with disabilities in the workforce.

The information that has the highest access rates on the JobAccess website includes:

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[19] "Peak body" (Australia) is an organization which represents and entire sector of industry or the community to the government, often incorporating other organizations in that area

- o People with disabilities—available support;
- o Downloads (information sheets and videos);
- o Information about the Employment Assistance Fund;
- o A resume template for jobseekers (which contains guidance on how to complete a resume); and
- o People with disabilities—your rights and responsibilities.

The following are the amounts of resources (people expertise and FTEs) that are required to maintain the core components of the site:

- o One FTE staff member in the Information Management and Technology Group is responsible for the day-to-day management of the JobAccess website;
- o The contracted JobAccess Service provider delivers updated content to the Department on an as needed basis (this work is covered as part of the contract to deliver the JobAccess Service); and
- o The Program area within the Department has 0.5 FTE staff members involved with the maintenance and monitoring of the website.

The Yang-Tan Institute's Employer Practices website

The Yang-Tan Institute's Employer Practices to Improve Employment Outcomes for Individuals with Disabilities Rehabilitation Research and Training Centre website was formed in 2011 through a federally funded grant. The organization administering the site received $4.5 million over five years to conduct research, develop material, and maintain this site.[20] There is some in-house staff (about 6-10 people) who work on maintaining the website and updating the content, including those dedicated to knowledge transfer and exchange. In addition, there are about a dozen researchers that help update the information and material on the site.

Employers, disability advocacy organizations and people with disabilities visit this website for different reasons, but the primary target audience for the site is employers. Employers that visit the website are particularly interested in information on improving employment practices. The website administrators have worked very closely with employers through focus groups, surveys, and administrative data from the Equal Employment Opportunity Commission to identify the those areas warranting focus. The website has evolved significantly overtime. In particular, it now focuses more on evidence-based materials including research papers, videos, and power point presentations.

Formal and informal reviews of the website have been done periodically, along with case-by-case real-time testing to identify problems. The website administrators indicated that the key weakness of the site is the amount of information it has available, which can be overwhelming for some users. They have found that employers want to be given readily digestible bite-sized chunks of information.

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[20] The Yang-Tan Institute as a whole has a budget of $10.3 million/year. In this section we are focusing only on the Employer Practices to Improve Employment Outcomes for Individuals with Disabilities Rehabilitation Research and Training Centre website.

The website administrators that were interviewed indicated that they have many years of research experience in the area of employment and disability, and that this is a key strength of the services that they provide. Online tools and the technical components on best practices are based on research. Researchers conducting projects with employers and people with disabilities concurrently collaborate with their initiative to develop information and materials.

Interviewees suggested that the development of a new site in Canada could benefit from existing platforms by establishing a collaborative relationship with organizations such as JAN, if the Government of Canada is interested in creating a service similar to the Yang-Tan Institute's Employer Practices to Improve Employment Outcomes for Individuals with Disabilities Rehabilitation Research and Training Center. They also noted the importance of having a research group ensure that the product and service development is evidence based.

Able Data

The AbleData program was established 30 years ago, while its website was created about 17 years ago. It has over 40,000 AT devices listed and also provides users with educational activities. To enable the users to identify sources of financial assistance, the website includes links to other organizations such as JAN and EARN. AbleData is federally funded by the Department of Health and Human Services. New Editions Consulting won the grant to oversee AbleData for a five year period, which began three years ago. The service is international and free for all clients who contact them, though 70% - 80% of clients are from the US. AbleData provides some services in Chinese and Spanish.

A lot of people navigate the website on their own, though some call the service centre to get information on specific products. Most clients are not employers; they are individuals looking for products for home-use or to connect with their communities. Only about 20% of clients are looking for information and products related to employment accommodation. Employers seeking support are referred to JAN or other organizations. AbleData has three types of target audience, including users seeking products for themselves or their family; distributors and manufacturers; and policy shapers (federal and local government). Almost 99% of the traffic is for three key services: searching for products, product makers and sellers, and assistive technology resources (e.g., details on where financial assistance is available). The strength of the service is in the number of products.

Through several needs assessments, AbleData found that users were more interested in getting details about products and services, rather than getting a bigger range of product offerings. In response, AbleData revised its website to reflect this preference. AbleData is integrating their services into social media platforms including Twitter, Facebook and LinkedIn. This development has been successful, as evidenced by the fact that a lot of users come to the website through social media. AbleData has also begun putting the products in context with non-technical explanations (e.g., "you have this issue, here are the products that might be helpful"), in order to provide useful content in a way that users want to receive.

While, there is a star rating system in place for users to rate products, there are no formal assessments of vendors that ask to be listed on the site. That being said, vendors have been removed, on occasion, for providing inaccurate information about their products and services. Users also share their reviews of products on social networks. AbleData itself does not make recommendations for products, manufacturers or vendors. Another feature of the site is "make it yourself." It provides ideas from people who have made something and found it useful for their disability. AbleData has a specialist (an occupational therapist) who can help narrow down the list of products to consider, and who can make some recommendations. The client can further follow up with manufacturers to get additional information on products and services.

AbleData has 2.5 FTE staff for the call centre and to update information on its site. There are some part-time and full-time staff for IT (1 FTE); technical support (1 FTE); developing information guides and graphic design (20-40 hours per year); and business/data analysis (20% FTE). The overall budget is about US $700,000 per year.

The Canadian Council on Rehabilitation and Work (CCRW)

In the past, CCRW partnered with American-based Job Accommodation Network (JAN) to extend its phone services to Canadian callers. The Canadian version, called JANCANA, allowed Canadian callers to call and seek advice on questions related to accommodation strategies, assistive devices and approaches to accommodation. In 1999, CCRW engaged the Market Link Corporation to evaluate the usefulness of JANCANA's services to Canadian employers. Through a survey of Canadian employers it was determined that they were not satisfied with JANCANA. The majority surveyed stated that the information and resources provided were often specific to the US and that callers were often left with "homework" which required significant amounts of research following the call. Overall, the survey results identified the need for a Canadian-based national accommodation service with the ability to provide all services, including research, advice, workplace accommodation assessments, training and disability case management for employers. Based on these identified needs, the CCRW launched the Job Accommodation Service® (JAS®) in August 2000.

The CCRW-JAS® team is composed of three core employee's (the Director and two Job Accommodation Specialists) but also has access to and works closely with a pool of over 100 subject matter experts with specialization in job accommodations, ergonomics, adaptive technology, disability management, human rights, duty to accommodate and a wide range of conditions and disabilities. It offers a wide range of services related to disability and employment. All of its services are bilingual and available Canada-wide. The JAS® expertise and services are also cross-disability, meaning that they have expertise in all types of disabilities (such as vision, hearing, mental health, physical etc.). One of the main services offered by JAS® is the delivery of individualized worksite assessments which identify disability related workplace barriers and provide in-depth recommendations for accommodations and solutions. JAS® also offers several other services including policy reviews and consultations, presentations and workshops, and advice and consultations on Accessibility for Ontarians with Disabilities Act (AODA) compliance. Some examples of current and past clients include not-for profit and governmental organizations and departments, universities and financial institutions (such as RBC, Scotiabank and HSBC).

JAS® is the only fee-for-service program within CCRW and works with organizations of all types and sizes. Clients include not-for-profit, governmental, university and financial institutions and organizations. All of its workplace assessment services are available at any point in the employment process. This includes newly hired employees who have not yet begun a job, employees who are currently in a role, and those returning from leave or absence.

Beyond the Job Accommodation Service (JAS®), the CCRW offers a wide range of other programs, services and resources across Canada supporting job seekers, employees with disabilities, and employers. These include the Workplace Essential Skills Partnership (WESP) and Partners Program.

Summary and conclusions

The four online services we have reviewed have different target audiences and overall objectives that translated into the differences in the core services that they provide. Interviews with site owners/administrators revealed that the websites themselves are usually only one part of the range of services provided by these organizations, and in some cases websites were created to expedite the services (e.g., refer the clients to the website, rather than respond to multiple similar requests by providing details to each client by phone or in-person). All six online services we contacted provide opportunities for clients to contact them by email, phone, or to arrange in-person consultations. Most site owners/administrators found that these individual consultations are an essential part of their service and are highly appreciated by less experienced clients (employers, disabled workers, other stakeholders) who often have little background knowledge; may lack the time required to conduct research and find appropriate resources/information; and need some degree of guidance and support. In line with the needs assessment and suppliers scan component of this report, the site owners/administrators emphasized the importance of customization of information and services that can only be addressed by individual consultations. One of the representatives we spoke to also emphasized the importance of research and evidence underlying the services, which would help maintain the credibility of the content provided to clients. Contrary to what we found in the Canadian landscape where providers are not connected, disability service providers in the US connect with each other to ensure continuity across client needs; this in turn helps to avoid the duplication of services, and serves to eliminate any gaps in the provision of services. All website administrators we spoke to in the US noted that they refer their clients to other related services if they feel that the client needs could be better addressed by another disability support organization.

A common feature of these online services is the need for the ongoing review and updating of website information and resources; this is usually achieved through the ongoing monitoring and evaluation of client needs, expectations and results. Continuous improvement helps attract potential clients to the website, as well as keep existing clients coming back to the website for new resources and information. Most organizations we spoke with have evolved substantially over time as technology has advanced, client needs have evolved, and their own understanding has developed on how best to provide services consistent with their mandate and budget. For example, some of the organizations developed more options to connect with clients through social media, and one of the organizations introduced an option to connect with them through the

virtual world, to enable clients with disabilities to retain anonymity while receiving information and resources.

Some of the site owners/administrators noted that their budgets are generally modest given the breadth of services provided and the breadth of their client base and clients' needs. One of the interviewees perceived the lack of budget and insufficient staffing as their key weakness, since this in turn leads them to struggle to keep their services and website up-to-date. With the limited budgets, in many cases people in these organizations multi-task and all or most of them may play a role in keeping the website up-to-date. In-depth, on-site consulting services are not provided by the three US sites reviewed or the Australian one, given their limited budgets. This is where the Canadian organization CCRW found their historical relationship with JAN was lacking, and decided to launch a more customized consulting service known as JAS®.

