

4. A Community-Focused Health & Work Service (HWS)

Jennifer Christian, Thomas Wickizer, and A. Kim Burton

INTRODUCTION

Science is now confirming what the Greek physician Galen wrote in AD 172: “Employment is nature's physician, and is essential to human happiness.” Recent reviews of the evidence are documenting how work promotes positive physical, mental, family, and social wellbeing for all of us, including those with chronic health conditions (Waddell and Burton 2006)—and how worklessness does the opposite (Waddell and Burton 2006; Strully 2009). Thus, in addition to supporting entry into employment of people with longstanding disabilities, a major focus of public policy should be to help working-age people with health problems keep their jobs or promptly find new ones.

We recommend establishment of a community-focused Health & Work Service (HWS) dedicated to responding rapidly to new health-related work absence among working people due to potentially disabling conditions. The first few days and weeks after onset are an especially critical period during which the likelihood of a good long-term outcome is being influenced, either favorably or unfavorably, by some simple things that either do or do not happen during that interval (Bowling 2000; Cornelius et al. 2011; Franklin et al. 2013; Loisel and Anema 2013; Nicholas et al. 2011; Shaw et al. 2013; Waddell and Burton 2004; Waddell, Burton, and Main 2001). It is the optimal window of opportunity to improve outcomes by simultaneously attending to the worker's basic needs and concerns (Shaw et al. 2013) as well as coordinating the medical, functional restoration, and occupational aspects of the situation in a coordinated fashion (Wickizer et al. 2011).

The best opportunity for basic intervention appears to last about 12 weeks or three months (DeWitt 1995; Franklin et al. 2013; Hashemi et al. 1997; Johnson and Fry 2002; Loisel and Anema 2013; Turner et al. 2008) although some data shows it ending by 6 months (Rumack 1987; Waddell and Burton 2004). A modest set of simple services—that embody an immediate, systematic, pro-active, integrated, and multidimensional approach—can mitigate the potentially destructive impact of common injuries, illnesses, and chronic conditions on quality of life among the working population (Burton et al. 2013; Hill et al. 2010; Iles, Wyatt, and Pransky 2012; Kendall et al. 2009; Lagerveld et al. 2012; Loisel and Anema 2013; McLaren, Reville, and Seabury 2010; Mitchell 2012; Nicholas et al. 2011; Shaw et al. 2013; Sullivan et al. 2005; Turner et al. 2008; Waddell and Burton 2004; Wickizer et al. 2011).

This new approach will allow people to avoid the kind of adverse secondary consequences of medical conditions that they too often experience today (Institute of Medicine 2001; Dartmouth 2008; Franklin and Mueller 2015). Those consequences are not usually obvious until months or years later, after unfortunate things have happened. The unlucky ones have received sub-optimal health care, been left with undertreated or iatrogenic impairment, become dependent on opioids, found themselves socially isolated, lost their jobs, withdrawn from the workforce, lost economic independence, and ended up on long-term disability benefits programs or SSDI in order to survive (Darlow 2011; Franklin et al. 2008; Franklin et al. 2014; Franklin and Mueller 2015; Habeck, Hunt, and VanTol 1998; Nguyen et al.

2011). Anticipatory programs that ensure the right things happen from the start and include early identification of those needing extra support are the simplest and most effective way to prevent later adverse secondary consequences of these conditions.

We envision the HWS building strong collaborative relationships with referral sources in local communities: treating physicians, employers, and benefits payers. We predict that service delivery in individual cases can be largely telephonic and internet-based because these technologies are proving to be as or more effective than face-to-face care delivery (*Burton 2013*). The quadruple goal is to maximize service quality, optimize outcomes, minimize logistical challenges, and control costs. After a series of steps including design, prototyping, development, and field-testing in different geographies, followed by a large randomized controlled trial, the HWS can gradually roll out across large geographic areas.

The HWS will provide services that are generally not available today, particularly to lower-wage workers and those who work for small firms. It will: (a) get referrals from affected individuals, local treating physicians, employers, benefits payers and others when work absence has lasted or is expected to last more than four weeks; (b) champion the stay-at-work and return-to-work (SAW/RTW) process from the time of referral through the end of the immediate response period (usually 12 weeks post onset); (c) quickly evaluate the individual's situation, screen for known risks for poor outcomes, help them make a SAW/RTW plan and support them in carrying it out; (d) facilitate communications among all involved parties as needed to get everyone on the same page and driving towards the best possible outcome.; (e) expedite and coordinate external medical, rehabilitative and other kinds of helping services, including referrals for specialized services as needed to address remediable obstacles in a variety of life domains; (f) take a problem-solving approach with affected individuals , treating physicians, employers, and payers.

Key Distinctions:

Readers should be aware of several critical distinctions that are important to understand in reading this paper—and some similar-sounding terms with quite different meanings.

- **Disability vs. Work Disability**

According to the ADA, *disabilities* are impairments affecting major life functions (such as work). In the world of employment and commercial insurance, *work disability* is absence from or lack of work attributed to a health condition. Having a disability need not result in work disability, a core concept embodied in the Americans with Disabilities Act, and the main theme of this paper. Similarly, having symptoms or a diagnosis need not (and usually does not) result in work disability.

- **Medical Recovery vs. Functional Restoration**

Medical recovery refers to the resolution (disappearance or remission) of the underlying pathological process. *Functional restoration* refers to reestablishing the usual rhythm of participation in everyday life including the ability to go about one's regular daily business: performing necessary tasks and enjoyable activities at home and work, and participating fully in society. Functional restoration does not necessarily require medical recovery. It can be achieved

through rehabilitation (broadly defined), and can include the successful use of assistive technology, adaptive equipment, and/or reasonable accommodation in the workplace.

- **Early Intervention vs. Immediate Response**

To our knowledge, the triggering event for HWS is different in kind than all prior SSA projects. The need for *immediate response* by HWS begins the first day the affected individual stays home from work or admits to difficulty working due to a health problem – because that starts the period of life disruption and uncertainty. We expect the HWS will usually get involved within the first few days and up to six or eight weeks after onset at the latest. This triggering event (and timeline) is different than the *early intervention* used in most Social Security-related proposals and programs. In general, those programs have used some interaction with SSA as the triggering event, which usually mean about six months after work disability onset. In that setting, the intervention looked “early” from in SSA’s eyes, not the affected individual’s.

