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Research**

BEST PRACTICE FOR VOCATIONAL PROGRAMS

Rapid review

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Executive Summary

Vocational rehabilitation (VR) programs or services aim to support individuals with disability, or workers with an injury or other health problem (such as a mental health related condition), to obtain or return to work after their injury or illness. In this rapid review, we aim to identify best practice for VR programs, components of best practice programs, the needs of target groups being addressed in VR programs, and similarities/differences between groups targeted by best practice VR programs.

There is strong evidence that the best practice for VR programs which consistently resulted in improved work-related outcomes, are the ones incorporating multiple components, specifically incorporating health care, service coordination and workplace/employer components. Programs that were intervened early and are individually tailored to meet worker's needs were particularly successful.

1. *Health care components*: consist of a wide range of programs and support to promote health and wellbeing for workers who have experienced injury or mental health conditions, such as depression.
2. *Service coordination components*: aim to better coordinate the delivery of and access to, services to assist return to work within and involving the workplace. These components facilitate interactions between workers, employers, health care providers, insurance agencies and other stakeholders.
3. *Workplace/employer components*: incorporate worksite adjustments or accommodations offered to better facilitate the worker's return to work process.

Multi-component VR programs, incorporating health care, service coordination and workplace components, not only addressed workers' health care needs but also facilitated understanding, expectation and co-operation between workers, health care practitioners and employers, in the process of improving return to work outcomes. Health care for injured workers is important but health care alone has little impact on work outcomes. The evidence shows that effective and cost-effective VR programs are those that also target employers to implement proactive approaches to injury and illness, along with temporary provision of work modification and accommodation tailored to workers' needs. In best practice VR programs, it is imperative to target workers and employers to coordinate health care and workplace accommodation activities.

Background

In New South Wales (NSW), the State Insurance Regulatory Authority (SIRA), the government agency responsible for regulating workers compensation insurance, motor accidents compulsory third party insurance and home building compensation insurance.

The Health Policy, Prevention and Supervision team at SIRA has commissioned a rapid review to identify best practice for vocational programs that are designed to support worker's rehabilitation and recovery.

This rapid review therefore aims to identify best practice for VR programs, components of best practice programs, the needs of target groups being addressed in VR programs, and any similarities or differences of groups targeted by best practice VR programs.

Review question 1: What is the current and emerging best practice for vocational programs/initiatives/support in the compensation systems, for both the injured worker and the employer?

Vocational programs or services to support workers to RTW are commonly referred to as ‘vocational rehabilitation’ or VR programs. This is a managed process that provides an appropriate level of assistance to someone with an injury or other health problem to RTW after their period of convalescence. Historically, vocational rehabilitation has focused on RTW, but more recent attempts to operationalise RTW have suggested a broader, more inclusive scope, aiming to see people remain in prosperous and meaningful work beyond the traditional measure of the end of disability benefits [1]. There is also increasing recognition in the multi-level benefits of meaningful work. For individuals, it is generally good for their mental and physical health and well-being. For employers, it could lead to increased productivity and prosperity. For government, it is good for the economy and reduces spending on out-of-work benefits [2].

There is distinction in the literature between *vocational* and *occupational* rehabilitation. *Vocational* rehabilitation (VR) includes services and supports to assist people with disabilities who are not presently in work, to gain employment; whereas *occupational* rehabilitation (OR) refers to interventions that help employed people who experience an ‘illness related’ long-term absence, to return to their own job or an alternative. In *this review*, we use the term vocational rehabilitation to refer to both, *vocational* and *occupational* rehabilitation.

From our review, best practice for VR programs, incorporated an integration of multiple components, including health care services, workplace modifications and service coordination components. Best practice also required active interactions between workers, their employers and other stakeholders, such as health care practitioners, VR counsellors, insurers, and agencies managing work-related disability compensation. Best practice programs were those that resulted in improved work-related outcomes for participants, such as increased rate of RTW, reduction in time off work due to work-related disability, reduction in time being on loss of earning benefits, and/or reduction in costs associated with work-related disability. These programs did not only target workers to improve their health but also involved employers in taking active roles of providing appropriate worksite adjustments and modification to tailor to workers’ health status at the time. The literature shows that there needs to be cooperation and collaboration between workers, employers and other stakeholders. However, these groups will have differing perspectives and friction is inevitable [3].

