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Labor Force Reentry

Issues for Injured Service Members and Veterans

Karen Chan Osilla and Kristin R. Van Busum

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Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) have been referred to as the “wars of disabilities.” Since the initiation of OEF and OIF in 2001 and 2003, respectively, more than two million forces have been deployed to Iraq and Afghanistan, and many service members have returned with multiple physical injuries, including amputations, burns, and traumatic brain injury (TBI). Wounded service members with multiple injuries typically require specialized care (Sayer et al., 2009), and due to improvements in military medicine and equipment, more service members are surviving these complex injuries than in previous wars (Glasser, 2011). The most recent data from the DoD report that more than 47,000 OEF/OIF service members have been wounded in action (U.S. Department of Defense Press Resources, 2012). Hundreds of thousands more, nearly 25 percent of all who served in OEF/OIF, will be diagnosed upon returning home with other “invisible wounds,” such as degenerative vision, hearing impairments, posttraumatic stress disorder (PTSD), and brain injuries (Tanielian et al., 2008). Most of these service members experience multiple injuries that require several levels of care (Belmont et al., 2010; Sayer et al., 2009; Wade et al., 2007). As injuries become more prevalent, so do related economic and social costs to individuals and society, including direct medical costs, loss of earnings from employment, and rising disability payments (Adler et al., 2011; Heaton, Loughran, & Miller, 2011).

Young service members, who represent a large proportion of the military, are significantly affected by these injuries. In the surge phase of OIF, soldiers

from one brigade who were injured in combat had an average age of 27 (Belmont et al., 2010). The Naval Health Research Center found that the average age of those who had received head and neck injuries during OIF was 24, in a range of 18 to 48 (Wade et al., 2007). Another study found that the average age of combat-injured service members in an inpatient polytrauma rehabilitation center was 28 (Sayer et al., 2009).

Given that large numbers of injured troops are expected to return home over the next three years, the DoD and VA are in a unique and timely position to help rehabilitate wounded service members and veterans. For service members who remain in the military, the DoD offers community support, education, training programs, and educational information. For veterans who have separated or retired from the military, the VA provides vocational services via two organizational subdivisions within the VA: the Veterans Benefits Administration (VBA) and the Department of Veterans Healthcare Administration (VHA). The VBA—of which the Vocational Rehabilitation and Education (VR&E) Program is a subset—offers rehabilitative employment services, including assistive technology and medical referrals, to veterans with service-connected disabilities. The VHA offers rehabilitative employment services to veterans regardless of service connection, as well as medical care for eligible veterans. It is important to note, however, that not all veterans who separate from the military (e.g., persons with certain types of military discharges) are eligible for VA benefits.

There is a need for efforts to aid service members’ and veterans’ recovery, including policies and programs that focus on returning to work. *Return-to-work* is a broad concept that refers to job attainment and retention after a period of unemployment due to unforeseen circumstances. It can vary by military status and disability severity. For example, for an

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injured service member who has not separated from the military, return-to-work may mean allowing a shift in job responsibility to accommodate the injury, whereas return-to-work services for a veteran or reservist who has no current employment may focus on civilian job placement and accommodation.

In general, return-to-work programs and policies, such as vocational rehabilitation services, aim to help individuals with disabilities reintegrate into the workforce, thereby enhancing their physical and psychological recovery process, independence, and productivity (Bjorkdahl, 2010; Franche et al., 2005; Khan, Ng, & Turner-Stokes, 2009). Return-to-work programs vary, but the most thorough ones strive to match an individual's skills, interests, and capabilities with opportunities that provide gainful employment—i.e., positions paying at least minimum wage and that anyone can apply for, regardless of disability (Fang, 2011).

This paper provides an overview of existing return-to-work policies and programs for service members and veterans with service-related injuries. We conducted an initial review of the available literature on return-to-work resources, focusing specifically on policies and programs available for service members and veterans with physical injuries. Although our review emphasizes the young cohort of service members returning from OEF/OIF, we include both service members (including reservists) and veterans because resources tend to be universal and not focused on one particular cohort. We conclude the paper by discussing the implications of expanding or providing additional programs and policies for wounded warriors.

The remainder of this paper addresses four topics: the scope of the problem, return-to-work policies, return-to-work programs, and conclusions/future directions.

The Scope of the Problem: Injuries Among Military Personnel Returning from OEF/OIF and the Challenge of Returning to Work

What Types of Injuries and Related Consequences Are Service Members and Veterans Experiencing? The physical injuries received by service members and veterans from OEF/OIF differ from those of previous wars. Due to recent improvements in protective equipment and medical care, more than 90 percent of those wounded in OEF/OIF survive their injuries. In contrast, survival rates during World War II and the Vietnam War were around 70 to 75 percent (Gawande, 2004). However, these increased survival

rates also mean twice as many individuals in OEF/OIF require amputations than was the case in previous wars (Goldberg, 2010). Combat operations in Iraq and Afghanistan also have resulted in a higher proportion of head and neck wounds, which account for approximately one-third of all casualties (Belmont et al., 2010; Owens et al., 2008). Rates of TBI are double in OEF/OIF compared to previous wars. Between 2000 and 2011, the Defense and Veteran's Brain Injury Center reported more than 229,000 cases of TBI among OEF/OIF service members, of which more than 40,000 were classified as moderate to severe (Department of Defense, 2011). In addition, about 50 percent of combat-related injuries are musculoskeletal injuries, including extremity wounds (soft-tissue wounds and fractures) and orthopedic injuries (Belmont et al., 2010; Chambers et al., 2005; Owens et al., 2007; Patel et al., 2004; Peoples et al., 2005).