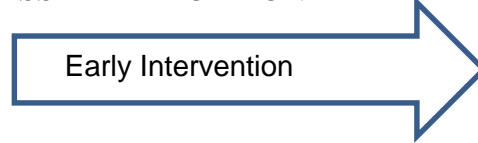
TIMELINE

Day 1 Week 1, 2, 3, 4, 5, 6, 7, 8, 9,10,11, 12 Month 4 Month 5 Month 6 Month 7, 8, 9, 10....

WORK DISRUPTION BEGINS



SSDI APPLICATION FILED



THE PROBLEM

The Committee for a Responsible Federal Budget (CRFB) initiative of which this proposal is part is being conducted because growing numbers of Americans are withdrawing permanently from the labor force for health reasons (Autor 2011). Since they were able to work before and now are not, something has changed: most often a newly acquired impairment but sometimes a worsening of a longstanding one.

Opportunity: Help People Avoid Adverse Consequences of Common Health Problems

Our proposal is especially designed to respond to the large and growing fraction of SSDI awards being made to people deemed totally unable to work due to conditions that are among the most common health problems in America and the world, but which only rarely cause permanent withdrawal from the workforce. Low back pain and other chronic musculoskeletal conditions (MSK), and common mood disorders (CMD) —particularly depression and anxiety—are the most prominent conditions in this category.

One might assume that the people on SSDI due to these common health problems have the worst (most severe) form of their particular MSK or CMD from a biological/pathological perspective, and that nothing could have prevented their entry into SSDI. While undoubtedly true in many cases, the evidence underlying this paper has revealed otherwise for a significant group. Some people lose their footing in the world of work and end up on SSDI because of events that occurred in response to their health condition—not the condition itself. Their lives fell apart due to a cascade of adverse secondary consequences of the initial medical problem, and after a time SSDI became the best option for

survival. The standard medical care process is not sufficient to help people like this avoid poor life outcomes. What is needed is coordinated activity during a fleeting opportunity to address and resolve a set of pivotal issues (both medical and non-medical) around the time the condition starts interfering with work—because that will set the situation off onto the right or wrong path.

What Factors Predict Poor Outcomes, Remediability, and Avoidability

At the time when the common health problems of this subgroup of SSDI recipients first started, they would often have looked very similar to other patients with the same diagnosis and objective clinical findings—but who then experienced good recoveries. This is because the factors that predict poor outcomes (serious impairment and prolonged work disability) as a consequence of MSK, especially low back pain, are **not** tightly related to either the specific diagnosis or the extent of the pathology (Caruso 2013; Franklin et al. 2014; Franklin and Mueller 2015; Habeck, Hunt, and VanTol 1998; Harris et al. 2008; Johnson and Fry 2002; Mahmud et al. 2000; Nicholas et al. 2011). Although less research has been done on factors that predict poor outcomes in CMD, and diagnosis does play a more significant role, there are other important non-medical factors (Ahrends 2014; Cornelius et al. 2011; Loisel and Anema 2013).

Some of the factors that predict poor outcomes are immutable (such as age, past medical history, work history, and geographic location). But other factors are potentially remediable (such as elapsed time out of work (ACOEM 2010; McLaren, Reville, and Seabury 2010; Loisel and Anema 2013; Wickizer et al. 2011), uncertainty and distrust due to lack of communication or information (Bowling 2000; Loisel and Anema 2013), uncoordinated or inappropriate medical care and advice (Abásolo et al. 2000; Franklin et al. 2014), low expectations of recovery (Cornelius et al. 2011; Sullivan et al. 2005), excessive vigilance, catastrophic thinking, false beliefs, fear of movement, self-limitation, perceived injustice (Sullivan et al. 2005), and lack of employer support (Cornelius et al. 2011). Today, those who handle these situations do not typically look for any of these remediable problems and address them. None of the professionals involved has been trained to feel responsible for driving the situation forwards towards a good outcome (ACOEM 2006).

The way the episode unfolds over time in all dimensions—biological, psychological, social, and economic—can have a big impact on the outcome. Events that occur can either mitigate or aggravate existing risk factors in the situation, leading to better or worse outcomes. There are usually many opportunities to actively influence the course of events immediately after onset of a health problem (and many fewer opportunities later on), but today there are few resources devoted to finding and exercising these opportunities. Most of the current attempts to steer situations to a better outcome are made long after the best opportunities have passed by.

Most People with Common Health Conditions Do Not Leave the Workforce

The leading causes of disability in both America and the world are common back pain and depression (US Burden 2013; Global 2015). They are also among the most frequent conditions in the US population. But in most cases these conditions do not necessitate permanent workforce withdrawal. These diagnoses and impairments frequently **do** create severe impairment and reduce the quality of everyday life, but only very rarely bring it to a long-term standstill.

Each year, about 10 percent of the US population experiences chronic low back pain lasting at least three months and regularly impairing daily function (Martin et al. 2009). The US workforce is 154

million adults. If 10 percent of working adults have a long-lasting chronic low back pain episode each year, that is 15.4 million cases. Yet the intake each year onto SSDI of people with musculoskeletal conditions—which combines backs with knees, shoulders, hands, and so on—is only about 300,000. So at the very most 2 percent of those 15.4 million with a chronic back pain episode fail to recover, and probably many fewer.

The gold standard for objective evidence of back problems is the MRI of the spine. But a series of studies have confirmed that asymptomatic volunteers, working people with no pain or symptoms whatever, often have the exact same horrible-looking MRIs as people who are incapacitated by back pain (Boos et al. 1995; Deyo 2013). This buttresses our assertion that diagnosis and impairment are often not what determines whether someone will be able to continue working.