Evidence statements:

These statements have been sorted using a hierarchy of quality of evidence with systematic reviews presented first, followed by original research (sorted by date of publication). Most research relates to VR in the context of specific health conditions or injuries rather than broad groups of injured workers. These studies were conducted in compensation settings in various jurisdictions in Australia, Europe or North America.

- In a systematic review of effectiveness of workplace intervention in RTW, Cullen et al. (2018) [4] found strong evidence that multiple-component interventions were able to reduce time lost associated with work-related disability. The reduction in lost time was observed in interventions targeting musculoskeletal injury as well as mental health conditions. Among workers with mental health conditions, multiple-component interventions were also found to significantly reduce the costs associated with work-related disability.
- Donker-Cools et al. (2016) [5] conducted a systematic review of effective RTW strategies for individuals with acquired brain injury (ABI), including traumatic brain injuries or non-traumatic injuries, such as stroke. Interventions were considered effective if they resulted in increased rates of RTW compared with usual care. The authors found strong evidence for multi-component VR programs, combining workplace components (e.g. adaptation of working task) with healthcare components education/coaching (such as emotional support) and service coordination components were effective in improving work-related outcomes. Importantly in this population of individuals with ABI, the multi-component programs deemed most effective were individually tailored, involved the patient and their employer.
- Nicholas et al. (2020) [6] reported the results of an implementation study of an early intervention protocol for “high risk” workers in NSW. It showed that the intervention was associated with fewer lost workdays over a two-year period. This study used an approach using risk screening for delayed return to work and providing psychological support and appropriate medical care for selected workers. It also had the cooperation of a large employer who provided a suitable organisational context for the intervention to be provided.
- van Dongen et al. (2018) [7] reported short and long term outcomes of a 4-month multi-component, multi-disciplinary VR program for individuals with ABI in Rinjlands Rehabilitation Centre, Netherlands. The authors found a RTW rate of 86% immediately after the program; 64% of these individuals still in paid work after 3-6 years. This was significantly higher than the average of 40% return to work 2 years after ABI[6]. The authors also found that on average,

participants worked approximately 60% of their former working hours after the program. The program was a multi-component intervention, comprised of health focus, service coordination and workplace components. The health focus component included a specialist multidisciplinary team from rehabilitation, occupational therapy, social work, neuropsychology and, where required, speech therapy or physical therapy. This team worked actively with patients' families, the employers, occupational physicians and a co-worker in the patients' workplace to facilitate their process of return to work. All the process and interactions between the patients and other stakeholders were coordinated by the Rinjlands Rehabilitation Centre, taking the responsibilities of the service coordination component.

- In an assessment of the Occupational Health and Education program for burn injury workers developed by the Department of Labour and Industries, Washington, USA, Carrougner et al. (2017) [9] found that the program achieved a return to work rate of 93.5%, with an average of 24 days from injury to RTW. The rate of not return to work of 6.5% was much less than 28% of burn survivors never returning to any form of employment. The program included a health support component to support the workers' health recovery, a component for employer, including education and recommendations for employers to support workers' RTW, and a service coordination component managed by VR counsellors from the University of Washington Medicine Regional Burn Centre.
- Thompson et al. (2016) [10] compared the duration of claiming loss of earning (LOE) benefits among workers with work-related musculoskeletal injuries pre and 1 year post the implementation of a new VR program, known as the Regional Evaluation Centre (REC) model. This VR model was implemented by the Workplace Safety and Insurance Board (WSIB) in Ontario, Canada. In this model, RTW planning for workers was integrated into their medical assessment (provided by REC) and facilitated by a service coordination component where Work Capacity Liaisons coordinated communication among health care providers, the workers' employers and the WSIB. The pre-post new VR model evaluation demonstrated 33% reduction in time on LOE benefits with the new model. The new multi-component VR model reduced the risk of workers claiming LOE benefit.
- Jensen (2016) [11] compared RTW outcomes between an intervention versus control for public employees and privately employed cleaners on sick leave due to musculoskeletal or common mental disorders in Denmark. At 2 years after the intervention, the rate of RTW in the intervention group was nearly twice that in control group (95% CI: 1.1-3.4). The intervention was characterised by the involvement and active interaction of health care system, work environment and financial compensation system. In addition, service coordination was undertaken by social workers, who

were responsible for collecting information, supporting communication and coordinating activities between workers, employers and other stakeholders.