More service members in OEF/OIF are surviving combat and returning home with multiple injuries that require significant rehabilitation, and many service members are separating from the military because of these injuries. Nearly 80 percent of all injuries in OEF/OIF are related to blasts or explosions such as those caused by improvised explosive devices (IEDs) or roadside bombs (Belmont et al., 2010; Owens et al., 2008). These explosions often lead to polytrauma or traumatic injuries to several parts of the body, e.g., traumatic brain injury and severe burn (Sayer et al., 2009).

As injuries become more prevalent, so do related economic and social costs to individuals and society. Direct medical costs and indirect costs (e.g., lost labor productivity) from TBI injuries and other mental disorders (e.g., PTSD) are estimated to range from \$22 billion (Adler et al., 2011; Burnett-Zeigler et al., 2011; Fadyl & McPherson, 2009) to \$60 billion in the United States (Thornhill et al., 2000). Labor earnings of wounded service members are also grossly affected; those who returned from combat between 2001 and 2006 experienced in aggregate an earnings loss of \$556 million through 2010 (Heaton et al., 2011). More than \$2.3 billion in disability compensation have been issued by the DoD, the VA, and the Social Security Administration (SSA) to injured service members, including reservists, who deployed between 2001 and 2006; rates of compensation have sometimes exceeded 100 percent of an average service member's household earnings (Heaton et al., 2011). Other social costs of injuries include a decreased quality of life for wounded service members and their families. Spouses or children may reduce their employment to provide care for the wounded service

More service members in OEF/OIF are surviving combat and returning home with multiple injuries that require significant rehabilitation, and many service members are separating from the military because of these injuries.

member, or they may, out of necessity, seek additional employment to offset the family's losses (Heaton et al., 2011).

What Challenges Do Service Members and Veterans Face in Returning to Work?

Since the military represents the first work experience for many service members and veterans, many personnel returning from OEF/OIF may not have a history of employment. Upon returning home, many may separate from the military without being equipped to enter the civilian workforce, particularly if they have been injured. According to the Bureau of Labor Statistics, unemployment rates are typically higher for veterans with disabilities than for the general population and other non-military personnel with disabilities (U.S. Department of Labor, 2011).

Further, service members and veterans with disabilities are likely to encounter myriad barriers when returning to work. For those separating from the military, the transition to civilian life may be particularly difficult, and individuals may struggle to determine how their military experience translates to civilian job duties. They may feel overwhelmed by less-structured work environments—which also may lack necessary accommodations for their injuries—and they may be unaware of the types of vocational assistance available to them.

Service members and veterans who successfully access return-to-work resources may face other barriers that impede gainful employment, including an inefficient, uncoordinated, loose “patchwork” of services that significantly stalls the job-seeking and placement process (Vogel, 2011). For example, upon entering the civilian workplace, this population may encounter real or perceived stigmas regarding their disabilities (Vogel, 2011), as well as biased employers who do not hire individuals with disabilities (Ottomanelli & Lind, 2009). Further, external circumstances such as a sagging economy and few job openings for individuals with military specialties may also prevent gainful employment. These barriers can be daunting for job seekers, resulting in failure to return to work or to sustain employment over time.

Policies to Help Service Members and Veterans Return to Work

For those who are capable of working, returning to work after an injury is an important indicator of post-injury recovery. The scientific literature indicates that individuals with disabilities such as spinal cord injuries fare better in terms of life expectancy and quality of life when employed compared to those who

have disabilities and are unemployed (Ottomanelli & Lind, 2009).

Return-to-work resources are vast and vary in terms of the type and focus of services provided. In the discussion that follows, we first describe some federal employment policies relevant to helping service members and veterans with injuries and disabilities. We also provide examples of state programs, but do not incorporate them into our taxonomy of resources because we intend to focus primarily on broad-reaching programs at the federal level. Lastly, we discuss specific resources available to these individuals.

What Federal Employment Policies Support Return-to-Work?

American Jobs Act. In September 2011, President Barack Obama established specific measures in the American Jobs Act relevant to veterans, granting tax credits of up to \$5,600 to firms that hire unemployed veterans. The plan also includes a Wounded Warriors Tax Credit, which provides a separate tax credit of up to \$9,600 for businesses that hire veterans with service-related disabilities who have been unemployed for a minimum of six months, as well as additional tax incentives and specific legislation prohibiting firms from discriminating against all workers who have been unemployed for six months or longer, potentially providing additional protection for soldiers with disabilities (White House, 2011).

Rehabilitation Act. More generally, policies directed toward all persons with disabilities provide return-to-work guidance for injured persons. The Rehabilitation Act of 1973 was the first to prohibit discrimination in hiring individuals with disabilities by requiring all federal agencies or any organization receiving federal funds (e.g., universities) to increase equal opportunity initiatives. More specifically, Section 504 of the Rehabilitation Act requires all such agencies to maintain affirmative action plans, with the goal of hiring, placing, and assisting in the advancement of individuals with disabilities (U.S. Department of Justice, 2009).