Likewise, 4.5 percent of the adult population (roughly 10.4 million people) experienced a major depressive episode with severe impairment lasting at least two weeks in 2012. A similar number (4.1 percent) experienced a severe anxiety disorder (NIMH 2015). If we assume 100 percent overlap between these two conditions, 10 million people have severe impairment due to these two CMD each year. Roughly 68 percent or 10 million people with some amount of depression are estimated to be employed (Charbonneau et al. 2005). Fewer than 500,000 people per year are being awarded SSDI for these two diagnoses. That is only 5 percent of all people with severe cases of these CMD (500,000 out of 10 million). This confirms that the overwhelming majority of people who develop these conditions do not end up on SSDI.

Growing Numbers on SSDI with MSK and CMD Reveals Need for Secondary Prevention

Ending up on SSDI for a low back problem, depression, or anxiety may be unusual for people with those diagnoses, but it has become more frequent. The fraction of all SSDI awards made for MSK conditions has been steadily rising each year for several decades, accounting for 36 percent of awards in 2013. Of the 868,965 people awarded SSDI in 2013, exactly 312,133 received benefits for impairments due to MSK conditions, many for low back pain. More than 50 percent of awards are now based on either MSK or CMD (largely depression and anxiety) as primary impairments. The three are related: depression and anxiety increase pain symptoms and vice versa (Kroenke et al. 2011). Helping people to avoid getting derailed by their symptoms and find a way to stay productively engaged in life and work will protect the overall quality of their lives in the future—and reduce the heavy cost burden on the SSDI program.

The “Classic Disabilities” vs. the Overlooked Other Half

We observe that spokespersons for people with disabilities tend to be people with “classic disabilities”: noticeable, severe, and immutable impairments, often present from birth or longstanding, or the result of genetic disorders, or devastating injuries or diseases. They have impairments due to losses so obviously irrevocable that the idea of trying to reverse them is nonsensical—an impossible dream given the current state of knowledge.

Among the population with classic disabilities are a small number so disabled that they are unable to do anything productive such as those with extremely low IQs, constant seizures, in comas or persistent vegetative states.

The majority of individuals with classic disabilities including amputations, blindness, deafness, and low intellectual ability feel entirely well and are often raring to go. Those who appear in marketing campaigns to promote inclusion and employment of people with disabilities see themselves as healthy and fit enough to participate fully in society and work despite their impairments, often with support and accommodation.

Although most of the nation's programs devoted to serving persons with disabilities envision individuals like these as their target population, these classic disabilities now comprise less than half of new SSDI awardees annually, a fraction that continues to shrink. In 2013, awards for injuries—such as traumatic spinal cord injuries and amputations—were only 3.2 percent of all awards, and awards for intellectual disability accounted for 1.2 percent of the total. (SSA 2013)

Although by definition people on SSDI for common health conditions have severe impairments (since they have met SSA criteria), they are different in some important ways from many in the classic group. For one example, most SSDI beneficiaries with chronic musculoskeletal problems suffer from persistent pain and those with mood disorders do not feel good. They have come to see themselves as too uncomfortable, too sick, or too fragile to participate fully in life and work. They may be unaware that the intensity of their symptoms, their functional limitations, and their current low level of participation in life could conceivably have been avoided and might still be remediable—because those things are often the result of unfortunate interactions between their condition, the connection between their mind and body, the care and assistance they received, choices and decisions that were made, the overall context in which those things occurred, and the unfolding of subsequent events. If some of those things had been different, the outcome could have been better—and might still be if something important has been missed.

There is a big opportunity here to conserve resources for people with classic disabilities by stemming the inflow onto SSDI of people with iatrogenic impairment and over-disability due to MSK and CMD. This is a win-win because the way to divert people from SSDI is to help them get their lives back on track, stay productively engaged in life and economically self-sufficient.

What Creates These Unfortunate Outcomes? How Can They Be Prevented?

The people whose lives fall apart due to common health problems started out looking like their peers, but then their paths diverged. One may reasonably ask what was different about that small group of people or about their situations that caused them to end up on SSDI. Researchers have asked these questions and come up with many answers (Franklin and Mueller 2015; Franklin et al. 2008; Habeck, Hunt, and VanTol 1998; Krause and Ragland 1994; Lötters and Burdorf 2006). Sometimes it is a quality of the person (low education, traumatic childhood history); sometimes a feature of the environment (high unemployment rate or a hostile workplace). Sometimes it is lack of medical care, ineffective medical care or even harmful medical care (Dartmouth 2008; Franklin et al. 2014; Mahmud et al. 2000; Nguyen et al. 2011; Steinbrecher et al. 2011). Economic influences are involved. Most often it is some combination. (Caruso 2013; Loisel and Anema 2013).

Researchers have also showed that small things like a few careless words or administrative issues or being taught you are a powerless nobody early on can make a big difference. (Aurbach 2014). Cases can get on the wrong path because the right things didn't happen (Nicholas et al. 2011; Wickizer et al. 2004). Reasonable questions were never answered. Voicemails were not returned. Delays created a lot of time to worry. No one from work picked up the phone and said “How's it going, how can I help?”

No one listened for an unstated concern or worry. No one offered education or suggested how to solve a problem. No-one helped find a good doctor and get an appointment promptly (Bowling 2000). Or the doctor said “Avoid anything that makes you hurt or causes stress,” which led to less and less activity. Or the doctor signed a form describing what the worker couldn’t do, and the boss said he didn’t have work for him and let him go. Or the doctor said “You’re never going to be able to work again.” (Darlow et al. 2011)

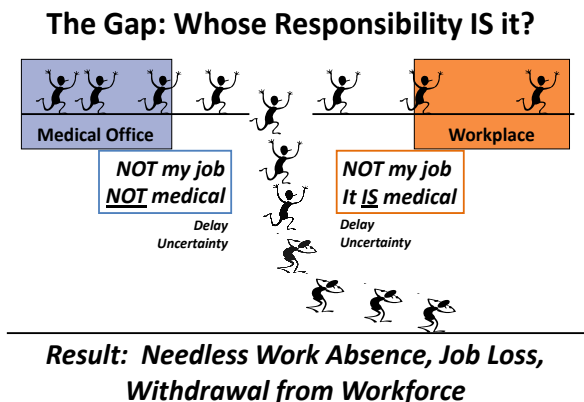
The gap in our social fabric through which people are falling out of work and onto benefit programs is longstanding. It is caused by the current structure of our society, and in particular the lack of dialogue and collaboration between the employment and health care sectors when a working person develops health problems that affect work ability. In that case, four professionals (the employer, the doctor, the health payer and a commercial disability benefits administrator) may all start responding to the situation—but separately, not in concert.