Component 7: Synthesis and conclusions

This study of the need and feasibility of creating a Canadian online resource for workplace accommodation included six distinct components, each with its own methodology, goals, and findings. Conducting these six sub-studies within the larger study has allowed us to summarize best evidence in peer-reviewed and grey literatures, highlight the voices of the various stakeholders who could benefit from the proposed online resource, examine how stakeholders' needs and perspectives intersect, and synthesize the findings to produce a holistic view of the subject. Below we summarize the findings of each component.

Peer-reviewed literature review component

The findings from the review of the academic literature indicate that for employers who have experience employing people with disabilities or who are set to employ a person with a mild disability, specific information on identifying the suppliers or choosing appropriate accommodations may be sufficient. For employers who do not yet have experience in hiring persons with disabilities, or who are thinking about hiring a person with a severe disability or a disability that they do not know how to accommodate, external expertise and support are essential.

The academic literature reviewed for this study provides rich evidence on the effectiveness of supported employment services, particularly the individual placement and support model. Many other accommodations for different types of disabilities are described in the literature, but rigorous review has not been undertaken for many, so they cannot be described as best practices.

Support organizations' services are not used to the full extent possible by employers due to the difficulties in navigating and understanding the array of available options, and also due to difference in the mission and success metrics between support organizations and employers. Challenges were also identified in utilizing the services of occupational therapists and other rehabilitation professionals, including specific professional challenges such as lack of relevant training, challenges related to the workplace or worker such as lack of knowledge about service availability, as well as inter-professional challenges such as lack of opportunity for networking with other professionals.

Grey literature review component

Several resources described in this review emphasize the value of including employees and other people with disabilities as experts in the development and implementation of workplace accommodations. They also note that employers with more experience can play a key role in supporting other employers to hire, accommodate and retain people with disabilities in their workplaces.

Additionally, preliminary evidence suggests that the benefits of inclusion outweigh costs in most cases. In fact, the evidence suggests there is little to no cost for most workplace accommodations. When there is a cost, this appears to be outweighed by the direct and indirect benefits of employing people with disabilities. We note that there are some caveats to this

information—the evidence provided by JAN, a principal source of this cost-benefit information, is not definitive. It needs to be verified with more rigorous cost-benefit / effectiveness studies.

Stakeholder needs assessment component

Stakeholders noted that providing support for the development and implementation of workplace accommodations must be grounded in the understanding that accommodations are as varied as the needs and interests of people with disabilities, and the nature of the labour market itself. Each participant we spoke with carried a different set of expectations, values and circumstances, which created nuances and variation in their experiences with disability and employment. Consequently, creating solutions and strategies will need to reflect the interplay among multiple issues and processes that influence the implementation of workplace accommodations and adaptations. Each of these influences and needs identified through this assessment may be seen as a potential leverage point for creating the conditions to enhance accommodations and inclusion of people with disabilities in the Canadian labour market. Needs identified included:

- Accommodation options, best practices and concrete examples;
- Accessible information on legal responsibilities, standards and compliance;
- Contact information for local service providers;
- Funding sources to support accommodations;
- Information on creating and maintaining inclusive workplace cultures;
- Opportunities for peer support and guidance;
- Increased public awareness of the benefits of employing people with disabilities; and
- Information on education and employment opportunities for people with disabilities.

Vendor scan component

Vendors that were interviewed emphasized that individual accommodations cannot be standardized or automated. Ideally every accommodation solution should be customized based on considering various parameters including the individuals themselves, work function, workplace environment, and availability of funding. Choosing a specific accommodation product often requires consultation with professionals who can guide an employer or an employee with a disability, and ideally should include a workplace assessment conducted by a professional.

There are a lot of employment support organizations, suppliers of accommodation products, rehabilitation professionals and other specialists that can support workplace accommodation, but these organizations and specialists are often not connected among themselves or sometimes are even unaware of other organizations providing similar services. A Canadian website might provide lists of companies providing specific accessibility services and supplying workplace accommodation equipment, lists of products that can be used for workplace accommodation, job boards, and information about available financial support. Using existing online resources on workplace accommodations and linking various service providers are essential to address existing communication gaps among stakeholders.

Website scan and interviews component

The four online services we reviewed have different target audiences and overall objectives that translated into the differences in the core services that they provide. Interviews with site owners/administrators revealed that the websites themselves are usually only one part of the range of services provided by these organizations, and in some cases websites were created to expedite the services (e.g., refer the clients to the website, rather than respond to multiple similar requests by providing details to each client by phone or in-person). All six online services we contacted provide opportunities for clients to contact them by email, phone, or to arrange in-person consultations. Most site owners/administrators found that these individual consultations are an essential part of their service and are highly appreciated by less experienced clients (employers, disabled workers, other stakeholders) who often have little background knowledge; may lack the time required to conduct research and find appropriate resources/information; and need some degree of guidance and support. Site owners/administrators emphasized the importance of customization of information and services that can only be addressed by individual consultations. One of the representatives we spoke to also emphasized the importance of research and evidence underlying the services, which would help maintain the credibility of the content provided to clients.

Contrary to what we found in the Canadian landscape where providers are not connected, disability service providers in the US connect with each other to ensure continuity across client needs; this in turn helps to avoid the duplication of services, and serves to eliminate any gaps in the provision of services. All website administrators we spoke to in the US noted that they refer their clients to other related services if they feel that the client needs could be better addressed by another disability support organization.

Value in developing a Canadian web resource

It appears that Canadian employers could benefit greatly from an online resource designed as a single, comprehensive source for all their disability-related accommodation needs. A single online resource could help address the navigation problem faced by many employers, and assist with their search for relevant services and resources. This online resource could be designed with multiple tiers. For example, the first tier could provide accommodation information and best practices and be broadly accessible to all interested stakeholders, while another tier could be for registered participants to share and update information such as presentations, videos, and upcoming webinars and conferences. Features such as chat rooms and blogs could be invaluable features of the site for organizations seeking peer support and to learn by example. The resource could address employers' need for connecting with expertise and help overcome the "knowing-doing gap" by learning about organizational and behavioural characteristics that can be essential for the successful employment of persons with disabilities.

Knowledge mobilization component

Our plans are to post the report on the Centre for Research on Work Disability Policy (CRWDP) website. Other dissemination activities include:

- o Presenting findings at academic and stakeholder forums;
- o Preparing a manuscript of the report for publication;
- o Profiling the report and its findings in a newsletter article; and
- o Writing a one page layperson summary of the report for broad dissemination.

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Appendices

A1: Summary of studies identified in the peer-reviewed literature search

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
1	216 Gamble et al 2004	Assistive Technology.	Visual impairments	The article describes the process for selecting appropriate AT for individuals with vision impairments in workplace accommodations developed by the Job Accommodation Network (JAN) (US)	JAN's five-step process to choosing AT as a job accommodation include: (1) Defining the situation; (2) Consulting with and exploring accommodation resources; (3) Choosing the AT; (4) Implementing AT accommodations; and (5) Monitoring accommodations.	Determining what assistive technology (AT) to provide as a job accommodation for an individual who is blind or visually impaired is challenging. Consultants who have special education and skills can help employers to choose the right accommodation. Employers are recommended to use the services of consultants specializing in this area.
2	[From lit review study] Butterfield, 2004	Barrier	Various	Literature review	The absence of a comprehensive record of barriers and accommodations has resulted in an unnecessary amount of "reinventing of wheels" and often, the resultant accommodations are not always as responsive to user needs as they could be.	Comprehensive record of barriers and accommodations can be helpful.
3	91 Kaye et al 2011	Barriers.	Not applicable	Questionnaire. Respondents were attendees of employer-requested ADA training sessions. (US).	The principal barriers to employing workers with disabilities are lack of awareness of disability and accommodation issues, concern over costs, and fear of legal liability. With regard to strategies employers might use to increase hiring and retention, respondents identified increased training and centralized disability and accommodation expertise and mechanisms. Increased and improved training for supervisors and managers on disability issues is the single solution most often endorsed by respondents. Also, transferring the decision-making burden from individual managers and supervisors to others within the organization— whether through formalized guidelines or specialists— was seen as highly beneficial.	This is not a high level summary study, and recommendations here cannot be presented as best practice. Employers could take a greater role in acquiring and centralizing the necessary information and expertise to better understand disability, appreciate workers' abilities, and solve accommodation problems. They could also create company-wide procedures, policies, and mechanisms to place less responsibility and burden on individual managers and supervisors and could work to improve corporate culture and better support managers and supervisors who are open to hiring and retaining workers with disabilities. Bringing in external experts to help with disability and accommodation issues, furthermore, could not only offer a broader range of solutions, but also demonstrate good faith and ensure fair treatment, and therefore potentially reduce legal liability.
4	1111 Rudstam et al 2013	Barriers.	Not applicable	The article describes a program that was designed, implemented and researched, aiming to bridge the knowing-doing gap (when knowledge does not translate into actions or practices). The evaluation of the program was conducted using mixed method research.	The approach included: 1) moving from training to consulting, to move from impacting "knowing" to impacting "doing", 2) including the voice of the knowledge user. Knowledge users include employers, disability service providers, and persons with disabilities. Each stakeholder has their language and culture. E.g. employers are characterized by the language of value propositions, the desired outcome of making $ or meeting organizational goals, and discourse of performance. 3) Building partnerships and	There may be a knowing-doing gap that may prevent employers from hiring persons with disabilities. The efforts on information dissemination might not be enough. The efforts should be directed to organizational change. Little scholarship has been developed around applied intervention research that systematically examines the short- and longer-term impact of programs and the uptake of program messages in real life in the organization. Employers may benefit from programs/services that address "doing" in the context of a specific organization, rather than simply provide

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
					collaborations, offering forums for conversations between stakeholder groups. 4) Contextualizing program messages. Thus far, much of the research on disability and employment has treated organizational context as a "black box". This program was designed to help participants think through and plan within the specific organizational context. 5). Using mixed methods to research the program, to study both immediate and longer-term program impact. 6) Using multiple modalities to follow up (in-person and online modalities, blended learning). The concept of three types of barriers: 1) Don't know barriers. Do employers have the knowledge/information (of laws, policies and practices) needed to create a disability inclusive workplace? 2) Won't barriers. Are employers willing and committed to creating a disability inclusive workplace? Do they believe disability inclusiveness will benefit their organization? 3) Can't barriers. Do employers have in place the behaviors, practices or processes needed to create a disability inclusive workplace? "Can't" barriers were further broken down into individual behaviors/actions and collective or organizational practices/actions.	information. Simple provision of information could be a waiste of resources. Ideally, such programs should be customized to the unique purposes and climates of different sectors and industries. A key component of the program should be making the case and the return on investment for disability inclusiveness. Clearly, making the case for disability inclusiveness will be different for public and private sector organizations. Also, sectors such as healthcare or education will have a very different set of concerns around disability inclusiveness than, for example, retail or financial services sectors. It's important to get the leadership of the organization, and supervisors onboard.
5	[from lit review study] Lee, 1996	Barriers. Employer perspective.	Various	Literature review and questionnaire (with low response rate of 27%)	Employers prefer to hire individuals with disabilities they can see or understand, such as sensory impairments, mobility impairments, or developmental disabilities. The most expensive accommodation: 38 percent of the respondents reported a cost of $0, and another 24 percent reported a cost under $500, 11 percent of the respondents reported that the most expensive accommodation cost over $5,000. The least expensive accommodation made: ninety percent of the respondents reported an accommodation cost of less than $500. Negative employer attitudes were stronger with regard to specific disabilities. Paralysis of arms and legs (quadriplegia) was viewed as the disability most difficult to accommodate, followed by blindness.	Credible source of information for inexperienced employers with regard to the success of workers with disabilities may be those employers experienced in hiring them. Joining trade or industry associations could be helpful for employers in developing training or informative materials with the assistance of experienced employers, agencies, and professionals in the fields of disability and rehabilitation.