- Dillahun-Aspillaga et al. (2015) [12] assessed a pilot VR program for TBI patients in eight regions of Florida, USA. Under the program, individuals with TBI received health care support, work-related disability adjustment and vocational guidance counselling for a period of 1 year. The work-related component in the program conducted vocational evaluation of patient's general and work specific skills. They then provided targeted vocational guidance, life skills counselling, and vocational awareness. Psychological evaluation pre and post this intervention showed that participants' internal thoughts and beliefs about their ability to work improved significantly after receiving these customized services. Vocational guidance counselling and disability adjustment services may assist individuals with TBI to better prepare for returning to work by helping them understand and adjust to their injury and set appropriate vocational goals.
- Livermore et al. (2011) [13] assessed the changes in service use, health status, employment, and income in participants of Ticket To Work (TTW) program in USA. In the TTW program, beneficiaries get a ticket to obtain VR or other employment support services. VR service providers received financial incentives if participants achieved successful employment outcomes. 20% of TTW participants achieved employment success to a level that reduced disability benefits significantly, 40% achieved moderate employment success, and another 40% reported no change in status. Significant change in health status was observed over study period affecting ability of individuals to participate in TTW program. These individuals had improved employment and income stability. Disability insurance beneficiaries reporting an excellent or very good general health had markedly higher employment rates (27%) compared to those reporting good/fair (10%) or poor/very poor (3%) general health.
- McLaren et al. (2017) [14] examined the effectiveness of employer return to work programs using workers compensation claims data in California, USA. The most common interventions were workplace components that modify work tasks, workstations, equipment or scheduling and providing a different job in the same firm. Modifying work equipment was associated with the greatest reductions in injury durations relative to other program components. Workers in a program returned to work approximately 1.4 times sooner compared to workers injured at a firm without a program.
- Nazarov et al. (2016) [15] assessed the impact of counselling and work incentive services on labour market outcomes (employment, wage rates and working hours) among Supplemental Security Income (SSI)/ Social Security Disability Insurance (SSDI) beneficiaries who had participated in a VR program in New York, USA. They found the mean earnings and working hours of beneficiaries

increased by \$42 and 3.3 hours per week, respectively, after receiving the services. Combined efforts increase the probability of competitive employment, weekly earnings, working hours and hourly wage rate.

- Everhardt and de Jong (2011) [16] investigated the effect of activities that employers and external providers undertake to help long-term sick employees to resume their work in the Netherlands. Following the reforms in the disability insurance scheme in 2004, workers are considered for eligibility for the longer-term disability benefit system only after two years of sickness benefits. In the first two years, firms must provide rehabilitation and accommodation activities (via contracted private occupational health agency) to try either to retain disabled employees or to find alternative employment for them. It was found that 10 months after reporting sick, 71% of the study sample have already partly resumed their work. An important part of the success in the large proportion of workers returning to work was an early start with graded work resumption as a standard form of vocational rehabilitation.
- Markussen and Røed (2014) [14] examined the impacts of alternative VR programs on short- and long-term labour market outcomes for temporary disability insurance (TDI) claimants in Norway. The authors analysed outcomes in 345,000 claimants derived from the temporary disability insurance (TDI) program in Norway between 1996 and 2005. Outcomes among participants in one of four VR program strategies were compared with those among non-participants (i.e. claimants not participated in any VR program). Four VR program strategies were VR1 – subsidized employment in regular firms, with or without individual support, VR2 – subsidized employment in sheltered firms, VR3 - regular education in schools/colleges/universities, and VR4 – targeted vocational training courses provided by the employment office. The authors found that Strategies with quick start by placement in regular labour market raise the employment propensity after the TDI spell, and entail significant labour earnings gains during treatment period; Strategies focusing on rapid transitions to regular education are successful in raising post treatment earnings and reducing the risk of admission to the permanent disability insurance.