The backdrop is complex: Each of those four professionals is operating within an organization that has its own priorities, culture, policies and procedures and operates under its own laws and regulations. In addition to these structural challenges, the organizations are all potentially fallible human systems. Both organizations and the professionals who work in them vary in capability and commitment, mistakes are made, and things fall through the cracks every day. As a result, people fall through the gap and onto SSDI—the failures of our country’s work disability prevention system.

Sometimes one of the professionals involved has a commitment to driving the situation towards a good overall outcome and takes a collaborative and pro-active approach to stay-at-work and return-to-work communications between the health care and employment sectors. But as things go today, no one usually does it. (See Optional On-line Appendix 2 – Gaps in Social Fabric for more specific information about where the gaps are along with examples of how the chain of events for lucky people differs from unlucky ones. Available on the SSDI Solutions website.)

National leadership is urgently required to address this issue. Free market forces perpetuate it. On a national basis, the aggregate social cost and economic burden of this avoidable work disability (to both government and the private sector) is enormous: hundreds of millions of lost work days and forfeited productivity per year. (Martin et al. 2009; US Burden of Disease Collaborators 2013).

The good news is that long-term work disability can often be averted. The right professional doing the right things can help working individuals with newly acquired common health conditions avoid prolonged work disability, job loss (Bowling 2000; ACOEM 2010; McLaren, Reville, and Seabury 2010; Waddell, Burton, and Aylward 2008; Wickizer et al. 2004; Wickizer et al. 2011), and entry onto SSDI (Wickizer et al. 2014). For maximum effect, the services must be applied systematically very early, in concert with initial medical care and while the person is still employed—long before an injured person applies for SSDI (Waddell and Burton 2004).



For at least the past decade, the common-sense and humane logic of the work disability prevention model which focuses on the “front end” of episodes (Christian 2009; ACOEM 2006) has gained considerable traction in the private sector among proactive employers and insurance companies. Many large and sophisticated employers have put in place proactive (and effective) programs to reduce needless absence and work disability (DMEC 2015; McLaren, Reville, and Seabury 2010). However, many smaller employers and insurers have neither heard of nor bought into the idea. This concept is still largely unknown in the federal arena.

The solution demands an overarching (national) strategy and oversight, even though service delivery may end up outsourced and occurring at the local level in order to adapt to the wide variability in the health care and human services delivery landscape as well as the nature of local employment opportunities in communities across the United States.

We realize that “quick fixes” to shore up SSDI in the short run are very attractive, but one of the largest opportunities for longer term positive impact lies in this untapped area. There is mounting evidence that as many as a quarter to a third of the people with common health conditions now coming onto SSDI could have avoided that outcome if they had received the right kind of support and guidance in dealing with their life predicament from the outset (Waddell, Burton, and Aylward 2008) (Franklin et al. 2014).

The next section outlines our proposal for a nationwide strategy and approach based on public health and preventive medicine principles coupled with the best available evidence which shows that responding quickly and doing some simple but important things expertly can prevent needless work disability and help people stay employed.

The economic case for investment in building capacity for systematic immediate response at the community level and then doing the simple things that can help people with newly acquired disabilities keep their jobs is compelling. Each person who leaves the workforce unnecessarily is a double hit to the vitality of our nation: the loss of a self-sustaining and productive contributor to the economy, and the gain of another person dependent on taxpayer dollars for their sustenance. The financial implications of both sides of this equation should be considered in evaluating the return on public investment in all interventions.

We urge Congress to show its commitment to taking a public health approach to prevention of work disability by declaring an intention to do so and funding the initial steps we propose below.

PROPOSAL

We propose that a Health & Work Service (HWS) be gradually developed and deployed across the nation. The goal is to build a nationwide capability to deliver secondary work disability prevention services to respond immediately when working people with new health problems or impairments are having difficulty coping with the impact on their work.

Thus, the HWS will insert someone with expertise into the gap displayed in the diagram above. They will drive the situation forward towards the best practicable outcome under the circumstances: by facilitating communications and problem-solving among the key parties; identifying issues that require attention; referring outside for special expertise or outside resources; coordinating care and services

A COMMUNITY-FOCUSED HEALTH & WORK SERVICE (HWS)

as needed; and providing positive support for the affected individuals, guiding them towards functional restoration so they can stay at or return to work.

The specific details of this proposal for a HWS are a logical outgrowth of a relatively simple evidence-based conceptualization of the problem of avoidable work disability (Schultz et al. 2007; Waddell and Burton 2004; Waddell, Burton, and Aylward 2008; Waddell, Burton, and Main 2001). The main precepts are as follows:

- Work is good for people's health and wellbeing; prolonged worklessness is detrimental.
- Preserving people's ability to function and work is an important health care outcome.
- Helping people with medical problems stay at work or return to work in a timely manner is beneficial for them and their families and advantageous for society.
- The longer people are away from the workplace for a medical reason, the less likely they are to return and the more likely they are to become permanently work disabled.
- Unnecessary work disability due to common health problems should be avoided.
- Most prolonged work disability is due to common health problems, which is both harmful and costly.
- There is good scientific evidence about the obstacles to work participation for people with a health problem, and about what helps them return to work.
- A medical threat to one's ability to work often causes a life crisis that must be addressed, that most people have not experienced before, for which most people are unprepared, and which will exceed some people's coping abilities.
- For most medical conditions associated with work disability, the medical condition itself does not require withdrawal from work.
- Non-medical factors in the person's situation are often responsible for work disability, and are often remediable with appropriate help.
- For many acquired medical conditions, especially common health problems, work disability can often be prevented if appropriate help is delivered within the first few days or weeks of onset.
- When work disruption begins, it is both effective and cost-beneficial to have a coordinator assist the treating doctor with communications, as well as make plans for functional restoration and return to work.
- Implementation of novel structures and methods to build capacity for service delivery is an urgent priority.