Americans with Disabilities Act. The Americans with Disabilities Act (ADA), an extension of the Rehabilitation Act, was enacted in 1990 to prevent discrimination against persons with disabilities in *all* workplace environments beyond federal agencies. The ADA is enforced by the U.S. Equal Employment Opportunity Commission (EEOC) and is considered, to date, the most comprehensive civil rights legislation to protect people with disabilities from discrimination. Title I of the act requires all

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Policies involving strong financial incentives at the state level are prevalent and variable, but may help employees and employers with issues related to return-to-work.

employers, in both public and private sectors, to make “reasonable accommodations,” such as modifications or adjustments to jobs, work environments, or policies, to enable employees with disabilities to perform their jobs and to ensure that such persons have equal opportunity to participate in employment (U.S. Equal Employment Opportunity Commission, 2011). The EEOC also acts as a regulatory body by monitoring and providing quality assurance of federal organizations that hire workers with disabilities. The EEOC is responsible for investigating charges of discrimination against employees and evaluating federal agencies’ existing affirmative action programs. The Commission also provides outreach, training, and educational programs to employers and other relevant stakeholders to prevent discrimination before it occurs (U.S. Equal Employment Opportunity Commission, 2011).

What State-Level Employment Policies Support Return-to-Work?

There are a number of state-level policies that support return-to-work for individuals with disabilities. For example, with the passing of Senate Bill 228 in 2004, California adopted a tiered incentive system requiring employers to offer a 15-percent increase in benefits to workers with disabilities who are not offered to return-to-work, and a 15-percent decrease to those who are. The bill also offered a subsidy of up to \$2,500 for small businesses to use in accommodating workers with permanent disabilities or injuries (e.g., to help with physical modifications or to purchase equipment or devices). The state of Oregon in 2010 offered a wage subsidy to companies that hired workers with injuries or disabilities. Specifically, this program offered up to 50 percent of pre-injury wages for 66 days over a 24-month period to a company offering modified work to its injured workers (Seabury et al., 2011). Policies involving strong financial incentives at the state level are prevalent and variable, but may help employees and employers with issues related to return-to-work.

What Return-to-Work Resources Are in Place for Service Members and Veterans with Injuries and Disabilities?

We now provide a preliminary review of the available resources and evidence on return-to-work programs, with a specific focus on programs for service members and veterans who have physical injuries and disabilities. We first searched the peer-reviewed literature for outcome evaluations of return-to-work programs. Due to lack of publications on return-

to-work programs for this population, we identified programs by conducting a targeted web search of return-to-work programs, focusing primarily on government agency websites targeted to veterans and service members that either provide information about return-to-work programs or direct individuals to these services. To supplement our search, we held discussions with experts who were able to speak about programs, or who could direct us to online resources, when available, describing existing programs. Because the range of available programs is constantly changing, this search is a preliminary overview and is not representative of all the options available.

Approach for Categorizing Return-to-Work Resources and Programs. Resources to assist service members and veterans in returning to work differ in several ways. We have grouped resources and programs in three categories according to the level/type of support provided to service members and veterans: low intensity (e.g., link individuals to opportunities through extensive job and resource databases), medium intensity (e.g., provide pre-employment preparation through coaching, training, and rehabilitation programs), and high intensity (e.g., offer job placement and on-the-job coaching) programs. A number of programs offer both low- and medium-intensity services, and as such, are described in both categories. Table 1 summarizes the key distinctions among the types of programs discussed below.

These programs exist on a continuum and range from websites offering resume-building tips and other pre-employment assistance to supported employment programs with on-the-job training. A number of low-intensity resources are available to service members and veterans who have served in OEF and OIF, but few focus specifically on individuals with injuries or disabilities. On the other hand, there are higher-intensity return-to-work programs (e.g., supported employment) that are specific to injured service members and veterans available through VA hospitals. We will discuss each category of program in turn. Tables 2 through 4 summarize the low-, medium-, and high-intensity resources, respectively.

Low-Intensity Programs

We define low-intensity programs as those that encourage return-to-work through online resources or information. There are two subsets of low-intensity programs: employer-focused (e.g., providing information on how employers can make accommodations to the work environment) and military personnel-focused (e.g., websites on jobs for injured service members; See Table 2).

Table 1
Types of Return-to-Work Resources and Programs

Level of Intensity	Type of Services	Training Focus	Evidence Base
Low	Online resources or information	Pre-employment	No data available
Medium	Training, workplace accommodation, job placement or matching	Pre-employment	A small number of studies available
High	On-the-job training and coaching/ assistance	On-the-job	A small number of studies available

Resources for Employers. Agencies have developed online information portals to assist employers in accommodating individuals with disabilities. At least two employer resources are available for accommodating service members and veterans with disabilities. The America’s Heroes at Work project provides a comprehensive employer toolkit to assist in recruiting and retaining returning service members and veterans with disabilities, and helping them succeed in the workplace. Feds Hire Vets also provides information to managers and human resources staff on why it is important to hire veterans and how to hire veterans under various regulations.

There are several resources available to employers for hiring individuals with disabilities. Perhaps the best-known workplace accommodation information source is the Job Accommodation Network (JAN; askjan.org), which was created by the U.S. Department of Labor’s Office of Disability Employment Policy, and which provides extensive listings of accommodation ideas and legal advice for employers. JAN provides free one-on-one telephonic consultation services about accommodation solutions, compliance assistance, and updates on federal initiatives regarding disabilities. The Employer Assistance and Resource Network (EARN; askearn.org) offers similar informational resources as well as guidance to employers on recruiting and developing a workplace culture to support individuals with disabilities. Similar to JAN, EARN is not specific to military personnel, but there is a link specific to working with veterans that provides answers to commonly asked questions on managing and accommodating veterans with disabilities (e.g., what to do when you think a veteran has TBI). WorkSupport.com is an extensive online database that provides a vast collection of resources for employers about workplace support and intervention efforts for individuals with disabilities. The website contains materials such as fact sheets and manuals to assist employers in initiating workplace accommodation, alternative work arrangements, and

assistive technology services, with the goal of increasing job placement and improving retention for individuals with disabilities.