TO SUMMARISE:

- Early and timely interventions are key to the success of VR programs as they raise employment propensity, improve income stability both during and after treatment period and reduce the risk of transitioning to permanent disability benefits schemes.
- Successful programs were individually tailored to meet the needs of the worker's health problem and work-related issues. There was a consensus across best practice programs that VR is not a matter of health alone. It is rather an active team-work process which must include the worker, their employers, health care professionals and other stakeholders; working together to a common goal. This involves transparent co-ordinated services including education for workers, family members and employers, physician recommendations to employers for workplace accommodations and worker's health status.
- The best practice programs were those that resulted in improved work related outcomes for participants, such as increased rate of RTW, reduction in time off work due to work related disability, reduction in time being on loss of earning benefits, and/or reduction in costs associated with work related disability. Programs tailored to person's interests and competencies with disability adjustment services could improve adjustment to return to work and increase employability for workers with complex needs.
- Workers injured at firms with employer RTW programs were more likely to return to work and modifying work equipment was associated with the greatest reduction in injury duration relative to any other stand-alone program component.
- Multi-component VR programs with an early and timely start and coordination between workers, family members, employers and health care service providers were shown to be successful with better outcomes for all stakeholders.
- Employer and other stakeholder involvement in programs is important and this will inevitably raise difference in perspectives and may generate friction.
- It is not conclusively established which workers will benefit from VR programs but current "best practice" suggests that targeting workers who are at higher risk of delayed return to work is the optimal strategy.

Review question 2: What components do these best practice programs/initiatives/support cover?

In this section, we present the details of each core component in multi-component VR programs that had evidence for improvement in RTW outcomes.

Health care component

This component incorporated any part of a VR program aimed at promoting or facilitating the health and wellbeing for workers who had experienced injury or other health problems. Depending on the nature of the work-related health problem experienced (for example work-related musculoskeletal injury, brain injury or mental health conditions), a variety of services and supports were incorporated. These included medical assessments, graded activity/exercises, cognitive behavioural therapy, physical therapy, psychological therapy, occupational therapy, education to promote self-care and pain management [4, 7, 9, 10, 17]. Health care components were described as implemented at the worker's home (such as doing exercise, task around the house to improve stamina and strength[9]), in a clinic or care/rehabilitation centre [7], [10]) or in the workplace or settings linked to the workplace (e.g., visits to healthcare providers initiated by the employer/workplace [4]).

Service coordination component

This component included program specifics designed to better coordinate the delivery of and access to services and supports to assist workers' RTW. Coordination involved strategies to:

- improve communication *within* the workplace (between workplace colleagues/employer and the injured worker),
- coordinate healthcare providers and other stakeholders (such as insurer or agency managing work-related disability supports).

Through service coordination, health care and rehabilitation support, plans to return to work for workers were facilitated and regularly communicated with their employers. Evidence demonstrated that through service coordination and communication, workers had greater opportunity to understand their rights within the compensation process; their employers were informed about the worker's current health status, return to work potential with timeframes, assessed needs for workplace modifications and time required for subsequent clinic appointments [4, 17]. A consistently noted challenge from studies within this component was the difficulty often found in identifying a suitable representative from the employer. Carrougher et al. 2017 [7] proposed that the worker

themselves would provide best guidance as to the most appropriate person for contact about their returning to work. For those working in manufacturing or factory positions, a good contact would be the safety officer. In larger companies with a separated human resource (HR) department, a staff member from this department was identified as appropriate. For smaller companies without an HR department, the owner would be the best contact.

Workplace/Employer component

This was the component that described an active engagement and commitment from the workers' employer. This component was implemented at the workplace. Requirements of workplace components included assessment of the workplace, alteration in the organisation of work or introduction of modified working conditions. Examples are workplace accommodations such as provision of modified duties, modified working hours, pace of work, performance expectation, supernumerary replacements, ergonomic adjustments or other worksite adjustments [4, 17]. Other examples included potential negotiation for long-term/permanent workplace modification to accommodate the situation of worker's health and functioning.