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
6	2163 Wolf et al 2010	Best practices.	Mental illness. Employment of persons in recovery in mental health workforce.	Literature review.	The literature has not yet attained the level of best practices; rather, the prevailing level is that of emerging practices. There are three domains of emerging practices: 1) Pre-employment preparation and training practices; 2) Human resources practices; 3) Organizational culture change to sustain employment of persons in recovery and transform service delivery.	**Recruitment**. In addition to newspapers and job services, advertising and recruiting strategies include (a) contacting mutual support groups, ethnically and culturally diverse groups, consumer-run programs, clubhouses, advocacy groups, vocational service providers, family groups, mental health provider professional organizations; and (b) using Web sites, ''shoulder tapping'' and personal contacts, and word of mouth to recruit candidates. Orientation and training have been recommended to minimize role confusion and conflict among persons in recovery in the behavioral health workforce. Nonpeer staff members need clarity about the roles of persons in recovery in the workforce as well. **Posthire**. Comprehensive, targeted training increases consumer provider retention. Effective supervision appears to contribute to improved staff retention in health and human services. **Organizational culture change.** To move cultural change forward, agencies have reframed mission statements, changed policies and operating style, and shifted objectives to hire people in recovery throughout the organization. A critical mass of employees who are self-disclosed persons in recovery can lead to system transformation. As with all efforts to integrate a previously disenfranchised group, involvement and participation of persons in recovery at all organizational decision-making levels, including decision-making and governing structures, is necessary to bring about substantive change. To reinforce and affirm organizational culture change, continuous feedback mechanisms can increase overall staff communication and satisfaction, encourage a positive work environment, and promote both staff and client empowerment and satisfaction.
7	[from lit review study] Klimoski, 1997	Corporate culture. Barriers.	Not applicable	Literature review	1. Barriers: stereotyped thinking; negative expectations of the managers about persons with disabilities and their performance levels and skills; misinformation about accommodation costs; incorrect assumptions about the nature of disabilities; fear of uncertainty. Two types of discrimination - access discrimination (real barriers), and treatment discrimination (how individuals are treated once they are in the work setting). Unfair treatment includes disparate opportunities for advancement, weak or unacceptable company responses to accommodation requests, more negative performance evaluations. 2. Several classes of	1.) Support from immediate supervisors and coworkers are critical. All supervisors must have a deep and accurate understanding of the disabilities, and company's policies in this area; supervisor must have no tolerance for a "hostile climate"; supervisor should be able to buffer or mediate interpersonal conflict when it arises in the work group. 2) It all starts with a progressive corporate culture that reflects key values. HR professional, particularly as a member of the top management team, plays a central role in promoting the corporate culture. In larger companies creation of a Disabilities Advisory Panel would be valuable. Such a panel might be used to shape policy and practices. 3). Employers may use training interventions that may be

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
					important forces related to integrating of people with disabilities into the workplace: a) expectations of managers and co-workers; b) organizational dynamic factors - organizational policies and programs; c) self-concept; d) the nature of disability (firms seem to be more open to people with physical or sensory impairments rather than to those with psychological problems); e) performance expectations (minimal set of expectations plus "contextual performance" that includes volunteering for extra work, helping others to perform their work better, persisting with extra effort and enthusiasm). f) Interpersonal and social relations. Relationships with supervisors especially matter, as the supervisor is ultimately the one who implements and bears the consequences of accommodation.	helpful in improving the quality of treatment received by people with disabilities. 4). To the extent possible, team or group members should be involved in discussions of work place accommodations for new or current employees with disabilities. 6) Team building is important for integration of a person with a disability. 7) The teammate's support is important - a particular person in the disabled worker's role set with whom there is a regular need to interact and coordinate behavior. 8) Employers can establish the mentorship program.
8	180 Schartz et al 2006	Cost efficiency	Not applicable	Interviews with 890 employers (USA)	Approximately half (49.4%) of the accommodations had no cost. Almost three-quarters (74.1%) had a First Calendar Year Cost of $500 or less. Of the 131 (50.6%) that had a cost, the median First Calendar Year Cost was $600. When those accommodations with zero cost were included, the median was only $25. Disability-Related Indirect Costwas provided by 156 respondents. More than three-quarters (86.8%) reported a Disability- Related Indirect Cost of $0. A monetary estimate of direct benefits (see Fig. 2) was provided by 95 respondents. Direct benefits ranged from $0 to $116,000, with a median of $1000. Of the 62 which reported direct benefits greater than zero, the median direct benefit was $5500. Of the 77 respondents, more than half (57.1%) reported no indirect benefits associated with providing the job accommodation. Of the 33 with indirect benefits greater than zero, the median indirect benefit was $1000. Calendar Year Net Benefit could be calculated for 87 respondents. The mean benefit was $11,335; the median $1000. For more than half of the respondents (59.8%), the benefit was positive, meaning that the direct benefits associated with providing the accommodation more than offset the direct costs. More than one fifth (21.8%) reported that direct costs and benefits balanced each other out, resulting in a Calendar Year Net Benefit of zero. The remaining 18.4% had a Calendar Year Net	The existing, albeit still limited, empirical evidence suggests workplace accommodations typically are effective and inexpensive. Results from the current study suggest that accommodation costs may be even less than previously reported when disability-related costs are differentiated from general employee costs.

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
					Benefit that was negative.	
9	2392 Graffman et al 2002	Cost efficiency.	Not applicable	Questionnaire was completed by 643 Australian employers who employed a person with a disability through a funded disability employment service.	The performance of employees with a disability as a group was in certain respects comparable to that of "average" (non-disabled) employees. The outcome for an employer is generally a reasonably productive, reliable employee who costs marginally less to maintain in employment. Financial effects were most frequently reported as cost neutral, with more financial benefits than costs reported.	Results of this study indicate cost neutral effects for most workplace accommodations, with financial benefits outnumbering costs. Employers have experienced material and non-material benefits to their organizations from employing a person with a disability, with those benefits being financially cost neutral or cost beneficial in a large proportion of cases. Research on financial incentives to the employer has found that subsidies have little impact on an employer's decision to employ a person with a disability. Factors such as ability to perform the job and a low risk of absenteeism are more powerful determinants for employers than financial incentives. This study likewise found that, although more than half of employers had received a subsidy and/or incentive, receipt of a subsidy and/or incentive was associated with somewhat poorer employee working conditions and resulted in no difference to benefit-cost outcome. When considering benefits and costs of employing a person with a disability, an additional consideration is that the costs of employing a person with a disability are not constant over time. Initial costs such as modifications to the workplace, specialized equipment and training can give a skewed indication of the costs involved, as these tend to be one-off costs. It is important to not only consider the impact of costs in relation to other factors such as job retention, lower maintenance costs (occupational health and safety, worker compensation, etc.), and any further potential advantages to staff and customers resulting from accommodations and adjustments. It should also be kept in mind that certain costs are associated with the employment of any new employee. Results of this study show that employer outcomes associated with employing a person with a disability provide examples of positive effects, particularly in organization performance, of employing a person whose "difference" is in some way apparent.
10	1012 Nevala et al 2015	Cost efficiency. Barriers. Best practices.	Among others, Rheumatoid arthritis.	Systematic review. Three quantitative and eight qualitative studies met the inclusion criteria.	There was moderate evidence that specific types of WA (vocational counselling and guidance, education and self-advocacy, help of others, changes in work schedules, work organization, and special transportation) promote employment among physically disabled persons and reduce costs. The key facilitators and barriers of employment were self-advocacy, support of the employer and community, amount of training and counselling,	Employers should develop practices that are key facilitating factors for WA process: 1) employees' communicating and justifying their needs and benefits to the employer; 2) a supportive role of the employer in the WA process and a willingness to offer WA was found to enhance the process; 3) employee and employer cooperation in the WA provision process and the creation of a liaison with other professionals (e.g. service providers, occupational health care; 4) the willingness of