The specific types of services the HWS will deliver in the first 12 weeks of disabling health episodes are evidence-based (Burton et al. 2013; Hill et al. 2010; Iles, Wyatt, and Pransky 2012; Lagerveld et al. 2012; Loisel et al. 1997; Nicholas et al. 2011; Shaw et al. 2013; Turner et al. 2008; Waddell and Burton 2004; Wickizer et al. 2001; Wickizer et al. 2004; Wickizer et al. 2011). Most of them were initially developed by employers and insurance companies in the workers' compensation industry, but are now spreading to the disability benefits industry. These techniques are now commonly used to improve outcomes and avoid work disability in selected private sector environments around the United States

(generally by large and sophisticated employers and forward thinking workers' compensation and disability insurance companies).

Here are some examples: Tyson Foods was able to reduce the number of employees going onto long-term disability by putting into place an actively managed short-term disability program (Unum 2015). Navistar was able to simultaneously reduce absenteeism, disability, workers' compensation, and health care costs (despite marketplace rises) through a tightly integrated, proactive approach (IBI 2015). For another, the RAND corporation surveyed 20 large corporations with return to work (RTW) programs and found that their employees returned to work 1.4 times faster than those in companies without such programs, and that employees with more severe injuries with permanent impairment benefitted most by returning to work more than four months earlier (McLaren, Reville, and Seabury 2010). At the Disability Management Employer Coalition annual conference, employer-speakers teach each other about the latest absence and disability management innovations (DMEC 2015).

Description of the Health & Work Service

The HWS will be staffed, equipped, and funded:

- To respond immediately when asked to assist a working-age person who:
 - has very recently developed work problems due a common everyday health problem and/or a common functional impairment;
 - is dealing with typical obstacles to medical recovery, functional restoration, and work retention (most of which are not medical in nature);
- To accept referrals directly from affected individuals, or indirectly from their treating physicians, employers, insurance companies, managed care providers and governmental agencies any time between Day 1 (the date the problem started) to 12 weeks later.
- To intervene directly in situations and directly provide a limited set of multidimensional helping services of limited duration, scope, and cost to facilitate the functional restoration and stay-at-work or return-to-work (SAW/RTW) processes.
- To refer people whose predicaments require capabilities beyond those available in the HWS to other appropriate private or governmental resources;
- To coordinate care and services to fulfill a SAW/RTW plan for no longer than 12 weeks on a routine basis, and to 26 weeks by exception.

In its role as an immediate responder, the HWS will not be prepared to handle all comers and every situation. HWS will develop relationships with other organizations equipped to manage medical recovery and functional restoration from catastrophic or profoundly disabling clinical conditions and/or provide rehabilitative solutions involving technically complex or expensive equipment. HWS will make referrals and collaborate with those organizations as appropriate.

It is premature to offer a fully detailed design for HWS, but we offer some broad design features here. (There is a more detailed discussion of the specific aspects of the design in the On-line Optional Appendix 1: Important Details. Available on the SSDI Solutions website.)

- The HWS will be community-focused with clearly defined geographic service areas

A COMMUNITY-FOCUSED HEALTH & WORK SERVICE (HWS)

- The HWS will be positioned as an innovative state of the art center of excellence within its area of expertise, committed to outperforming “usual care” by delivering higher patient satisfaction and achieving better outcomes for its specified target population.
- The HWS will be available as soon as a working person who has a new medical problem that has compromised their ability to work needs a little extra help to get life back to normal and get back to work—no matter what benefits system or payer is involved as long as their doctor is affiliated with the HWS.
- It is likely that the vast majority of patients will have common health conditions, but the service will be open to anyone with any new health-related disruption of work, whether or not it has been identified as an acquired disability.
- The HWS will be delivered by professionals with training, experience, and expertise in conducting the kind of low-cost and simple yet individualized, integrated, and multidimensional situation management activities known to minimize the destructive impact of injury, illness and acquired disability and lead to positive outcomes: medical recovery, restoration of function and the normal rhythm of life, timely return to work and preservation of jobs.
- The HWS will primarily use telephonic and electronic channels (internet, email, etc.) to enable focused, high quality, and efficient delivery of these services at acceptable cost. (Burton et al. 2013)
- A stepped care model will be used which requires the simplest and lowest cost solutions to be employed first, employs screening processes (Melloh et al. 2009) that allow escalation to more expert professionals and more intensive (expensive) levels of service based on protocols and clear criteria.
- The service will be time-limited to 12 weeks from onset of work problems, with occasional extension to 26 weeks for cases meeting certain criteria. Cases not responding to the integrated, multidimensional interventions offered will be closed or referred elsewhere.
- All treating physicians, employers, workers’ compensation, and disability benefits claims payers in the geographic service area will be invited to affiliate with the HWS and refer their patients / employees / claimants that meet certain criteria.
- The HWS will operate in a multi-system / multi-payer environment, accepting referrals of employed patients with disability benefits coverage, workers’ compensation claims, health care insurance, Medicaid, Medicare, or no benefits at all.
- The HWS will only enter a new geographic area after determining there is sufficient local demand for its services and that local stakeholders are willing to support it.
- Once the HWS does enter, it will be funded entirely by federal or state agencies during the start-up period and early operations. After the HWS has had a chance to demonstrate its value to local employers and claims payers, it will switch to a partial fee-for-service model. However, government, NGOs, or charitable organizations will probably need to continue long-term partial subsidies of operating costs to cover services to working people who have no, or inadequate, benefits coverage.

Undertaking and executing this strategy will eliminate a good fraction of avoidable work disability, reduce demand for SSDI benefit payments—probably substantially—and deliver much better life

outcomes for the individuals involved. This is why the proposed service is such an important opportunity.