In keeping with the biopsychosocial concepts underlying VR there are also additional components to consider. These are personal factors issues related to pre-vocational factors, such as attitudes to return to work, and social factors, such support from family, friends and work colleagues including managers.

TO SUMMARISE:

- The most effective VR programs, describing superior outcomes in work-related illness or work-related injury populations were those incorporating multiple components, most commonly grouped within healthcare, workplace and service coordination.

Review question 3: What are the needs of the target groups they address?

In the multi-component VR programs demonstrating successful impact on RTW outcomes, all stakeholders worked as a team towards the goal of getting injured / ill workers returned to work, and sustainably so. The needs of the target groups addressed by various components of VR programs are presented in this section.

Health care component

The primary need being addressed in this component was improvement in worker's health and wellbeing. It should be commenced as soon as feasible after the worker's injury or onset of their health condition. Depending on a worker's health issue, the care and support provided would involve one or more health care professionals, such as a rehabilitation physician or occupational physician, an occupational therapist, social worker, neuropsychologist, speech therapist or a physical therapist [7]. Injured or ill individuals needed advice and recommendations regarding appropriate levels of activities at home and at work to build their strength and stamina [9]. They also needed advice regarding pain management and self-care, such as instructions on taking pain medication on a fixed schedule and information about healthy lifestyle habits. Psychological needs were important, and addressed with programs incorporating cognitive behavioural treatment for example, where attributions, expectations, beliefs, self-efficacy, personal control, attention to pain stimuli, problem solving, and coping self-statements were addressed either in one-to-one or group sessions [17].

Service coordination component

This component addressed workers' needs related to understanding their rights, the RTW process and managing the expectations of all parties involved. Importantly, workers needed, and benefited from an advocacy style coordination among stakeholders involved in the process. Stakeholders not only included the worker and employer, but also other agencies such as a health care providers, insurers and agencies managing supports/benefits for workers sustained work-related disability [18] [10] [9]. From the studies reviewed, we found that the role of service coordination could be accomplished by someone involved with the RTW process, such as a job coach, a case manager, a health care provider or a VR counsellor. This person played a critical role in providing interactive communications between different stakeholders regarding worker's health status, required health care and rehabilitation services, intention and timeframe for potential return to work, need for workplace modification and/or accommodation [4, 9, 10, 17-19].

Workplace component

In the workplace, workers with work-related disabilities (temporary or chronic) needed one or more types of work adjustment or accommodation to facilitate their process of returning to work and staying at work. These included:

- Flexibility in hours and/or duties, such as: changes to working hours or days, time off to attend health-related appointments, provision of additional breaks during the working day, changes to start/finish times to reduce travel during the busiest times, review/adjustment to the overall level of responsibility of a job role, or consideration of an alternative job role [17, 20].
- Modifications or provision of special equipment, such as: assistance with travel (e.g. designated parking space), approval of 'working from home' to reduce travel demands, physical adaptations or re-organisation of the working environment (e.g. to allow wheelchair accessibility), additional equipment, aids and adaptations (e.g. communication aids/software, specialist seating), advice on specific symptom management (e.g. fatigue management), advice/support on the use of coping strategies (e.g., for cognitive impairment) [17, 20].
- Additional training, supervision and support, such as: job coaching/support worker in the workplace, ongoing support from a co-worker, a "buddy" trained to respond to specific needs (e.g., seizure) in the workplace, additional training, supervision and/or support (e.g., mentoring), education for supervisor, manager and colleagues about the worker's condition and its effects, regular reviews with supervisor/manager (e.g., to assist work planning/prioritising), additional support for colleagues in the workplace, off-site support (e.g., from a rehabilitation service or vocational practitioner) [17, 20].
- It currently accepted that a preferred approach is to identify workers who are at higher risk of delayed return to work and to provide for them an individually focussed workplace based strategy with appropriate health care support [6].
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TO SUMMARISE:

- Injured or ill workers had targeted physical rehabilitation and education needs, psychological support needs and workplace re-integration needs. Overall, successful VR programs need to have service coordination between the various stakeholders within their environment, facilitating the process for successful and sustained RTW.