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					and flexibility of work schedules and work organization.	employees, the employer, and other professionals to build mutual trust and understand their responsibilities in the provision process, as well as mutual understanding of the motivations for WA, enhanced the process. Maintaining employment of disabled workers extends well beyond local concerns of supporting individual worker's functioning and work ability to broader concerns of managing complex configuration of different aspects of the process and a network of key players of the process and the environment. These results concerning cost-effectiveness are in line with those of earlier studies which have shown that WA is low cost, beneficial, and effective.
11	1030 McDowel & Fossey 2015	Cost efficiency. Best practices.	Mental illness.	Literature review.	Four studies considered the cost of workplace accommodations for people with mental illness and found the vast majority of workplace accommodations for this population have no direct costs associated with them. MacDonald-Wilson et al. [9] found that only 1 of 322 workplace accommodations had any direct cost at all. Indirect costs were not measured in any of the studies reviewed.	Education is required for employers, rehabilitation professionals, and employees without the support of a supported employment agency to increase understanding of disability discrimination legislation and workplace accommodations. Occupational rehabilitation specialists or other health professionals may be able to assist employees with mental illness to understand their rights and make educated and supported decisions regarding disclosure and the negotiation of reasonable accommodations. The direct costs associated with accommodations for people with mental illness are often nil or low, although there may be indirect costs [30], such as the time required for extra supervision or to offer more frequent breaks. In many countries, tax incentives or other financial assistance are available to employers to implement reasonable workplace accommodations for people with disabilities. These funds may be less accessible to support employees with mental illness than to support employees with a physical or sensory disability, due to the lack of direct costs associated with suitable accommodations. The studies investigating the indirect costs associated with the provision of mental health-related workplace accommodations are absent.
12	2514 Zivolich et al 1997	Cost efficiency. Natural supports	Severe mental retardation, severe emotional disturbance, sensory impairment, autism	Cost-benefit analysis of a natural supports training and employment program. Two models were used. (US)	According to model 1, society received $1.21 return per dollar, but taxpayer $0.74 for each dollar invested. According to model 2, both society and the taxpayer realized greater return on each dollar invested ($1.46 and $1.21, respectively). The second analysis factors in the opportunity cost of foregoing the most likely employment alternative (sheltered workshop).	Natural support programs could be economically efficient and programmatically sound model for public-private partnerships.
13	123 Solovieva	Cost efficiency.	Not applicable	Analysis of accommodation costs and benefits. The study	The median ''one-time cost'' of accommodations (not $0) for non-PAS cases was $500. The median	PAS are not a widely used workplace accommodation option. The barriers cited by employers include lack of

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
	et al 2009	PAS.		used 24 telephone interviews and 1,182 follow-up telephone surveys of employers who previously contacted the Job Accommodation Network	''one-time cost'' of accommodations (not $0) for PAS cases was $1,850. When $0 cost of accommodations on PAS cases was factored in with ''one-time cost'' of accommodations for PAS cases, the median cost was $0. For non-PAS cases of accommodations, when $0 cost of accommodations was considered, the outcome was a median cost of $0. The annual cost for PAS accommodations was a median cost of $8,000 in comparison to $2,000 for non-PAS. The median dollar amount estimates of direct benefits were $1,600 for PAS accommodations, similar to $1,500 for non-PAS. The most frequently mentioned benefits from PAS accommodations were (a) increased productivity, (b) increased diversity, (c) retention of a valued employee, (d) improved interactions with co-workers, (e) increased overall company morale, and (f) increased overall company productivity.	information, a morass of red tape (bureaucracy), and confusion about the role of the assistant. Each of these barriers could be addressed through sound policy development. The major barrier recognized throughout the literature and confirmed in the present investigation is the ongoing cost. The annual cost for PAS accommodations was substantially more than for non-PAS, but the median estimates of direct benefits were not markedly different. Many non-PAS accommodations cost nothing to the employer (e.g., changing the work schedule, moving the individual to another location). When dollar cost was involved, the costs for PAS accommodations were more than three times greater than non-PAS accommodations.
14	[from lit review study] Solovieva, 2011	Cost-efficiency.	Motor; sensory; cognitive; cardiac/respiratory; mental health; other (e.g., diabetes,allergies).	Survey among 128 employers	Many accommodations had no cost (e.g., changing the work schedule, moving the individual to another location), and accommodations are often requested and/or provided to retain a current employee. Overall, 81% of participants rated the accommodations they made for an employee with a disability as effective. The mean one-time cost of accommodations was less than $1500. The direct benefits of making these accommodations included retention of a qualified employee and increased worker productivity. The majority of the respondents (61%) reported more than $1000 in direct benefits as a result of making an accommodation.	Equipment purchases and work schedule changes were the most frequently implemented accommodations, regardless of business size
15	2468 Cimera 2000	Cost-efficiency. Supported employment.	Not applicable	Literature review	Many studies have explored the cost-efficiency of supported employment from the perspectives of the worker, taxpayer, and society (not reviewed here). However, there has yet to be a comprehensive cost efficiency study from the perspective of those who employ supported employees. Such a study would examine whether hiring workers with disabilities is a good investment for employers.	There is lack of studies on cost-efficiency of supported employment for employers.

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16	108 Cimera 2010	Cost-efficiency. Supported employment.	Intellectual disability (mental retardation)	Cost efficiency analysis. Data on 104,213 supported employees with intellectual disabilities served by vocational rehabilitation agencies throughout the United States and its territories from 2002 to 2007 was analyzed.	The following questions were explored: Are supported employees with intellectual disabilities cost-efficient from the taxpayers' perspective? Do secondary conditions affect the cost efficiency? Did the cost efficiency change from 2002 to 2007? Were some states more cost-efficient than others? On average, supported employees with intellectual disabilities were cost-efficient from the taxpayers' perspective regardless of whether they had secondary disabilities.	The same as for Marshall et al 2014
17	[from lit review study] Erickson, 2014	Effectiveness	Not applicable	Qualitative study - online and phone surveys (USA)	Practices and policies of recruitment and hiring: including people with disabilities into their diversity plan (58.8%), requiring subcontractors to adhere to disability nondiscrimination requirements (57.2%), and having relationships with organizations that promoted the employment of people with disabilities (53.9%). Actively recruiting people with disabilities and; senior management was committed to disability recruitment and hiring. Take advantage of tax incentives for hiring people with disabilities and have explicit goals for recruitment or hiring of people with disabilities. PERCEIVED EFFECTIVENESS OF THESE PRACTICES/POLICIES: very few organizations—only 12% or less—rated any one of the individual practices as being not effective. Requiring subcontractors/suppliers to adhere to disability nondiscrimination requirements was rated very effective by the largest proportion (37.9%). The remaining practices were all rated as being very effective by between 25% and 33% of those who had implemented the practice. Staff training in disability practices: Training of HR staff and supervisors on effective interviewing of people with disabilities; Offering disability awareness and sensitivity training to employees; Including disability awareness and sensitivity as a topic in training for managers/supervisors; Requiring training for supervisors on legal requirements of disability non-discrimination and accommodation. PERCEIVED EFFECTIVENESS OF THESE PRACTICES/POLICIES: Little variation was found regarding the rating of effectiveness of the four practices with less than 2% rating any of them as not effective. A large proportion (between 41% and 45%) rated each practice to be very effective.	1) Several practices are especially effective for employment of people with disabilities: having a centralized accommodation fund, formalizing the decision-making process for the case-by-case provision of accommodations, and establishing a disability-focused network (employee resource/affinity group). 2) Informational efforts to raise awareness among employers may be helping to incrementally remove workplace barriers and thereby increase employment opportunities for individuals with disabilities. 3) Examples of good hiring and retention practices include the use of available tax incentives, internship opportunities, the importance of top management commitment to disability as a part of diversity, the positive impact of mentoring programs, the formation of disability focused employee resource groups or networks, and the importance of regular reviews of the accessibility of a company's online recruiting websites.

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					Again, larger organizations with 500 or more employees implemented significantly more of the staff training practices than smaller organizations.	
18	99 Luecking 2011	Employer perspective.	Intellectual disability	Review of evidence (literature review, specific methods are not described), and two case descriptions	The competent support of organizations that have disability expertise is important to employers. Many people with intellectual disability require representation by a disability employment professional in order to access employment opportunities. Two success factors include the help of partner organizations experienced in disability issues, and the ability of these organizations to positively contribute to the companies' overall operation. Employers have consistently been more positive about workers with intellectual disability when appropriate supports are provided. It is at least as critical for representatives of job seekers to understand employer perspectives and how to meet employer needs as it is to help employers become more aware of job seekers with intellectual disability. Employer barriers: 1) people with intellectual disability are prone to be stereotyped as incapable or nonproductive; 2) employers are regarding the hiring of people with intellectual disability as an action that requires expertise or special skills they do not have nor are inclined to acquire. Competent disability employment professionals can help identify operational improvements as a key reason for hiring and retaining employees with intellectual and multiple disabilities, in spite of the fact that their employment was contingent on significant customization of job duties and conditions of work. Unless and until employers are actually exposed to specific individuals with intellectual disability, they are unlikely to regard them as people who could contribute to their operations. Continuing campaigns to ''raise employer awareness'' will have limited effect on actual employer hiring behavior without simultaneous improvements in connecting employers to actual applicants with intellectual disability. Even when employers express an affirmative desire to hire people with disabilities, they often experience difficulty finding applicants or understanding the array of disability-	EMPLOYMENT SERVICE PROVIDERS DO NOT SPEAK THE SAME LANGUAGE AS EMPLOYERS. The jargon that is characteristic of the disability employment field is mostly foreign to employers. Words, concepts, and descriptors, such as vocational assessment, supported employment, IEP, discovery, and other terms in common usage by disability employment programs and professionals, do not resonate with or are misunderstood by employers, who consistently report that interaction with disability employment programs is characterized by both unfamiliar terminology and a lack of understanding of business protocol. DISABILITY EMPLOYMENT SERVICE PROVIDERS AND EMPLOYERS USE DIFFERENT SUCCESS METRICKS. Markers for service provider success also typically include wages, hours worked, and length of time on the job. On the other hand, employers measure time to fill positions, time to productivity, cost/productivity ratios, and retention. From the employer's perspective, the hiring of the individual must also do one or more of the following: save the employer money, help the employer make money, or help the employer's operation run more efficiently by providing a means to accomplish more work and deliver better products or services. Both job seekers and employers are to be regarded as end users and customers of employment service initiatives. When employers see value and self-interest in initiatives representing people with disabilities, substantive employment success is possible for these individuals. Two important ingredients for successful employment outcomes for people with intellectual disability: the presumption of employability and meeting employer operational needs. In two cases presented in the article, job acquisition was characterized by four steps: (a) discovering interests and task skills of the job seeker, (b) using this information to craft a job search plan, (c) negotiating with employers based on a set of tasks the job seeker might perform to meet a specific operational need, and (d) providing post-hire support so that the employee and employer receive useful follow-up support.