ANALYSIS OF PROPOSAL

This is a public health initiative aimed at creating access to specific services hitherto unavailable to most Americans due to the fragmentation and poorly aligned incentives of the nation's existing private and public sector programs, systems, and the safety net. The purpose is to augment the nation's system of care by building the capacity to:

- Increase the likelihood that all patients receive practical and effective assistance with restoration of function and staying at or returning to work when life is disrupted by a health condition.
- Decrease the use of certain types of medical services (such as early MRI imaging, opioid medications, spine fusion surgery and prolonged ineffective psychotherapy) that evidence has shown can cause excessive impairment, foster over-disablement, and result in job loss (Bernacki, Tao, and Yuspeh 2010; Darlow et al. 2011; Dartmouth 2008; Franklin et al. 2008; Franklin and Mueller 2015; IOM 2001; Nguyen et al. 2011)
- Increase the likelihood that employers will cooperate with timely and effective efforts to help employees with newly acquired disabilities stay productive during recovery and keep their jobs.

By caring for and helping individuals keep their jobs, this program will help employers retain valuable employees; stem inflow of applicants onto publicly funded health care, social welfare, and disability programs; and when benefits are needed, maximize the individual's economic self-sufficiency and productive contribution to society.

The proposed HWS aligns well with the public purpose of the employment provisions of the ADA. It meets the particularly time-sensitive critical needs of adults with newly acquired disabilities who want and need to protect their jobs and livelihoods.

This new strategy also brings to the fore the large subset of all persons with disability due to common health conditions which has historically been overlooked by disability-related government programs and advocacy groups. The traditional disability-focused organizations tend to emphasize more the perspectives, concerns, and practical needs of people with longstanding disabilities and those who are more visibly and severely impaired.

In order to bring this into being, a broad consensus must be built among policymakers, lawmakers, regulators, insurers, employers and others:

- that worklessness is a poor health outcome;
- that work disability can often be avoided by the right early management;
- that we cannot afford as a nation to continue the entry onto SSDI disability rolls of so many people with avoidable disability due to common health conditions;
- that the best scientific evidence available in a variety of disciplines should continuously guide our efforts at improvement, even as it continues to evolve;

- and that it is important to muster the resources and support needed to implement the HWS.

(For a draft list of other potential messages that stakeholders need to hear, see On-line Optional Appendix 1, Important Details. Available on the SSDI Solutions website.)

Trailblazer Examples: United Kingdom and Washington State

The features of the HWS we recommend here are adapted and combined from two existing programs that have served as models: Washington State's COHE program, and the United Kingdom's Fit For Work Service. These are large-scale community-focused initiatives that have created new structures housed within the local health care ecosystem. They are charged with intervening nearly immediately to help people with health problems get life back on track and stay in the workforce. The two initiatives provide useful real-world information that validates both the value and practicality of adopting the strategy we recommend and then implementing an HWS service nationwide as we propose. A very brief summary of each of them appears below. (More information about them appears in the Optional On-line Appendix 3: UK and COHE. There is an overview followed by a more detailed description of the background and history of each one. Available on the SSDI Solutions website.)

The interventions they employ are multidimensional and reflect a bio-psycho-socio-economic (BPSE) approach to managing these situations. (See more information about multi-dimensional interventions and the BSPE approach in the Optional On-line Appendix 1 – Important Details. Available on the SSDI Solutions website.)

In summary, over the past decade, the United Kingdom has fundamentally revamped its approach to long-term work disability. Based on what it learned from a long and broad series of events, ancillary initiatives and pilot projects, the government decided to put in place a national Fit For Work Service that embodies many features similar to the HWS proposal. Fit For Work is being operated by a vendor in England, Ireland, and Wales, and directly by the government in Scotland. Fit For Work began to slowly roll out its services to individuals just four months ago—in March 2015.

The Washington State workers' compensation insurance fund began a pilot project called Centers for Occupational Health & Education (COHE) in 2001. From the start, it proved highly successful at improving medical as well as return-to-work outcomes while reducing costs (Wickizer et al. 2004). The number of pilot sites increased and the program remained so successful (Wickizer et al. 2008; Wickizer et al. 2011) that a 2011 state law (SB 5801) made the COHE program both permanent and statewide.

The COHEs are separate entities, housed within health care delivery organizations, with community physicians as members. The program is defined by contract and emphasizes the use of proven best practices to improve outcomes of work-related injuries. The staff of the COHE serves as communications hubs, medical care coordinators, and SAW/RTW coordinators for all new work-related injuries being treated by member physicians. Doctor-members of the COHE are encouraged to perform a well-defined set of simple best practices such as reporting new episodes immediately, developing an activity prescription that includes delivery of key messages to injured workers, communicating directly with COHE staff or employers about SAW/RTW plans, assessing the reasons when recovery appears delayed, and participating in team conferences as necessary.

The COHE project has been studied at intervals for more than a decade. To date, those evaluations of the pilot programs have not focused on the costs to deliver the service, so return on investment is not known. Part of the purpose of the pilots was to discover the level of service intensity required and the extent to which treating providers would respond to financial incentives to adopt prescribed best practices. Fees charged by the COHEs have become progressively more standardized and were increased recently to increase the economic sustainability of the COHE organizations (personal communications). They now receive an administrative fee of \$43 for every new injury treated by a COHE member physician. Those fees are intended to cover overhead costs. COHE coordinators bill for a prescribed set of services at \$84 per hour, with a maximum of eight hours allowed on any case. Separately, COHE member physicians use specially created medical billing codes to document delivery and bill for a short list of specific best practices. Together, these are the system costs added by the COHE program.

Results are known for the first cohort of workers to be treated in the COHE program. That group has been followed for eight years. Total combined medical and wage replacement costs per injury episode were reduced by approximately 17 percent or \$510 (Wickizer et al. 2011). Time away from work was reduced at the rate of 66,327 disability days per 10,000 treated injured workers. That translates into 182 years of work disability avoided, which also meant 182 years of productive contribution available to employers (Wickizer et al. 2014). And that first cohort of injured workers was 26 percent less likely to transition onto SSDI (2.5 percent of those managed by the COHE, compared to 3.4 percent of the controls) (Franklin et al. 2014).