Review question 4: What are the similarities/differences of the groups they target and who are the people that are most likely to benefit?

Of the studies reviewed, there were a wide range of groups targeted by multi-component VR programs. Table 4.1 below provides the characteristics of participants along with components within the program. All workers are likely to benefit but workers with severe disabilities or adverse psychosocial circumstances will be more challenging to assist.

Table 4.1. List of participant groups targeted by VR programs in studies/systematic reviews showing improvement in work-related outcomes

Study	Target group/Participants	VR program and components/stakeholders	Effects of the VR program
Cullen et al. (2018)[4] <i>(a systematic review)</i>	<ul style="list-style-type: none"> Workers with musculoskeletal disorder or pain related conditions Workers with work-related mental health conditions 	Multi-component VR program, including: <ul style="list-style-type: none"> Health focus component: incorporating one or more elements such as medical assessment, physical therapy, psychological therapy, and/or occupational therapy; Service coordination component: including services such as development of RTW plans, case management, education and/or training with the aim of coordinating delivery/access to services to assist RTW within and involving the workplace; Work modification component: consisting of interventions to adjust organisation of work and/or working condition to accommodate workers' health and capacity following their injury/illness. 	Strong evidence was found that implementing multi-component program (i.e. with health, service coordination and work modification components) can result in reducing: <ul style="list-style-type: none"> lost time for musculoskeletal and pain-related condition; lost time and costs associated with work disability for mental health condition
Donker-Cools et al. (2016)[5] <i>(a systematic review)</i>	<ul style="list-style-type: none"> Workers with Acquired Brain Injury (a traumatic cause and a non-traumatic cause, like stroke) 	Multi-component VR program, including: <ul style="list-style-type: none"> Workplace component: Work-directed intervention component (e.g. adaptation of working task); Health component: Education support and coaching for workers (e.g. emotional/health support) Other characteristics – service coordination component: individually tailored, early intervention, involvement of patient and employer, work or workplace accommodations, work practice and training of social and work-related skills, including coping and emotional support. 	Strong evidence of effective RTW outcomes was found in interventions with a combination of work-directed components, health/emotional support components and service coordination components to manage supports for workers and their employers.
Nicholas et al. (2020) [6]	<ul style="list-style-type: none"> Workers employed in a health service (specific injuries not specified except 	Multi-component VR program including: <ul style="list-style-type: none"> Screening for risk of delayed return to work (Using Orebro Musculoskeletal Pain Questionnaire short form); 	Fewer lost work days in the two years after injury