Online Resources for Service Members and Veterans. Most return-to-work programs link injured service members and veterans to opportunities through online job databases or portals that offer information and assistance throughout the employment process (see Table 2 for additional programs). Some resources connect veterans with federal employment opportunities; for example, DoD Veterans and Feds Hire Vets specifically match veterans with employment opportunities in, respectively, the DoD and other federal organizations. These sites provide information on work opportunities, instructions for applying, and criteria for the hiring process. Other resources compile job opportunities that might be suitable for veterans in civilian (nonmilitary-related) sectors. The Wounded Warrior Project (wounded-warriorproject.org) and Hire Heroes USA (hireheroesusa.org) have developed extensive job databases with postings by prescreened employers, that allow veterans to search for jobs by industry and location. Finally, sites such as the National Resource Directory and VETs provide more general employment support by cataloging links to employment resources, such as interviewing tips and information about disability employment rights, education and training programs, and occupational training programs.

The majority of programs are broadly based and not specific to a particular type of injury, but some programs target particularly at-risk populations. For example, Able Forces (ableforces.org) provides information about employment opportunities to veterans with severe physical disabilities, PTSD and mild to severe TBI.

Evidence on Effectiveness of Low-Intensity Programs. To date, no publicly available data exist on the effectiveness of these low-intensity programs. However, because these are resources requiring self-initiated access, these programs may help individuals

The majority of programs are broadly based and not specific to a particular type of injury, but some programs target particularly at-risk populations.

Table 2
Summary of Low-Intensity¹ Programs

Program Name	Services	Types of Assistance
AbilityOne	Provides employment opportunities for people who are blind or have other severe disabilities. http://www.abilityone.org	Link to opportunities, job placement and matching
Able Forces	Provides employment opportunities and community-based job preparation training to returning service members suffering from severe physical disabilities and psychological disorders. http://www.ableforces.org/	Link to opportunities, job placement and matching
Air Force Wounded Warrior HART Program ²	Assists wounded airmen with employment placement or employment counseling. http://www.af.mil/news/story.asp?id=123046952	Link to opportunities, job preparation
America's Heroes at Work	Provides information and tool kits to employers hiring veterans with TBI or PTSD. http://www.americasheroesatwork.gov/	Link to resources for employers
DoDVets	Provides general career information for veterans with disabilities who are looking for opportunities at the Department of Defense. Includes federal employment information, Q&As for veterans and managers, internships, and education and training programs. http://www.dodvets.com/	Link to opportunities
EARN	Provides information for employers seeking to recruit and hire employees with disabilities. http://www.askearn.org/index.cfm	Link to resources for employers
Entrepreneurship Bootcamp	Offers experiential training in entrepreneurship and small-business management to soldiers, sailors, airmen, and Marines with disabilities. http://whitman.syr.edu/ebv/	Job preparation
Feds Hire Vets	Provides training information and resources for federal agencies looking to hire service members and veterans. http://www.fedshirevets.gov/Index.aspx	Link to resources for employers
Hire Heroes USA	Provides links to career opportunities nationwide for returning service members, specifically those who have been wounded or with any level of disability. http://www.hireheroesusa.org/	Link to opportunities, job placement and matching
JAN	Provides employers with informational assistance on workplace accommodations and the Americans with Disabilities Act. http://askjan.org/	Link to resources for employers
National Resource Directory	Provides access to services and resources that support employment. https://www.nationalresourcedirectory.gov/	Link to opportunities
Project VisAbility	Provides jobs in the areas of health and fitness to returning service members with physical challenges or disabilities. http://www.projectvisability.org/	Job training, job placement and matching
VETS	Provides information and resources about employment opportunities and employment rights for individuals with disabilities. http://www.dol.gov/vets/	Link to opportunities
VetSuccess	Offers services such as helping build job-seeking skills, resume development, and assistance finding and keeping a job. http://www.vba.va.gov	Link to opportunities, job preparation, job placement and matching
WorkSupport	Provides links to reports, manuals, and resources to accommodate employees with disabilities. http://www.worksupport.com/	Link to resources for employers
Wounded Transition Command	Matches injured warriors with case managers to build personalized work plans and provide job skills training. http://wtc.army.mil/about_us/eei.html	Job preparation
Wounded Warrior Project	Offers higher-education programs, information technology training, and employment assistance services; an extensive employment database is currently under development. http://www.woundedwarriorproject.org/	Link to opportunities, job placement and matching

¹ Not all programs listed in Table 2 are described in the text. ² Helping Airmen Recover Together.

who are more motivated and willing to take the steps necessary to return to work. Barriers that discourage service members and veterans from using these resources include minimal computer access or computer illiteracy, lack of up-to-date information on job openings and training opportunities on existing websites, unclear information, and ineffective messages to motivate individuals to follow through with the resources offered. Service members and veterans may not know how to sort through available information, may not receive helpful guidance, or may not trust the resources available.

Medium-Intensity Programs

We define medium-intensity programs as those that focus on pre-employment training, workplace accommodation, and job placement or matching, but that offer little or no monitoring once an individual is employed. These programs are designed to provide injured service members and veterans with training and equipment to be competitive and to identify jobs that meet their skill sets and expertise. Some medium-intensity programs also offer job matching and placement. We discuss three types of resources below: job preparation, workplace accommodation, and job placement and matching.