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
					specific entities that have a role in promoting and facilitating employment. In fact, employers have frequently expressed confusion and frustration in relation to disability employment programs, their constituencies, and their processes. In addition, employers have consistently perceived disability employment personnel as being naïve or unfamiliar with business practices. As a whole, employers have difficulty making the connection between the mission of disability employment initiatives and the inherent demands of their enterprises. We need to simplify employer connections to disability employment programs, and elevate the engagement with the employer community to a more professional and attentive level.	
19	33 Fisk & Raynham 2014	Lighting	Sight loss	Literature review, and consultation with over 80 rehabilitation workers and occupational therapists (United Kingdom)	The article is mostly about lighting for home, but the findings could be used at workplace too. Seven tenets for assistive lighting were put forward. 1: Appropriateness of lighting. Interventions can include adjusting furniture positions, the use of curtains, blinds and shades, changes to light fittings, reducing the number and variety of items in the visual field (i.e. "visual clutter"). 2: Sufficiency of lighting. There's a minimum level of light that is desirable and should be provided (specific recommendations are given in the text). People with sight loss will usually prefer and get benefit from higher levels of illumination, provided that glare is minimised. Portable or fixed lighting fulfilling a localized need may be used. 3: An even distribution of light - to avoid deep shadows or sharp changes in light levels. This need arises from the confusion that can arise where people with sight loss do not see or mis-interpret objects or features. Vision of these people is slow to adjust when moving from a well-lit to a poorly-lit space. 4: Adjustability of light. Dimmer switches can be used for this purpose, as well as the use of curtains, blinds and shades. 5: Sustainability and energy efficiency. It is related to adjustability of light. 6: Simplicity in lighting interventions. Replacement of some switches and fittings, perhaps complemented by some portable lighting, may be all that is needed. 7: Adaptability. The extent and nature of people's sight loss changes. Portable lighting, with accessible fittings and power sources, can be used. Some of these tenets relate to the	The tenets support the ways of thinking that need to be emphasized when lighting needs are being considered. The tenets are adding to and extending the principles of universal design.

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
					principles of universal design.	
20	[from lit review study] Storey, 1996	Natural supports	Multiple	Literature review	Natural supports have a favorable cost-benefit ration according to one study. Research has found that coworkers are able to provide instruction, modeling, physical prompts, feedback, and praise, but may require training. Three tables are provided that summarize guidelines: 1) indirect facilitation guidelines, 2) direct facilitation guidelines, and 3) indirect natural supports.	Three tables provide guidelines and references: 1) indirect facilitation guidelines, 2) direct facilitation guidelines, and 3) indirect natural supports. Any instructional approach in supported employment must be effective for each individual and must be compatible with the setting in which it is to be used. Each worker with a disability first need to be considered as an individual and then supports should be built around their needs, rather than arbitrarily deciding that a specific method is appropriate for achieving integration in the workplace.

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
21	235 Hagner & Cooney 2003	Partnerships.	Severe disabilities	This article summarizes recent developments leading to a new generation of partnership approaches that support and build the capacity of employers to successfully employ individuals with severe disabilities.	Research has shown that overuse of agency staff support can serve to stigmatize employees with disabilities and hinder their acceptance within the workplace. Four innovative approaches – a consultation model of employer support, the development of business consortia, expanding diversity programs, and directing service funding to employers or coworkers – are described and the implications for rehabilitation services are outlined. Although the potential for employer support is indeed impressive and is something that should be honored and encouraged rather than subverted or replaced, it is equally clear that businesses cannot go it alone. Most supervisors and business managers have little or no training related to managing individuals with disabilities and, without assistance, feel unprepared to identify problems or develop appropriate accommodations for employees with disabilities. Some form of partnership or collaboration with disability programs is essential for employment success, and such partnerships must be carefully and deliberately developed and nourished.	Employers may use the following four models of partnerships. 1) Employment consultation. Nisbet and Hagner first suggested defining the rehabilitation practitioner role in relation to an employee with a severe disability as one of a consultant to the employer on accommodations and supports rather than the role of a "job coach" who accompanies, teaches, and in effect "chaperones" the employee. This employment consultation model has been refined and validated in subsequent studies. 2) Business consortium models. The consortium consists of 10 to 15 business representatives who meet bimonthly at locations which rotate among the members' work sites. Meetings are facilitated by the staff of a rehabilitation organization. Members are usually human resource staff or department heads within their companies. Participants exchange ideas on job matching or enhancing success on the job for individual consumers of the rehabilitation organization and receive updates on the program. Meetings also typically include an educational program such as a presentation or video relating to the impact of mental illness in the workplace. Participating businesses provide access to informational interviews, job try-outs and job leads for consumers. 3) Expanding diversity programs. Traditionally, diversity programs were largely conceptualized in relation to women and minorities. But some have adopted a broader interpretation in which disability is viewed as one among many aspects of workforce diversity. Within this broader view, businesses have begun to approach issues of accommodating and supporting employees with disabilities in the same way as issues relating to other sources of diversity. Diversity training that includes disability issues can help dispel myths and misperceptions and set the stage for acceptance of accommodation strategies for an employee. 4) Directing funding to employers or coworkers. The vast majority of accommodations involve very little cost. But there are occasions where significant expense is involved in supporting and accommodating an employee with a severe disability. Publically-funded rehabilitation organizations can assume the expense for accommodating an employee. Vocational rehabilitation agencies can contract directly with individual businesses to provide on-the job training to an employee with a disability. This option can be used in combination with training consultation from a rehabilitation practitioner, so that the co-worker or other company trainer is able to

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						learn any required specialized training techniques. A rehabilitation organization can subsidize the wages of a "paid co-worker", whose job included responsibility for the training and long-term support for two individuals with severe disabilities. A common component appears to be the involvement of a rehabilitation organization as a behind the- scenes partner. Few situations have been reported in which an employer takes full responsibility for developing and implementing all of the job accommodations for an individual with a severe disability without assistance.
22	2266 Unger 2007 (also in lit review study)	Partnerships. Market-driven or demand-side model.	Not applicable	Case study. Description of two private public partnerships (manpower, Incorporated and Community Rehabilitation Programs; Project Search). US.	**Manpower** is collaborating with community rehabilitation providers to provide job placement services for individuals with disabilities. The individual is referred by the agency to Manpower for intake into the Manpower-CRP Partnership Program. The CRP shares information on the job seeker's interests, job preferences, employment experiences, and knowledge, skills, and abilities with personnel at the local Manpower office. Information on potential accommodations that the job seeker may need is also provided to Manpower staffing specialists from the representative of the CRP. The specific arrangements for intake into the public-private partnership are decided at the local level and are made on a case-by-case basis, contingent on the needs and desires of the job seeker. Both representatives from the CRP and Manpower engage in job search activities for the individual. It is important to note, than when an assignment is made by Manpower with an end-user and the position is a temporary placement,	Business can collaborate with community rehabilitation providers and education agencies. A one-entry approach where employer doesn't need to contact various service providers (e.g. one for the education needs, the second one for on-job support) can be effective. Effective public-private partnerships are just as diverse as the people with disabilities that seek employment and career services from rehabilitation agencies.

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					Manpower is the employer of the individual with a disability. Thus, the representative from Manpower communicates with the end-user and works in consultation with the representative from the CRP to address any training or support needs that may benefit the individual. **Project Search** provided a single conduit for organizing and delivering employment services, in collaboration with the community, and delivers them in an effective and accountable way as an integrated part of the work site. The partnership created a model which would build on the collective expertise of personnel within the business (employer), educational agency (Great Oaks), and the rehabilitation agency (Hamilton County Board of MR/DD). Great Oaks provides job developers and job coaches while the Hamilton County Board of MR/DD supplies an on-site employee to provide follow-along services. The on-site presence of rehabilitation professionals also allows for additional support for employees in adapting to inevitable daily changes in their jobs in a dynamic workplace. Lastly, having instant access to a human service professional that is knowledgeable about the employees support needs and preferences, as well as the individual being readily available to work through problems that arise, often prevents small issues from escalating into major issues that might ultimately lead to termination.	
23	92 Dowler et al 2011 (also in lit review study)	PAS.	Not applicable	Literature review. Sample size is 9 studies.	• Finding, recruiting and retaining personal assistants can be difficult• Employers have concerns about liability and funding related to the provision of personal assistants• Employers link personal assistance to increased productivity, retention of valuable employees and increased workplace diversity and morale• Employees link personal assistance to higher self-confidence and self-esteem, reduced stress and fatigue, opportunities for career advancement and better attendance and earning power.• Personal assistants associate their work with low wages, and limited career advancement, but also health benefits and professional respect.• No single, sustainable source of funding for workplace personal assistance could be identified.	PAS can lead to successful employment of people with disabilities when other accommodations cannot provide adequate workplace support. Employers should explore the issue of locating and hiring a personal assistant, as well as liability and funding related to the provision of personal assistants. Asking for PAS from coworkers may be useful in the short term but may cause resentment over time.

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24	1137 Wehman 2012	Supported employment	Developmental disabilities; mental illness; physical disabilities; traumatic brain injury; autism	Editorial (overviews the studies in the journal issue)	The editorial describes what SE means and provides the idea of the process.	With SE, the employer gets a good employee and receives specialized support for job acquisition and retention. THE PROCESS INCLUDES THE FOLLOWING STEPS: Rehabilitation specialist (often referred to as a job coach or employment specialist) provides an array of supports to assist a person with a significant disability with obtaining and maintaining competitive employment in the community. Job development services geared toward helping the person secure work are offered. Sometimes existing positions within a business are pursued and, at other times, employers may be approached about creating a specific position for the job seeker. If a job is found or developed that is a suitable match for the job seeker and the employer, the employment is secured. Long-term support services include the provision of specialized support or assistance to the employee with a disability either at or off the job site at least twice per month for as long as the person remains employed. Many individuals with psychiatric disabilities and brain injuries, who are independent in performing their job duties, seem to struggle with employer or co-worker relationships. These individuals often request that support services be provided away from the job site to reduce the stigma of having an employment specialist. RECOMMENDATION FOR EMPLOYERS WORKING WITH SE AGENCIES: Negotiating employment at subminimum wages for any individual with a disability is unacceptable. If 'over time' an individual is unable to perform the essential functions of his or her job, the preferable option would be to secure a better job match within the same or another business setting rather than consider the payment of subminimum wages.
25	1195 Corbiere et al 2010	Supported employment	Severe mental disorders	Qualitative study. Semi-structured interviews. 23 SE programs participated (9 programs in BC, 7 in ON, and 7 in Quebec). In total, 53 sites - points of services for these 23 programs - were identified.	Canadian SE programs focus on facilitating work integration for people with severe mental disorders in a regular work setting, while considering the financial consequences of such a work status change. SE programs usually follow the Place-and-train philosophy, where a person is quickly placed in real work situations and trained on the job to achieve his or her vocational and community integration goals in a short period of time. Other SE programs approach career development differently by offering a short practicum in the community (usually 2 months) prior to obtaining competitive work elsewhere.	There are many SE programs available in Canada, including programs that follow the IPS supported employment approach.