	psychological injury claims were excluded)	<ul style="list-style-type: none"> • If higher risk input from health and workplace personnel with emphasis on RTW • Provision of psychological support for selected workers 	
Van Dongen et al. (2018)[7]	<p>Patients with Acquired Brain Injury (ABI), who received care in the Rijnlands Rehabilitation Centre, Leiden, the Netherlands. Other inclusion criteria:</p> <ul style="list-style-type: none"> • Non-progressive ABI, • Being employed before ABI, • Motivated to get back to work, and • Having an employer willing to participate in the VR program 	<ul style="list-style-type: none"> • Worker, family and a co-worker (a colleague close to the worker at their workplace) • A team of a multi-disciplinary team of rehabilitation specialists (e.g. occupational therapist, social worker, neuropsychologist and, where required, a speech therapist or physical therapist) • The employer • Coordination of services, meetings and communication among stakeholders (including workers, employers and rehabilitation specialised) were facilitated by Rijnlands Rehabilitation Centre 	<p>Immediately after the program</p> <ul style="list-style-type: none"> • Return to work rate: 86%, • Working hours: 60% of their former hours, <p>After 3-6 years:</p> <ul style="list-style-type: none"> • Return to work rate: 64%
Carrougner et al. (2017)[9]	<p>Burn survivors:</p> <ul style="list-style-type: none"> • Sustained an occupation-related burn injury, • Covered by the Washington State Department of Labour and Industries insurance program in the U.S. • Cared for at the University of Washington Medicine Regional Burn Center under the Occupational Health and Education program, • Evaluated by the University of Washington Medicine Regional Burn Center VR counsellor during their outpatient recovery period. 	<ul style="list-style-type: none"> • Education for worker/family member, • Support from physician to the workers on recovery and to provide their employers recommendations for work accommodations, and information concerning the injured worker's health status, • Education for employer, • Service and communication (among worker/family, their employer and physician) coordinated by VR counsellors 	<ul style="list-style-type: none"> • Return to work rate: 93.5%; • Average days from injury to RTW: 24 days; • Rate of not return to work: 6.5% (much less than 28% of burn survivors never returning to any form of employment.
Thompson et al. (2016)[10]	<ul style="list-style-type: none"> • Workers with work-related musculoskeletal injuries, • Covered by the Workplace Safety and Insurance in Ontario, Canada, • Not progressing in their recovery, • Not RTW, failed RTW or "stay at work" with ongoing recovery issues. 	<ul style="list-style-type: none"> • Education and health care support for worker • Education for employer • Health care providers (physician, allied health professionals, e.g. physiotherapist or chiropractor) • The Workplace Safety and Insurance Board • Work Capacity Liaison 	<ul style="list-style-type: none"> • The probability of being off LOE benefits for workers assessed in the new program was 33% greater than for workers assessed in the prior program
Jensen (2013)[11]	<ul style="list-style-type: none"> • public employees and privately employed cleaners on sick leave for more than 14 days due to musculoskeletal or common mental disorders in Elsinore city council district in Denmark 	<ul style="list-style-type: none"> • Clinic consultation: including relevant medical examination and a structured interview about work history, work demand, job difficulties, life habits, family and social history, financial and perceptions about RTW. • Co-operation between the VR team and the workers focusing on disability resolution, development of individually 	<ul style="list-style-type: none"> • At one-year follow-up, the RTW in the intervention group was 1.5 times 95% CI: 0.9-2.7) that of control group. • At two-year follow-up, the

		<p>tailored rehabilitation plan for further intervention, which could involve:</p> <ul style="list-style-type: none"> ○ Physical exercises in a local fitness centre, ○ Special ergonomic course at the workplace ○ Round table discussion at the workplace to coordinate and support commitment to plan for RTW, ○ Cognitive therapy at an occupational medicine clinic. <ul style="list-style-type: none"> • A social worker, responsible for collecting information, supporting communication and coordinating activities. 	<p>RTW in the intervention group was 1.9 times 95% CI: 1.1-3.4) that of control group.</p>
Everhardt et al. (2011)[16]	Employees on the sickness rolls 9 months after calling in sick, Netherlands	<ul style="list-style-type: none"> • Employer based vocational programs or VR programs by OHS agencies contracted by employers • Workplace adaptations, accommodation of working conditions and/or vocational training 	<ul style="list-style-type: none"> • 71% of the sample population have already partly resumed their work (10 months after reporting sick) • Early start with graded work resumption as a standard form critical
Livermore et al. (2011)[13]	<ul style="list-style-type: none"> • Disability beneficiaries in USA 	<ul style="list-style-type: none"> • Ticket to work program - beneficiaries get a ticket to obtain VR or other employment support services. • VR service providers receive incentives (payments) if participant achieve successful employment outcomes 	<ul style="list-style-type: none"> • 20% of TTW participants achieved employment success to a level that reduce disability benefits significantly • 40% achieved moderate employment success, and another 40% reported no change in status. • Significant change in health status, Improved employment and income stability for participants
Markussen et al. (2014)[21]	<ul style="list-style-type: none"> • 345,000 participants from temporary disability insurance (TDI) program in Norway 	<p>VR programs classified as 4 types:</p> <ul style="list-style-type: none"> • VR1: subsidized employment in regular firms, with or without individual support, • VR2: subsidized employment in sheltered firms, • VR3: regular education in schools/colleges/universities, and 	<ul style="list-style-type: none"> • Strategies with quick start by placement in regular labour market raise the employment propensity after the TDI spell, and