Job Preparation. Job preparation programs help service members and veterans prepare to obtain and keep employment, focusing on the transitional pre-employment period and offering little or no assistance to individuals once placed in a job.

Warrior Transition Units assist injured service members who require a minimum of six months of rehabilitation and medical care. Individuals are matched with case managers within the unit who develop a comprehensive transition plan, including specific goals for maintaining employment either through active duty or by reentering the civilian work force. The Army Wounded Warrior Program is a type of Warrior Transition Unit that extends additional career support to severely wounded soldiers through job fairs, relationship building with employers, and resume and interview assistance. A similar program is the Entrepreneurial Bootcamp for Veterans with Disabilities (whitman.syr.edu/ebv), which offers experiential training, but is specifically designed to train wounded veterans in entrepreneurship and small-business management.

Most job coaching and training programs are offered to veterans and returning service members from any war, with any level of disability, though some programs, such as the Entrepreneurial Bootcamp for Veterans with Disabilities and Army Wounded

Warrior Program, offer services specifically to service members with injuries who served in OEF/OIF.

Workplace Accommodation. Accommodation services typically address physical and workflow adjustments, assistance from coaches or translators, and access to assistive technology, all of which aim to sustain success once service members or veterans have been placed in a job. For example, in 1990, the Secretary of Defense for Personnel and Readiness established the Computer/Electronic Accommodations Program (CAP) with the goal of providing workplace accommodations for disabled employees within the DoD. Currently, CAP has expanded and provides assistive technology equipment and support services to employees with disabilities at more than 65 federal agencies, with increased attention to veterans and military service members. In 2008, CAP provided more than 4,600 injured service members with assistance services, equipment, and training to improve their marketability for employment (Partnership for Public Service & Washington Post, 2009). The program matches each injured employee with a rehabilitation counselor, who conducts a personalized needs assessment to determine which equipment would be appropriate for the injuries. Ongoing training is provided on how to use the equipment at the job site. Often, several types of assistive technologies are integrated to meet the unique needs of individuals with multiple injuries. Thus, the matching of assistive technology to the individual is a highly individualized process.

Examples of common accommodation services, including physical and workflow modification and personal assistant services and equipment, are listed in Table 3. Common worksite accommodation adjustments among workers with disabilities include environmental modifications, such as specially designed workstations and elevators, and modified work arrangements, such as more breaks in schedule (Loprest & Maag, 2001).

Several types of assistive technology equipment are available to support individuals with physical injuries and are typically covered under an individual's disability benefits. Individuals with visual impairments may benefit from speech recognition software, personal digital assistants (PDAs), magnification devices, and scanners. Individuals with hearing impairments or communication disorders can utilize speech recognition software, voice amplifiers, or word prediction software to aid in written and verbal communication. Individuals with TBI or other cognitive deficits may benefit from reducing distractions that interfere with work productivity. For example, productivity may be

Barriers that discourage service members and veterans from using these resources include minimal computer access or computer illiteracy, lack of up-to-date information on job openings and training opportunities on existing websites, unclear information, and ineffective messages to motivate individuals to follow through with the resources offered.

Table 3
Summary of Medium-Intensity Workplace Accommodations

Physical Accommodations
Elevators ¹
Specially designed workstations ¹
Display of external memory aids or reminders ^{2,3}
Workflow Adjustments
Increased number of breaks ⁴
Reassign nonessential tasks to others ⁴
Task management ³ (e.g., reduce multitasking)
Reduce distractions ³ (e.g., reduce external noise)
Personal Assistance⁴
Sign language interpreters
Job coaches
Service animals
Technology Assistance Equipment³
Blindness or Visual Impairment
Braille displays
Large print keyboards
Visual assistance devices (screen readers, magnification devices)
Cognitive Disabilities
Educational software
Speech recognition software
Portable devices (voice recorders, note takers)
Headset and microphones
Communication, Deafness, or Hardness of Hearing
Speech recognition software
Word prediction software
Voice amplifiers
Dexterity
Ergonomic adjustments (monitor riser, keyboard trays)
Speech recognition software
Lumbar support
¹ http://aspe.hhs.gov/daltcp/reports/barriers.htm
² Mateer & Sira, 2006
³ http://cap.mil/Solutions/Index.aspx
⁴ http://laborcenter.berkeley.edu/homecare/pdf/stoddard_02.pdf

Several programs provide job placement for veterans with service-related disabilities.

enhanced through sustained attention activities such as filing and answering phones (rather than multitasking between activities), or by use of ear plugs or placement in quiet work areas to reduce exposure to background noise (Mateer & Sira, 2006). Technological equipment such as cueing devices, memory aids, or assistive listening devices to improve auditory attention can also assist individuals with cognitive deficits.

Job Placement and Matching. Several programs provide job placement for veterans with

service-related disabilities. Some programs, such as Hire Heroes USA (hireheroesusa.org) and Veterans Employment Coordination Service (VECS), assess candidates' unique skill sets and translate their military skills into jobs that fit their interests and capabilities. Similarly, Project VisAbility connects injured veterans who have an interest in physical fitness to potential careers related to health and fitness (projectvisability.org). The Wounded Warrior Project allows service members with disabilities to connect with

volunteer counselors and career mentors who match them with suitable employers.