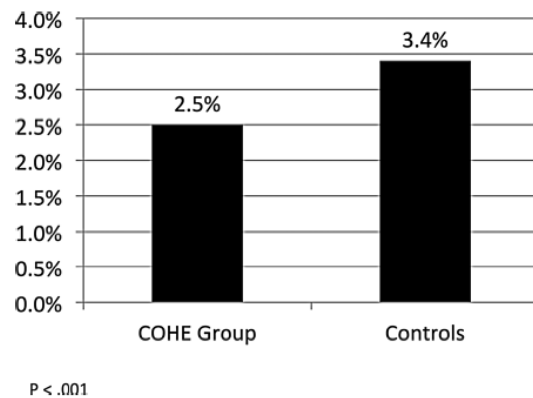


FIGURE 2. Reduction in risk of transitioning to Social Security Disability Insurance, 8 years of follow-up from 2002 to 2010 for original COHE cohort.

Franklin GM, Wickizer TM, et al. Workers' Compensation: Poor Quality Health Care and the Growing Disability Problem in the United States. *Am J Ind Med* 58: 245-251. 2014. DOI 10.1002/ajim.22399 p4

The detailed histories of the successful Washington and UK initiatives reveal how essential it is to spend time, energy, and money building a foundation of widespread shared understanding of both the problem and its potential solution and collective will for change—particularly to garner support for an unfamiliar, slow, and challenging initiative which attacks fundamental problems with enough power to actually deliver substantial results. Their stories of prolonged effort also challenge the United States to find shortcuts so we can move faster, given the looming financial exigencies with which this country is faced.

Our Proposal: Develop and Launch the HWS

Something must be done about the preventable over-disablement and avoidable work disability among adults with chronic health conditions. It is accelerating workforce withdrawal, reducing income for individuals and their families, creating costs for employers and many different disability-related programs in different silos, layers, and sectors of society—workers compensation insurers, commercial and public short- and long-term disability programs, large employers who are self-insured for these benefits, auto liability insurers, and, as the final stop for many of those programs, SSDI and its sister federally funded programs including Medicare, SSI, and Medicaid. They are all sustaining higher benefit payouts than are necessary because of unaddressed causes of avoidable work disability. Some are catastrophically affected, notably SSDI, which is facing impending insolvency.

The overall benefit of having a HWS available to Americans and improving functional outcomes for many individuals should be clear: healthier, happier individuals and their families; increased economic vitality; more people contributing to the economy; and fewer people living on tax dollars instead of earned income.

In our view, it is time for Congress to move in a new direction that will promote the public's health and well-being in a very practical way. We propose that the Congress:

- (a) Commit in principle to taking a public health approach to upstream prevention of work disability.
- (b) Fund initial planning, development, and proof-of-concept testing of the HWS concept, followed by iterative refinement, revision and repeated pilot testing over several years until it definitively demonstrates its value (or not). The concept needs enough funding and time to mature and prove itself.
- (c) Make funding for a national launch contingent on the HWS performing as intended.

This will be the first time these features and services are applied at such a large scale, over such wide geography, and in such a complex multi-payer/multi-system environment. Since this is admittedly a bold new effort and will require time, creativity and commitment to develop and implement widely, we further recommend that the foundational work should begin as soon as possible: administration, organization, project and budget planning and development of the business plan.

After that, the effort should begin with the orderly design, development, prototyping and feasibility testing of the services to be delivered by HWS and of the program as a whole. Most likely, the basic model will consist of centralized call centers plus geographically disperse staff responsible for building and maintaining relationships with local referral sources, payer sources, community resources, vendor partners and contracted providers as needed for occasional face-to-face encounters. Some mistakes, miscalculations and change are naturally to be expected as the initiative moves through the development process. Enough time and development money must be available to allow cycles of trial, revision, bug-fixing and adaptation before proceeding with the major investment required for in a national rollout. These cycles are intended to assure that the design is modified as necessary to assure that the service succeeds in accomplishing its purpose.

Next, a randomized controlled multisite trial should be conducted that is still flexible enough to allow minor ongoing refinements to adapt to local variation and maximize effectiveness. If HWS proves ineffective, cease development. If it proves promising but flawed, revise as necessary. Follow that with

gradual rollout of the national community-oriented service in a manner that continues to acknowledge variability among the states and allows for considerable local adaptation. We predict it will take about seven years from the date the decision is made to embark on this strategy to successful delivery. But immediate cost is a paramount concern for all. All participants already feel they are paying more than they can or should, yet these new services will generate new costs. The COHE experience is reassuring since the cost to deliver the service has been more than offset by the economic benefits it is creating—for the payer, for employers, and for workers and their families. And as mentioned above, during that same period it reduced entry onto SSDI by 26 percent.

The UK experience points out the possibility of finding creative funding solutions: There it was found that a tax credit for small employers with high absenteeism rate had been creating a perverse incentive for employers not to encourage attendance. By cancelling the tax credit, the money thus saved was available to fund the FFW service. An analogous trade-off might be possible in the United States.

The services the HWS will deliver are relatively simple, and the process of delivering them is relatively straightforward as already demonstrated by the COHE, the FFW pilots and existing SAW/RTW programs now operated by private sector United States employers. The evidence base is good (not perfect), and the trailblazing by Washington State and United Kingdom have already revealed some of the operational challenges and how to manage them. We can follow their lead on staffing with respect to required prior training, work experience (and perhaps most importantly, the temperament and the “soft” listening and human relationship skills needed). There are sample templates available for some of the detailed tools staffers will need to work with and the information system will become clear as the process evolves. The day-to-day work is neither highly complex nor technical nor difficult—except interpersonally because communication and problem-solving skills are essential.

The challenges of making the HWS a success lie more in practical issues: creating a strong expert steering group to ensure that the HWS relies on best available evidence in its methods and techniques in all aspects of its operations; operational execution; selection and development of information systems; the financial/business model; deciding where to house it organizationally; planning marketing communications and how to position the HWS with health care providers, employers, legislators, regulators, and the public; building relationships and generating an on-going stream of referrals for services from the many organizations touched; how to pay for HWS services and fairly reflect benefits received; how to share necessary information efficiently among the many parties; how to ensure that the many parties affected are willing, able, and capable of playing as team members rather than isolated actors; and so on. (For a more detailed list of the specific success factors for the HWS initiative as a whole, as a nationwide enterprise, and especially on the local level, see Optional Online Appendix 1 – Important Details. Available on the SSDI Solutions website.)