		<ul style="list-style-type: none"> VR4: targeted vocational training courses provided by the employment office. 	<p>entail significant labour earnings gains during treatment period</p> <ul style="list-style-type: none"> Strategies focusing on rapid transitions to regular education are successful in raising post treatment earnings and reducing the risk of admission to the permanent disability insurance
McLaren et al. (2017)[14]	<ul style="list-style-type: none"> Data from injured workers compensation claims data, California, USA 	<ul style="list-style-type: none"> Modified work tasks, Providing a modified workstation or modified equipment, Reduced time and work schedule changes, and providing a different job in the same firm 	<ul style="list-style-type: none"> Workers in a program return approximately 1.4 times sooner compared to workers injured at a firm without a program Modifying work equipment is associated with the greatest reductions in injury durations relative to other program components
Nazarov (2016)[15]	<ul style="list-style-type: none"> Supplemental Security Income /Social Security Disability Insurance beneficiaries who from 2003 to 2009 participated in the Vocational Rehabilitation programs in New York State 	<ul style="list-style-type: none"> Benefit counselling and work incentive services 	<ul style="list-style-type: none"> Benefit counselling and work incentive services increase the probability of competitive employment, weekly earnings, working hours and hourly wage rate Earnings and working hours of beneficiaries by \$42 and 3.3 hours per week, respectively

Overall policy implications:

- Multi-component, comprehensive VR programs seemed more able to integrate the differing perspectives of the various RTW stakeholders, including worker and employer, health care professionals, insurers and agencies managing supports/benefits for workers. The multi-component models provide avenues for facilitating cooperation and commitment to the goal of work-disability reduction.
- Vocational rehabilitation is more successful when implemented as a multi-component program (i.e. with healthcare provision, service coordination, and workplace accommodation) to help improve the health and work-related outcomes for workers/people with disability. Multi-component VR programs demonstrate improved and sustained work-reintegration, and reduce costs associated with work-related injury or illness.
- Vocational rehabilitation is not a matter of healthcare alone. It should be underpinned by all stakeholders' awareness of the value of work for health and recovery and therefore require their commitments to work together to address the health problem and work adjustment.
- Service coordination components play a critical role in keeping all stakeholders informed and a catalyst to keep them working together toward a common goal.

Appendix A: Rapid reviews methodology

<i>Best practice vocational programs/initiatives/support in the compensation systems, for both the injured worker and the employer</i>	
Review questions	<ol style="list-style-type: none"> 1. What is the current and emerging best practice for vocational programs/initiatives/support in the compensation systems? 2. What components do these best practice programs/initiatives/support cover? 3. What are the needs of the target groups they address? 4. What are the similarities/differences of the groups they target and who are the people that are most likely to benefit?
Study design	Rapid review
Search strategies	<p>Search sources included databases of health and rehabilitation literature:</p> <ol style="list-style-type: none"> 1. Medline: the U.S. National Library of Medicine® (NLM) premier database that contains more than 5,200 journals worldwide with a concentration on biomedicine. 2. EMBASE: a database of biomedical literature of more than 8,200 journals and grey literature. 3. CINAHL (the Cumulative Index to Nursing and Allied Health Literature): a database provides indexing more than 5300 nursing and allied health literature journals. 4. EconLit: an academic literature abstracting database service published by the American Economic Association.
Search terms	<ul style="list-style-type: none"> • Vocational rehabilitation • Rehabilitation research • Vocational guidance • Employment support • Return to work • Workers' compensation • Compensation
Population	<ul style="list-style-type: none"> • Adults • Compensation setting • Working prior to injury /illness
Inclusions/ exclusions	<ul style="list-style-type: none"> • English only • 2009 – 2019
Articles reviewed	<ul style="list-style-type: none"> • MedLine [3, 4, 7-9, 17, 18, 20-39] • EMBASE [40-49] • CINAHL [5, 10, 16, 50-56] • EconLit [11-14, 19, 57-63]

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