Most programs offer return-to-work services to service members and veterans with any type of disability, although some programs focus on meeting the needs of veterans with severe disabilities. Able Forces (ableforces.org) focuses primarily on return-to-work services for veterans or service members with severe service-related injuries. Additionally, VetSuccess assists veterans with severe disabilities who are unable to work in the near term by providing them with resources, training, and support for living independently until they are able to seek employment.

Evidence on Effectiveness of Medium-Intensity Programs. There is little research evaluating the effectiveness of medium-intensity programs. One case study evaluated the Wounded Warrior Program and found that a single point of contact with a mentor or counselor was key to coordinating information and reducing conflicting advice from multiple providers (Hudak et al., 2009). Warrior Transition Units are being highly utilized by service members returning home with disabilities. These units aim to transition service members back to the military or civilian life, but more research is needed to understand how many actually reach these goals and the extent to which these goals are inclusive of return-to-work. With increased utilization of these services expected as injured troops return home, it is essential to better understand how effective these programs are in efficiently returning service members and veterans to gainful employment and promoting long-term job retention. No research has evaluated the effectiveness of assistive technology on return-to-work outcomes. However, one study found that individuals with the most severe physical injuries were more likely to receive accommodations compared to individuals with other types of disabilities, including hearing impairment or other mental health problems (Zwerling et al., 2003). Thus, individuals with less-visible injuries might be at a disadvantage if they do not receive the appropriate assistance to perform necessary job duties. It is important to better understand the impact of assistive technology for individuals with disabilities on work outcomes such as the likelihood of job attainment, productivity, and job satisfaction. Technology has rapidly changed in recent years, offering innovative strategies that allow individuals with disabilities to be productive. However, it is unclear how often these resources are utilized and how effective they are with regard to return-to-work outcomes.

High-Intensity Programs

We define high-intensity programs as those that offer *on-the-job training and assistance*, in contrast to programs that focus only on pre-employment training. In general, supported employment programs are the most studied type of high-intensity program providing on-the-job training and support. We describe this type of program in more detail below.

Supported Employment Programs. Supported employment programs provide long-term resources to individuals who would otherwise be unlikely to succeed in the work environment due to disability (Fadyl & McPherson, 2009; Wehman et al., 1993). Definitions of these programs vary, but high-intensity supported programs de-emphasize lengthy pre-employment training and instead focus on rapid competitive job placement, long-term on-the-job support, and coordination between the individual's rehabilitation and medical teams (Ottomanelli et al., 2012). Individuals are placed in a competitive job that matches their skills, interests, and capabilities. While on the job, individuals are matched with a job coach, who provides individualized training at the worksite until competency is reached and who subsequently provides long-term (sometimes indefinite) performance monitoring based on individual needs (Fadyl & McPherson, 2009; Wehman et al., 1993).

Robust evaluations of supported employment programs have been conducted mostly among individuals with severe mental illness—e.g., schizophrenia (Bond, Drake, & Becker, 2008; Burns et al., 2007; Campbell, Bond, & Drake, 2011; Drake & Bond, 2008; Guerin et al., 2006). For moderate to severe TBI, the Virginia Commonwealth University's Rehabilitation Research and Training Center offers a university-based supported employment program that is not specific to service members or veterans, but is reserved for individuals with severe disabilities who would not be able to secure gainful employment without ongoing job support; it provides permanent assistance through vocational intervention, on-the-job training and neuropsychological assessments, and behavioral modification (Wehman et al., 1993). Individuals are matched with employment specialists who provide assistance with job development, placement, and retention. Typically, assistance decreases over time in response to the individual's needs.

Supported employment for those with spinal cord injuries is now available at various VA Medical Centers through referrals to compensated work therapy programs. A research study evaluated the Spinal Cord Injury Vocational Integration Program, which provides services to veterans receiving care or rehabilitation

With increased utilization of these services expected as injured troops return home, it is essential to better understand how effective these programs are in efficiently returning service members and veterans to gainful employment and promoting long-term job retention.

There are few rigorous studies concerning supported employment for individuals with physical injuries. Thus, we draw on the available literature concerning cognitive disabilities and spinal cord injuries.

for spinal cord injuries at several VA Medical Centers (Ottomanelli et al., 2009; 2012). This program is similar to other supported employment programs in its emphasis on quick job placement, but focuses specifically on the integration of employment services with medical rehabilitation services. A vocational rehabilitation counselor is integrated within the veteran's health care team and works with the veteran to help him or her obtain gainful employment as quickly as possible. Thereafter, ongoing support, additional community-based resources outside the medical setting, and personalized benefits counseling are provided (Ottomanelli et al., 2009). This study is among the first to implement and evaluate a supported employment program for spinal cord injuries among veterans.

Veterans Employment Services Office. The Veterans Employment Services Office (VESO) is another high-intensity program that focuses on recruiting, hiring, and retaining severely injured veterans who served in OEF/OIF and are employed by the VA. VESOs have support centers at several VA facilities that assist veterans with disabilities by offering case management, ongoing training and development opportunities, and support through reintegration (U.S. Department of Veterans Affairs, 2011).