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26	2158 Menear et al 2011	Supported employment	Psychiatric disabilities	Qualitative study. Location - Canada (BC, ON and Quebec). 20 SE programs provided by 15 different agencies were examined.	Previous studies have revealed significant heterogeneity in SE programs implemented in Canada	There exist many SE agencies in Canada. The SE programs in Canada are heterogeneous. This study didn't seek opinions of employers.
27	261 Crowther et al 2001a	Supported employment	Severe mental illness	Literature search and environmental search. Randomised controlled trials were included.	Supported employment was significantly more effective than pre-vocational training (outcome was number in competitive employment). Clients in supported employment also earned more and worked more hours per month than those in pre-vocational training.	Supported employment is effective.
28	1339 Perkins et al 2005	Supported employment. Employer perspective.	Serious psychiatric disabilities	Program evaluation. Measures were completed by the employment specialists, and also employer and the person in recovery completed separate satisfaction scales. Employer completed the satisfaction sheet approximately 30 days after person in recovery has started work. Location of the study - US	Employers report high degrees of satisfaction with the results of participating in SE. They report a mean score of 1.5 (SD = 1.7) on the sum of items measuring satisfaction with the SE services provided (range 4 to 16, with a neutral point of 10), and a mean score of 1.5 (SD = 3.3) on the sum of items measuring satisfaction with the employee's work performance (range 4 to 20, with a neutral point of 12)	Employers may be satisfied with supported employment services.
29	1092 Gustafsson et al 2013	Supported employment. Employer perspective.	Neuropsychiatric and intellectual disabilities, psychological and somatic disabilities.	Qualitative content analyses of interviews with 15 employers and 5 managers (Sweden)	SE organizations played three important roles – as broker, as guide, and as trouble-shooter – and this influenced employers' willingness to collaborate. The SE organizations were able to respond to the demands and market logic that make up employers' everyday reality. The approaches employers pointed to as most successful were provision of security, responsibility for the labor supplied, and the cultivation of relationships of trust with employers.	NOTE: The purposeful sampling process might lead to selection bias. Only informants who had good experiences of SE support agreed to participate. The following features of SE organizations were viewed as successful by employers. 1) (Broker) Creating contacts with an 'invisible' (to employers) workforce. The SE organization was able to give advance information about the potential employee's abilities and disabilities may have created security for employers in that they knew in advance what to expect. Being given advance information and being able to see the employee at work during a trial period and subsequently measure the employee's employability based on the experience of the trial period can provide security [in terms of costs]. 2) (Guide) The SE coach takes an active part in the employee's employability and ability to adapt to the needs of the labor market and its changes, and to employer needs. 3) (Trouble-shooter) The coach can be addressed immediately about issues that might arise if employers feel they have lack of information and knowledge to address the issues themselves. Flexibility, responsibility and accountability were described as key features by employers. Providing security and being responsible and trustworthy are most important. Trust

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						was also a critical factor
30	36 Marshall et al 2014	Supported employment. IPS supported employment	Mental disorders; Co-occuring mental and substance use disorders	Literature review. Meta-analyses, research reviews, and individual studies 1995-2012. Findings are based on 12 systematic reviews and 17 randomized controlled trials of the individual placement and support (IPS) model	Supported employment consistently had better outcomes than traditional vocational rehabilitation approaches. In particular, participants receiving supported employment had significantly higher rates of competitive employment; more hours worked; more weeks worked per year; higher wages, fewer days to the first competitive job.	IPS is very effective for persons with mental conditions (or mental conditions and substance abuse conditions). Questions: Does IPS supported employment model exist in Canada? Is it a covered service? What is the role of employers in this model? Employers as stakeholders were not mentioned in this study.
31	105 Campbell et al 2011	Supported employment. IPS supported employment	Severe mental illness	Meta-analysis using the samples from 4 randomized controlled trials comparing IPS model to other vocational approaches. Location of the study - US.	IPS produces better competitive employment outcomes for persons with severe mental illnesses than alternative programs. Alternative programs were characterised by stepwise entry into competitive employment, and brokered services in which the vocational program was provided by a separate agency from the mental health program.	The same as for Marshall et al 2014
32	152 Bond et al 2008	Supported employment. IPS supported employment	Severe mental illness	Literature review of randomized controlled trials of IPS	The number, consistency, and effect sizes of studies of evidence-based supported employment establish it as one of the most robust interventions available for persons with severe mental illness.	The same as for Marshall et al 2014
33	222 Bond 2004	Supported employment. IPS supported employment	Severe mental illness	Summary of evidence	The evidence shows consistent support for the effectiveness of supported employment, comparing to other vocational programs for consumers with severe mental illness.	The same as for Marshall et al 2014

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
34	230 Moll et al 2003	Supported employment. IPS supported employment	Severe mental illness	Literature review	IPS is one model that appears to hold significant promise for occupational therapists and their clients	The same as for Marshall et al 2014
35	1167 Drake & Bond 2011	Supported employment. IPS supported employment	Not applicable	It is a preview of the papers published in the special issue of a journal (US)	Asking employers' opinion about supported employment services is an area of research that has been largely neglected.	The same as for Marshall et al 2014
36	1267 Latimer et al 2006	Supported employment. IPS supported employment	Severe mental illness	Randomized controlled trial (Canada)	Supported employment proved more effective than traditional vocational services in a setting significantly different from settings in the USA, and may therefore be generalised to settings in other countries.	IPS supported employment services may be effective in Canada.
37	260 Crowther et al 2001	Supported employment. IPS supported employment	Severe mental illness	Literature search and environmental search. Randomised controlled trials were included.	Supported employment was significantly more effective than pre-vocational training (outcome was number in competitive employment). Clients in supported employment also earned more and worked more hours per month than those in pre-vocational training.	Supported employment is effective.
38	1169 Arbesman & Logsdon 2011	Supported employment. IPS Supported employment	Severe mental illness.	Systematic review.	Strong evidence exists for the effectiveness of supported employment using individual placement and support to result in competitive employment. These outcomes are stronger when combined with cognitive or social skills training. Environmental cognitive supports, such as signs, and other compensatory strategies are useful in managing maladaptive behavior.	IPS model in supported employment is effective.
39	1066 Luciano et al 2014	Supported employment. IPS supported employment. Cost-effectiveness	Severe mental illness	Review pf published and unpublished IPS research studies (US).	Past research indicates that IPS supported employment is the most effective and cost-effective approach for helping people with psychiatric disabilities find and maintain competitive employment.	The same as for Marshall et al 2014

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
40	229 Storey 2003	Supported employment. Natural supports	Severe disabilities	Literature review	Natural supports in supported employment can serve as an alternative of a job coach or other paid professional. Specific support strategies: 1) Co-worker instruction. Coworkers can provide a wide variety of supports as long as they receive appropriate training and support. It is likely that the greater the support needs and learning difficulty of the supported employee, the more instructional skills will be needed by co-workers and they will need more consultation and support from job coaches and other specialists. 2) Co-worker advocacy. Both formal (for example, written contract, strategy planning meetings) and informal (for example, asking co-workers to provide supports) guidelines appear to be necessary to empower co-workers to advocate for supported employees. Co-workers need supports such as instruction, modelling, feedback and reinforcement for carrying out advocacy in the workplace. 3) Mentoring. With only one study in this section, suggestions for best practice are tenuous.	The recommendations are relevant for employers who use supported employment services. Discussion articles advocating the use of natural supports have indicated that supports may involve (1) continued skill training, (2) social skills instruction, (3) advocacy, (4) community skill training, (5) crisis intervention, (6) validating instructional strategies, (7) collecting subjective evaluations, (8) collecting social comparison information and (9) job modifications and adaptations. It is important to note that not all of these strategies have received empirical validation and that the database continues to be limited in this area. Natural supports appear to be a promising method of increasing integration of and support for workers with disabilities in employment settings. However, natural support methods need further empirical validation
41	[from lit review study] Zolna, 2007	Universal design	Mobility and dexterity impairments.; arthritis; upper extremity disorders; age-related MSK disorders; amputation, repetitive strain injuries; multiple sclerosis.	Literature review	A summary of the reviewed literature in the table form on p. 192-193. It includes accommodation types and barriers with the disability type identified in each reviewed article.	1. Employers should remember that every employee with a specific disability, at a specific work role, needs specific assistive technology. 2. Four types of accommodations: assistive technology, modifications to the physical work environment, changes in job requirements, and personal assistance. 3. Universally designed personal workspaces are helpful for employees. 4. In the article there are more details about what can constitute universally designed workspaces. Universal design would create workspaces that reduce unnecessary movement or activities that are not essential to the job, such as placing commonly used equipment near to each other to reduce the need for employees to walk around. 5. Office design should provide a work environment that allows coworkers to quickly and easily come to the aid of one another when they need assistance, or size and space for dedicated personal assistants, if necessary. 6. The use of universal design can reduce the negative impact of workplace barriers. Employers who incorporate universal design in the workplace can enable all employees to use and share the same resources, thus reducing the time and cost of individualized workspaces for employees with and without disabilities.
42	27 Sarkis 2014				FULL TEXT OF THE ARTICLE IS NOT YET AVAILABLE	