Evidence of High-Intensity Program Effectiveness. There are few rigorous studies concerning supported employment for individuals with physical injuries. Thus, we draw on the available literature concerning cognitive disabilities and spinal cord injuries. For example, Fadyl and McPherson (2009) conducted a review of vocational rehabilitation programs for TBI

and found weak evidence to support employment-improved job retention. However, Wehman and colleagues (2003) found that 59 individuals receiving supported employment had an average length of employment of about four years and earned about \$17,500 more than the costs associated with the supported employment services they received. This study did not have a comparison group, making it difficult to determine whether the results were specifically attributed to the program or some other characteristic such as selection bias. For example, individuals with greater motivation may enroll in a program, making it difficult to discern whether findings were due to the program itself or the personal characteristics of the individuals enrolled. Of the six studies reviewed in Fadyl and MacPherson (2009), four were led by Wehman and colleagues (2003), while another study had a poor research design and yet another involved a secondary data analysis of a publicly funded supported employment program. In this latter study (Gamble & Moore, 2003), individuals who received supported employment and vocational rehabilitation were more likely to gain competitive employment, but were less likely to work longer hours and have increased earnings compared to individuals who received only vocational rehabilitation. Wehman's research involving a university-based program has shown some positive effects, while studies evaluating supported employment in a public setting do not. Finally, a recent study examining supported employment among individuals with spinal cord injuries found that veterans receiving supported employment

**Table 4
Summary of High-Intensity Workplace Accommodations**

<i>High-Intensity Programs</i>		
Program Name	Services	Types of Assistance
Compensated Work Therapy	Supports employment with emphasis on integration between employment services and medical rehabilitation services. http://www.cwt.va.gov/veterans.asp	Supported employment
Veterans Employment Services Office (VESO)	Offers services employment counseling and VA job search strategies for veterans, particularly those who are severely injured and returning from OEF/OIF. Provides on-the-job case management and ongoing training and development opportunities. http://vaforvets.va.gov/sites/veso/	Link to opportunities, job preparation, job placement and matching, supported employment
Virginia Commonwealth University's Rehabilitation Research and Training Center	Offers permanent assistance through vocational intervention, on-the-job training, neuropsychological assessments, and behavioral modification. http://worksupport.com/	Supported employment

were anywhere from two to 11 times more likely to obtain competitive employment within a year than were veterans at treatment-as-usual sites (Ottomanelli et al., 2012). Limited research has examined supported employment with physical injuries, and it is important to note that these programs are resource-intensive and challenging to implement effectively in publicly funded settings (Resnick & Rosenheck, 2007).

Future Directions

Below we discuss the four most common challenges facing return-to-work programs for injured service members and veterans that should be taken into account when considering programmatic changes and future research. It should be kept in mind that the lack of an evidence base for return-to-work programs and policies severely limits the conclusions we can draw.

Financial Incentives May Affect the Success of Return-to-Work Outcomes

Disability payments may affect the likelihood of returning to work. While it is unclear whether payments directly deter individuals from seeking employment, they might have an impact in certain cases. For example, in a study of a national VA sample, Greenberg and Rosenheck (2007) found that veterans paid more than \$800 a month were less likely to be employed than those who received smaller payments, and this negative association was greater among veterans with mental health conditions. While the authors note that \$800 a month is fairly high and less common in this population, other studies have also found a negative association between payment and returning to work. Among applicants to the Social Security Disability Insurance (SSDI) program, individuals with relatively less severe impairments were up to 60 percentage points less likely to seek employment if they received disability compensation than were those whose applications were denied (Maestas, Mullen, & Strand, 2011). Clearly, more research is needed on the impact of current disability payments provided to service members and veterans and the role these payments play in return-to-work outcomes.

It Is Unclear Which Types of Programs Are Most Essential

There is little literature focusing on how intensive return-to-work services should be and which types of programs are most effective in aiding service members and veterans in obtaining gainful employment and sustaining long-term job retention. We found more low- and medium-intensity resources than

high-intensity resources and, as more individuals return with polytrauma and complex injuries, it is important to understand whether existing resources are sufficient for these conditions (e.g., whether more high-intensity options are needed). The level of intensity needed by the individual is likely to depend on several factors, including type of injury, individual characteristics, and familial and social support. For example, individuals with less-severe injuries, more prior job experience, and more motivation to return to work may benefit most from low-intensity resources, while those requiring more rehabilitation or intensive training may benefit most from high-intensity resources. Individuals who are young and lack job experience may benefit most from medium-intensity resources that train them on foundational job-seeking and interviewing skills, and/or on the use of assistive technology. Finally, programs also differ in terms of the level of exposure they provide to other service members and veterans. For example, it may be easier for service members to meet other wounded service members and veterans in the context of Wounded Warrior Programs and this exposure may promote or hinder return-to-work efforts. If the norm in these units is to increase the productivity of these individuals, this may motivate the return-to-work process. On the other hand, if the culture at these units does not encourage return-to-work, these programs may have an iatrogenic effect and discourage productive outcomes.

Existing Programs Are Poorly Coordinated

We have identified several policies and programs that assist the return-to-work process for service members and veterans. However, there is a lack of coordination within and between agencies, which has been identified as a significant problem affecting individuals in need of assistance. Critiques have emerged about the poor coordination among existing programs (U.S. Government Accountability Office, 2011; Vogel, 2011; Weinick et al., 2011; Zoroya, 2011), which typically do not link an individual's health care needs to vocational services. This disconnect may result in the lack of an optimal recovery for the individual, may lead to duplicated efforts, and may send conflicting messages to the individual. Further, interested individuals who want to seek return-to-work services may be overwhelmed by the myriad programs available. In our review of programs, many websites did not provide clear descriptions of the services offered or how to access them. When calling to clarify the nature of some programs, we found that some call operators could not explain information posted on their

We found more low- and medium-intensity resources than high-intensity resources and, as more individuals return with polytrauma and complex injuries, it is important to understand whether existing resources are sufficient for these conditions.

program's website, making it difficult for us to understand the services available. Thus, more coordination is essential within and between agencies to streamline the information and services individuals receive.