	Unique ID, Author & Year	Topic	Disability of Focus	Study Type and Methods (including study location and sample size)	Findings	Best Practices/Recommendations/Resources for Employers. Further questions
43	[From snowballing] Kirsh et al., 2006	Barriers. Partnerships.	Severe mental illness	Literature search including scientific literature, popular press, and work initiative materials. Content analysis of 540 documents collected from work initiatives across Canada (1990 to 2003). In addition, interviews were conducted with 19 key informants across Canada	1. Values. Many documents positioned work as a human right for all citizens. Productive activity is seen as a key to increased wholeness and self-esteem. 2. The proliferation of alternative, consumer-run, affirmative, and agency-sponsored businesses in Canada over the past decade— a truly Canadian phenomenon. **Consumer-run businesses** are entrepreneurial ventures that provide goods and services to the public and are completely directed and staffed by consumers of mental health services. **Affirmative businesses** attempt to reduce the systematic employment disadvantage experienced by people with mental illnesses by creating real jobs within sustainable commercial organizations. They are typically developed through a partnership between consumers, business people, and vocational service providers. Finally, **agency-sponsored businesses** are owned by health and rehabilitation agencies with a view to providing paid employment opportunities for people with mental illness who have been marginalized from the community labour force. (examples of such businesses are given). **Supported Employment (SE)** is also part of the Canadian landscape. SE in Canada exists in the form of specialized programs, or alternatively, as a component of other types of vocational programs. **Clubhouses** provide services within a communal place where members can share experiences, access a range of services and supports, and contribute in meaningful ways to the functioning of the clubhouse. **Sheltered workshops** have dwindled, but have not disappeared from the Canadian landscape. A small number of documents outlining **supported volunteering** programs were found. Finally, **job counselling and planning** is a service commonly cited in the documents reviewed. 3. Key characteristics of work initiatives - flexibility (within services and across services), the provision of a range of options, and the importance of partnerships.	Barriers to SE services: While SE programs have grown in number and importance in the field, a clear understanding regarding access to and availability of these initiatives remains somewhat obscure. Thorough reading of initiative materials often points to SE components or principles, but easy identification of SE programs in the community is difficult for those outside of the operation of these programs. Unlike consumer businesses, whose materials are widely available to the mental health community and to the public at large, SE programs often require an "insider" to identify and access these opportunities. Funding mechanisms are undoubtedly partly the reason that these programs are one step removed from the user; in Ontario, for example, programs can apply to government sources for funds to put SE into place on an individual basis as needed. Consequently, SE occurs for individuals within vocational programs that may offer a variety of other vocational strategies as well.

A2: Top Four Website Resources

i. **Job Accommodation Network (JAN):** http://askjan.org

Description: The Job Accommodation Network (JAN) is a leading source of free, expert guidance on workplace accommodations and disability employment issues. JAN is one of the most comprehensive job accommodation resources available online. "From Fortune 500 companies to entrepreneurs, JAN has served customers across the United States and around the world for more than 25 years." This site is the most comprehensive accommodation website found in the current review.

What is offered?
Below is a list of some of the key resources available on the JAN website:
- Searchable Online Accommodation Resource (SOAR)
    - http://askjan.org/soar/index.htm
    - The SOAR system allows users to obtain accommodation ideas by impairment type. A wide range of impairment types are listed from A-Z. Information about the impairment (e.g. prevalence, description, symptoms) is provided to educate users. Users can then select specific limitationsthat correspond with the individual needing an accommodation (e.g. Individual has difficulty reaching and bending). An extensive list of specific products and assistive technologies are also suggested for various impairment types including hearing, vision and motor impairments.
    - This information is also available through JAN's Effective Accommodation Practices (EAP) Series documents
- Interactive Process guidelines and suggestions
    - http://askjan.org/topics/interactive.htm
    - Includes a step by step guide on the interactive process for employers and employees with disabilities to work together to develop accommodations in the workplace.
- Accommodation ideas by occupation or industry
    - http://askjan.org/media/occind.htm
    - Includes ideas for occupations in arts and entertainment, education, finance, manufacturing, personal services (i.e. foodservice, housekeeping), legal services, retail, STEM (science, technology, engineering and math)
- Consultants are also available by live chat and can give accommodation ideas but cannot speak to any Canadian laws.

Who owns the site?
This site is a service of the Office of Disability Employment Policy, US Department of Labor.
Contact: email: odep@dol.gov phone: 1-866-ODEP-DOL (633-7365)

ii.   **The JobAccess Service**: http://jobaccess.gov.au/home

Description: The JobAccess Service is the national hub for all things related to disability employment. JobAcess provides information on, for example, financial support, workplace modifications, help with finding and changing jobs, creating flexible work environments, links to career advice and training courses, connecting with employers, providers and pear bodies, and a range of other tools and resources for people with disabilities, employers and service providers.

What is offered?
Below is a list of some of the key resources available on the JobAccess website:
- A range of information sheets in accessible formats to help people with disabilities and employers to understand the free supports that are available to help people with disabilities to find work and keep it.
- Translated information sheets in over 20 languages available for download. These information sheets were developed in collaboration with the National Ethnic Disability Alliance (NEDA) as the national peer organisation representing people with disability, their families and carers, from culturally and linguistically diverse (CALD) and non-English speaking backgrounds (NESB).
- The JobAccess videos, showcasing people with disabilities and the diverse experiences of people with disabilities in the workforce, including their experience using JobAccess, disclosing disability and employer flexibility when accommodating them in the workplace. The videos all include an Auslan interpreter to make them accessible for the Deaf community.
- A centralised online application process to apply for supports like the Employment Assistance Fund and the Supported Wage System.
- Easy access to report complaints and allegations of abuse of people with disabilities.

Who owns the site?
This site is an Australian Government initiative regularly updated by the JobAccess Service Advisers and the Australian Government Department of Social Services editorial team.
Online enquiry form: http://jobaccess.gov.au/contacts/online-enquiry-form Phone: 1-800-464-800

3. Employer Assistance and Resource Network (EARN): http://www.askearn.org/

Description: The Employer Assistance and Resource Network (EARN) provides resources for employers to assist with recruitment, hiring, retention and advancement of employees with disabilities. This site provides general information to employers to assist them in the process of employing people with disabilities from recruitment to retention and advancement. Users are referred to the Job Accommodation Network for specific information on accommodations. Information available online assists employers to comply with the ADA.

What is offered?
Below is a list of some of the key resources available on the EARN website:
- General considerations for reasonable accommodation practices
  - http://www.askearn.org/refdesk/Supervision_Management/Accommodations
  - Provides examples of reasonable accommodation (e.g. job restructuring, modifying work schedules).
  - Information on making reasonable accommodations including basic guidelines, and the process of receiving, responding and implementing accommodations.
- Links to webinars and other learning events
  - http://www.askearn.org/m-events.cfm
- Employer best practices and case studies
  - Available from the home page: http://www.askearn.org/
- Publications on a variety of topics on work and disability
  - Available from the home page: http://www.askearn.org/
  - Some publications with information on accommodations include:
    - Opening the Doors of Small Business to Employees with Disabilities: Critical Concerns and Strategies for Success
      - http://www.askearn.org/docs/SmallBusiness-OpeningDoors.pdf
    - Business Strategies that Work: A Framework for Disability Inclusion
      - http://www.askearn.org/docs/BusinessStrategiesThatWork.pdf

Who owns the site?
This site is a service of the Employer T/A Center, which is funded by the U.S. Department of Labor's Office of Disability Employment Policy under a cooperative agreement with the Viscardi Center. The Viscardi Center is a network of non-profit organizations that provides a lifespan of services for children and adults with disabilities. http://www.viscardicenter.org/
Contact for the Office of Disability Employment Policy: email: odep@dol.gov phone: 1-866-ODEP-DOL (633-7365)

4. **Cornell University – Yang-Tan Institute:** http://www.yti.cornell.edu/

Description: The Yang-Tan Institute (YTI) aims to advance knowledge, policies and practices to enhance opportunities of people with disabilities. YTI is a resource on employment and disability information for businesses, policy makers (US) federal and state agencies, educational institutions, unions and service providers. YTI provides research, technical assistance, training, scholarly reports, and training publications to support the employment contributions of people with disabilities and ensure community inclusion. YTI offers a wealth of information and research on employment and disability issues and outcomes in the context of the ADA. The HR Tips website appears to be YTI's best option for employers to quickly and easily seek out information and ideas on reasonable accommodations for people with specific impairments.

What is offered?
Below is a list of some of the key resources available through YTI:
- HR Tips
  - http://www.hrtips.org/index.cfm
  - This site, operated by YTI, contains articles, checklists, a glossary, and links to useful disability resources to help human resource (HR) professionals' accordance with the ADA.
  - Articles include information on accommodations of 19 different impairments including arthritis, blind/visually impaired, deaf/hard of hearing, epilepsy, multiple sclerosis, musculoskeletal disorders, and spinal cord injury/mobility.
    - Information on accommodations for specific impairments includes an explanation of the impairment and its symptoms, how to accommodate people with the impairment, as well as considerations in the hiring process, solving common work issues and employee retention.
    - Information is based on previous research and ADA requirements.
- DigitalCommons@ILR.
  - http://digitalcommons.ilr.cornell.edu/edi/.
  - A searchable online repository of scholarly papers and brochures on employment and disability. A search for "accommodation" using "disability" as a key word yields nearly 300 papers.
  - Brochures provide practical information on employing and accommodating people with specific impairments which is also provided at hrtips.org.

Who owns the site?
This site belongs to Cornell University, ILR School, K. Lisa Yang and Hock E. Tan Institute on Employment and Disability. Contact email: ilr_edi@cornell.edu Phone: 607-255-7727

A3: List of Supplies of Accommodation Products and Services (from http://www.ic.gc.ca/eic/site/ict-tic.nsf/eng/h_it06119.html)

	Company Title	Website/contact information	Products/Services	Category(ies) of products/services	Examples of disabilities	Major clients / interests
						ONTARIO
1	Abilidos	http://www.abilidoc.com/	Producing accessible PDFs,website accessibility audit and certification	Computer access; aids for vision loss	Vision loss including blind and partially sighted	Government, education, large corporate clients
2	Advanced Mobility Systems	http://www.amstilt.com/	Seating and positioning solutions including tilt chairs, back support, seat cushions, headrests, foot/leg support, arm support, etc.	Ergonomic equipment for workplace	Mobility limitations	Industry sector market interests: • Construction • Consumer Products • Manufacturing • Medical/Biotechnology/Chemical • Wholesale/Retail • Automotive • Primary and Fabricated Metal
3	Assistive Vocational Technology Associates	info@avta.ca (416) 949-7228	Web Accessibility audits of web sites and web-based applications to ensure equal access by users of assistive technology. Windows and Macintosh based assistive devices including Jaws, ZoomText, Kurzweil and Naturally Speaking voice recognition	Computer access; aids for vision loss	Vision loss	Clients include: • Human Resources Development Canada • Canada Customs and Revenue Agency • Public Works and Government Services • Ministry of the Attorney General • Ministry of Community and Social Services • Ontario Works • City of Toronto • City of Thunder Bay • Region of Peel • City of Peterborough • Royal Bank • Bank of Montreal • TD/ Canada Trust • Scotiabank

	Company Title	Website/contact information	Products/Services	Category(ies) of products/services	Examples of disabilities	Major clients / interests
						• Canadian Council on • Rehabilitation and Work - CCRW • ODSP Employment Supports
4	Barrier Free Architecturals Inc.	http://www.barrierfree.org/	Accessible faucets; wheelchair ramps; accessible kitchen devices; grab bars	Architectural products	Mobility limitations	
5	Better Hearing Solutions	http://www.betterhearingsolutions.ca/	Creating barrier free accessible listening environment e.g. in a meeting room or auditorium (audio frequency induction loop systems; assistive listening systems)	Aids for hearing loss	Hearing loss	
6	Betty Dion Enterprises Ltd.	http://www.bdel.ca	Universal design and accessibility services	Architectural products	Not provided on the website	Clients: • Canadian Human Rights Commission • Agriculture Canada • Queens University • Research in Motion (RIM) • Cape Breton Regional • Hospital Authority • Kingston Regional Cancer Centre
7	BRYTECH Inc.	http://www.brytech.com	Electronic products for vision loss (e.g. bank note reader, colour identifier, remote physiology monitoring system)	Aids for vision loss	Vision loss	BRYTECH's main markets have been in Canada and the USA with product trials in the other countries. The company's objective is to expand these markets in other areas including Mexico and South America.
8	CanAdapt Solutions Inc.	http://www.can-adapt.com	Web accessibility audits; consulting and training on AT such as JAWS, Mac VoiceOver, NVDA, ZoomText, Dragon Naturally Speaking, Accessible Mobile, Assistive Listening Systems; video captioning and transcription services; accessible form	Computer access; aids for vision loss; aids for hearing loss; aids for hearing and vision loss	Vision loss; hearing loss	

	Company Title	Website/contact information	Products/Services	Category(ies) of products/services	Examples of disabilities	Major clients / interests
			creation services, etc.			
9	Canadialog Inc.	http://www.canadialog.com	Portable handheld magnification solution, magnifying glasses, low vision aids for computer users, desktop video magnifier, etc.	Aids for vision loss	Vision loss	
10	Canadian Braille Press	http://www.canadianbraillepress.com	Pressing the Braille characters on Business Cards, Book Markers Book Covers Etc.	Aids for vision loss	Vision loss	
11	Can-Dan Rehatec Ltd.	http://www.CAN-DAN.com	Electrically height adjustable change table; transfer lift	Ergonomic equipment for workplace	Mobility limitations	
12	Cantor Access Inc.	http://www.cantoraccess.com	Speech recognition training and customization, and macro scripting	AT consulting services	Vision loss	Clients include: • Hewlett-Packard Company • Royal Bank of Canada • The Bank of Montreal • Canadian Broadcasting Corporation • Bell Global Solutions (a division of Bell Sygma, Inc.) • MediaLinx Interactive (Sympatico) • Standard Life Assurance Company • Human Resources Development Canada • Public Service Commission (Diversity Management Directorate) • Treasury Board Secretariat • Canada Customs and Revenue Agency • Citizenship and Immigration Canada • Accessibility Directorate of Ontario (Toronto). • Etc.
13	CNIB	http://www.cnib.ca	Assistive technology, orientation and mobility, employment, low vision and	AT consulting services; Aids for vision loss	Vision loss	

	Company Title	Website/contact information	Products/Services	Category(ies) of products/services	Examples of disabilities	Major clients / interests
			life skills services, consulting services including workplace accommodation/ retention to employers			
14	Designable Environments Inc	http://www.designable.net	Accessibility, universal design, and barrier-free design consulting	AT consulting services	Not provided on the website	
15	Inclusive Design Research Centre	http://idrc.ocad.ca	Employment accommodation services including work site assessment, equipment resources and referral. Web accessibility conformance reviews and training	AT consulting services; Computer access	Not provided on the website	
16	Special Needs Computer Solutions, Inc.	http://www.specialneedscomputers.ca	Computer ergonomic devices, aids for visually impaired individuals, as well as augmentative communication aids	Communication aids; Aids for vision loss; Computer access	Vision loss	
17	Innotech Rehabilitation Products Inc.	http://www.embraceairbackrests.com	Back supports	Ergonomic equipment for workplace	Back, neck and joint pain	
18	Matias Corporation	http://www.matias.ca	Ergonomic and assistive technology keyboards	Computer access	Not provided on the website	
19	Workplace Modifications Inc.	workplacemodifications@wrigroup.ca	Ergonomic assessment services and ergonomic equipment	AT consulting services; Ergonomic equipment for workplace	Not provided on the website	
				QUEBEC		
1	AccessibilitéWeb	http://accessibiliteweb.com	Website accessibility evaluation, certification, and accessibility training for web professionals and clients	Computer access; AT consulting services		Clients : • Ministère des services gouvernementaux du Québec (MSG) • Institut Nazareth et Louis-Braille • Directeur général des élections du Québec

	Company Title	Website/contact information	Products/Services	Category(ies) of products/services	Examples of disabilities	Major clients / interests
						• Régie des rentes du Québec • Service québécois du livre adapté • Droits et démocratie
2	CGL Ergonomie Inc.	http://www.cglergonomie.com	Ergonomic consultation such as conception, formation, organisation and workplace adjustment	Ergonomic equipment for workplace	The company website and profile on Industry Canada website no longer exist. This company will not be included in the final report	
3	HumanWare inc.	http://www.humanware.com	Victor Reader – the digital talking book player; Trekker – orientation and mobility product; BrailleNot – devices with Braille output and text to speech	Aids for vision loss; Aids for hearing loss; Aids for hearing and vision loss	People who are blind, deaf-blind, visually impaired or learning disabled	Export experience: • Belgium • France • Spain
4	Oralys	http://www.oralys.ca	Assistive software solutions	Communication aids; Computer access	Individuals who have lost the ability to communicate or who have speech impediments	
5	Vues & Voix	http://www.vuesetvoix.com	A production studio to record books, production of audio recording and transcription of reports, a radio station for visually impaired	Communication aids	Visually impaired as well as people who are unable to read because of physical or learning disabilities	
	ATLANTIC REGION					
1	Eye Catch	http://www.eyec	Back-lit signs, Electronic	Aids for vision	People with	

	Company Title	Website/contact information	Products/Services	Category(ies) of products/services	Examples of disabilities	Major clients / interests
	Signs Limited	atchsigns.com	Message boards, Accessible Signage (ADA), Braille and Tactile signs, Interior and exterior wayfinding Signage.	loss	vision impairments	
2	Premier Assistive Canada Inc	http://www.readingmadeeasy.ca	E.g. E-Text reader, PDF Equalizer (that reads PDF files), Talking Word Processor	Communication aids; Computer Access	People with learning impairments	
3	Voice Waves Atlantic	http://www.voicewavesatlantic.com	Providing audio as an alternate format	Aids for vision loss; Computer access	People with visual impairments	Clients include: • 105.9 SeasideFM • Career Beacon • Clearly Health • CTV Inc. • Absolute North • Our Town Earth • The Province of Nova Scotia • Tiger Tel Communications Inc. • Garrett Atlantic Limited • Global Maritimes • Information Radio • MacKay Fashions • The Entrepreneurs with Disabilities Network • The Centre for Women in Business • The Spring Garden Road Business Association
PRAIRIE AND NORTHERN REGION
1	Access 2000 Elevator & Lift Inc.	http://www.access2000.ca	Accessible elevators	Architectural products	Mobility limitations	
2	CapComm Captioned Communications Inc.	http://www.Cap-Comm.Net	Assistive Technology assessments, devices, training and services. Products include a computer access/training kit that can	Computer access; AT consulting services	Individuals with hearing loss, learning disabilities, vision loss,	Clients include: • Alberta Human Services • EmployAbilities (ERES) • Chimo Youth Retreat Centre • NorQuest College

	Company Title	Website/contact information	Products/Services	Category(ies) of products/services	Examples of disabilities	Major clients / interests
			be used at work by persons with learning disabilities, a kit for the blind and visually impaired, etc.		motor function loss	• Lakeland College • Red Deer College • University of Saskatchewan • Red River College • Algonquin College • University of Waterloo • Georgian College • Mohawk College • University of Guelph • Wilfrid Laurier University
3	Department of Computer Science	http://www.cs.uregina.ca	Keyboard-based graphical web browser interface that does not require use of a mouse.	Computer access	Repetitive stress injuries related to mouse usage	
4	ErgoCanada	http://www.ergocanada.com	Ergonomic products including keyboards, mice, touchpads, foot switches, sit-stand workstations, etc.	Computer access; Ergonomic equipment for workplace	Not provided on the website	
5	Innovative Access Systems	innovative_access@shaw.ca	Assistive technology consulting services	AT consulting services	Not provided on Industry Canada the website	
6	Ram Manufacturing Ltd.	http://www.trustram.com	Elevators & wheelchair lifts	Architectural products	Mobility limitations	
7	Visual Lizard Inc.	http://www.visuallizard.com	Building accessible websites for medium to large corporate size clients	Computer access	Not provided on the website.	Clients include: • Tourism Winnipeg • Winnipeg Airports Authority • Winnipeg Art Gallery • Casinos of Winnipeg • Economic Development Winnipeg
			BRITISH COLUMBIA			
1	ALDS	http://www.alds.com	Communication devices	Aids for hearing loss; Communication	Hearing loss	

	Company Title	Website/contact information	Products/Services	Category(ies) of products/services	Examples of disabilities	Major clients / interests
				aids		
2	Arbour Building Consultant	b-ayotte@telus.net	Barrier free building design and consultations	Architectural products; AT consulting services	Mobility issues	
3	Aroga Technologies Ltd	http://www.aroga.com/	Blindness products, low vision products, communication aids, learning disability software and devices, and computer access components	Computer access; Aids for vision loss; Communication aids	Learning disabilities, vision loss	
4	Creative Mobility Products Inc.	http://www.creativemobility.ca	Mobility equipment, wheelchair seating and specialty equipment, home elevators and wheelchair lifts, durable medical equipment, electronics and environmental controls	Environmental control systems	Mobility impairments	