There Are Barriers to Improving Outcomes for Employed Individuals

Since assistive technology is usually paid for by an individual's disability benefits, employers may lack an incentive to provide resources to support the individual's career trajectory (e.g., providing disability accommodations for individuals who want to attend training or become eligible for promotion). Thus, employers may contribute to an individual's poorer employment outcomes over time, and the work environment may pose a barrier to an individual's success once employed.

A 2008 EEOC study found employers noted that workplace culture is a frequent barrier to implementing assistance programs for individuals with disabilities. For example, employers often lack commitment to hiring individuals with disabilities and or have negative attitudes about the practice (e.g., due to concern that injured employees perform more poorly than non-injured employees). In addition, it can be difficult to improve employment outcomes for individuals with disabilities due to employer lack of knowledge and non-tailored training for employees with disabilities (U.S. Equal Employment Opportunity Commission, 2008).

While employers play a large role in the individual's employment success, the responsibility for long-term job retention and career success ultimately lies with the individual's motivation to seek the resources needed to succeed. Individuals who need equipment or other accommodations to succeed at work may feel stigmatized about using assistive technology, and this barrier may challenge the implementation of accommodation programs.

Future Research

More research is needed to better understand the essential components of return-to-work programs. Evaluations of the programs discussed in this paper lack scientific rigor, and very few studies have focused specifically on the wounded who served in OEF/OIF, who, because of their age, education level, and types of injuries, may have very unique needs. In addition, vocational rehabilitation is defined broadly in the literature, and services are very heterogeneous and uncoordinated (Hart et al., 2006), making it difficult to understand what services and what level of intensity should be considered "best practice." Efforts to evaluate best practices, methods to improve

coordination of these efforts, and ways to streamline existing return-to-work programs are necessary. Insights might be available from state-level policies that could be implemented at the federal level. For example, the Disabled Veteran Business Enterprise Program requires the State of California to award at least 3 percent of its annual contract dollars to independently owned enterprises controlled by veterans with disabilities (California Department of Veterans Affairs, 1989).

In addition, an examination of the barriers to coordination among organizations would help identify the types of barriers needing to be addressed. For example, a lack of available information about potential partner organizations might pose a barrier to coordination. While lack of coordination is likely to be a problem both for current service members and for veterans, it would be helpful to understand whether more or less coordination exists within the DoD compared to the VA and what factors contribute to the success of one organization or the other. Finally, future research may examine how caregivers influence return-to-work efforts for service members and veterans, a topic not explored in this document. It is possible that programs and policies to support service members and veterans will be effective only if these programs also support the member's or veteran's families and friends.

Randomized control trials of return-to-work programs are needed. Studies that do not use randomized designs typically suffer from selection bias because the service members who are highly motivated (and who might have a relatively lesser need for resources) may be more likely to participate in return-to-work programs. For example, a study focusing on the VA may be evaluating a population that differs from the general population of service members. Individuals in the VA are likely to be older and have more disabilities, and are less likely to be employed, than the general population (Zivin et al., 2011). Thus, studies are needed that generalize to injured service members and veterans, and programs are needed for those who ordinarily would not access them (e.g., rural areas).

Studies evaluating the cost-effectiveness of return-to-work resources are needed. A large number of service members and veterans with multiple and severe injuries are likely going to require long-term, specialized, and expensive care. Cost-analysis studies might evaluate whether program intensity outweighs implementation costs, whether positive work outcomes lead to decreased medical and societal costs, and whether programs affect psychosocial outcomes such as quality of life and well-being.

While employers play a large role in the individual's employment success, the responsibility for long-term job retention and career success ultimately lies with the individual's motivation to seek the resources needed to succeed.

Studies are also needed to evaluate the effectiveness of resources for different injuries. The effectiveness of return-to-work programs may vary considerably by type of physical injury. For example, cognitive vocational rehabilitation programs may be effective for TBI, but not for individuals with limb amputations. Thus, studies need to account for the range of potential injuries and the types of resources most appropriate to each.

Conclusions

The DoD and the VA have been and will continue to be held accountable for the successful reintegration of service members and veterans who have been injured while serving. The new generation of wounded warriors is young and may lack the work experience and skill set to successfully obtain gainful employment that is important to their recovery and to a stable workforce. The DoD and VA are in a unique role to help these individuals navigate the transition back to work. For example, these organizations may encourage service members and veterans to return to school as a step toward securing long-term gainful employment. In addition, the DoD or VA might sponsor specific skill-building (e.g., interview strategies) and rehabilitation services that may help service members and veterans secure employment.

Regardless of the path selected, it is important that the DoD and VA intervene so that injured warriors experience fewer long-term emotional, occupational, and physical consequences that are so common of war injuries (Morin, 2011). While several programs exist to help warriors return to work, little research has assessed their effectiveness. We recommend that, instead of focusing on developing more programs, the DoD and the VA seek to build the evidence base concerning return-to-work programs, in order to understand which programs are most effective, which provide a return on investment, and what strategies are needed to encourage service members and veterans to utilize them. Programs supported by the evidence should be financially supported and widely disseminated.

Injured military personnel are returning from OEF/OIF with multiple injuries and are surviving them at rates higher than ever before. These rates present a unique challenge to the country, especially given that large numbers of the wounded warriors are young, and thus face challenges in returning to work. ■

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The DoD and the VA have been and will continue to be held accountable for the successful reintegration of service members and veterans who have been injured while serving.

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