There are a number of economic and funding considerations, with these prominent among them:

- Costs for development, feasibility, and demonstration projects will need to be funded by either the federal or state governments or the charitable sector, alone or in partnership.
- Local entities must be engaged and cooperating with the HWS in order for it to receive a good volume of referrals and successfully achieve its purpose of helping a substantial number of people to stay at work, return to work, or promptly find new employment.

- Once in full operation, HWS should be partially self-sustaining with multiple revenue sources, but may require some ongoing operational subsidy or other type of financial support from government and/or charities.
- Some public and private economic participation at both the state and local level should probably be required as a condition of contract award. This will limit the extent of federal subsidy.

INTERMEDIATE STEPS

We also recommend that the detailed planning work for this initiative begin immediately. It will take an estimated seven years to get through everything that stands between “here” and “there:” the launch of an effective and well-managed HWS.

Designing, building and delivering a HWS service will require sustained attention and budgetary commitment from Congress. In order to speed development time, the default option should be to proceed straight from phase to phase, which anticipates iterative revision and refinement of the design followed by re-testing. However, there must be a caveat: if the program fails to perform as intended due to fatal flaws in the design discovered at any point in the development process, it should be re-thought and if the flaws are not correctable, scrapped. Funding for the national launch must be contingent on the HWS producing the expected results.

Elements of the Initiative and Timeline of Development

Because this service does not yet exist, the anticipated amount of learning and number of required revisions in early phases is predicted to be very high. Thus, the plan for the initiative should be designed to allow it to proceed at a measured pace initially. The pace can accelerate after a series of small-scale pilot tests are complete and their implications understood.

As much as possible, the elements of the initiative should be managed so they overlap on the overall project timeline (see graphic below) in order to minimize delays and ensure uninterrupted transitions from one phase to another.

- A. Year 1 – Legislative/regulatory authority, funding, appointing lead agency and staffing it, appointing scientific advisory panel to oversee best evidence synthesis reports, development of conceptual design, financial models and business plan.
- B. Year 2 - Procurement: RFP, bid process, and contracting with winning vendor.
- C. Years 3 and 4 – Public awareness and communication campaign begins and continues through all years. Design, prototyping, “garage testing” of core/key intellectual material and IT system takes two years.
- D. Years 5, 6, 7 – Continue development of other necessary components, small pilots in different places, ending with randomized assignment test at significant volume. Sequence will take three years.
- E. Year 7 – Finish random assignment trial (and assuming all went well) start preparing for gradual nationwide rollout.

ELEMENT	Y 1	Y2	Y 3	Y 4	Y 5	Y 6	Y 7
A – Legislation, Regulation, \$\$, Leadership							
B – Vendor Contracting		For C-1 and C-2	For D-1	For D-2		For E	
C -1. Foundation Work – Public Awareness							
C -2. Foundation Work – Design							
D -1. Prototyping and Small Pilot Tests							
D -2 Large scale Randomized Test							
E. Gradual National Roll-out Begins							

(More details about the specific issues and activities that comprise each of these Elements can be found in Optional Online Appendix 1 – Important Details. Available on the SSDI Solutions website.)

QUESTIONS OR CONCERNS

In this section we briefly explore several questions or concerns that a proposal such as this might reasonably engender. They include:

- A. What agency should be responsible for this initiative?
- B. Who will be the HWS service operator?
- C. Is there a workforce prepared to deliver this service?
- D. What are the costs and funding implications?

A. Responsible Agency

In the near term, it may be better to find a temporary federal government home for these efforts and wait a year or two to find a permanent one, rather than have no progress made until a perfect solution can be found.

Though services may end up being provided by contractors, the HWS must be overseen by a federal agency. The oversight entity should have as its charter the prevention of harmful secondary consequences of illness, injury, aging, and the progression of chronic conditions on the quality of life for the working age population, including avoidable work disability and withdrawal from full social participation.

Because the focus of the HWS is on delivery of services at the intersection of the workplace and health care, and because it will be employing a BPSE model and delivering multi-dimensional services, either a real working collaboration between two existing agencies or an entirely new fully integrated entity seems to be required. The best solution for the long-term is probably to set up a new and fully integrated organization. Ironically, the problem it is charged with solving exists mainly because it is so difficult today to collaborate across professional disciplines, organizational silos, sectors, and government agencies.

To get started, it would be most logical for the departments of Health and Human Services (HHS) and Labor (DOL) to partner. One possibility might be the office of the Assistant Secretary for Planning and Evaluation within HHS and an analogous office within the Employment and Training Administration of DOL.

Housing this fledgling initiative at SSA would not be our first choice despite the large benefit HWS is expected to provide to the SSDI program. In our view, SSA is ill-equipped to oversee a program of the type described here. But Congress may decide to house it at SSA on an interim basis. If so, we recommend that the HWS be established as a new and separate organizational unit with its own funding stream, autonomy, strong clinical and operational leadership and ability to staff afresh—so it has the flexibility of a startup organization and is easy to spin off later. This unit will need the kind of expertise required to build something from nothing, to understand the key issues and provide appropriate direction to construct this kind of fast-moving clinical/workplace communications exchange and problem-solving operation. For example, one of the first tasks should be to appoint a Scientific Advisory Panel to oversee development of the updated best evidence reviews that will serve as the foundation for the social marketing/communications campaign as well as the detailed design of the HWS.

B. HWS Service Operator

In planning the service, an early decision must be whether the service should be centrally driven or delegated to the states. In either case, we strongly recommend that the federal agency with responsibility for secondary prevention of work disability have the authority to hold the organization(s) actually delivering the service accountable for meeting core service and performance specifications and delivering the intended outcomes. That federal agency should be reporting to Congress how the service performs, no matter who operates it.

It is conceivable that a single organization could operate the entire nationwide HWS because that is often the fastest way to build capacity. The advantage of a single solution is consistency of delivery and simple accountability. However, the United States is much larger than the United Kingdom and the situations we are talking about occur in local communities with local players. Thus, a single design is likely to be a poor fit for many locations. But 50 separate operations create a different kind of added complexity and may increase costs.

After that the next decision will be a “make-buy” analysis to decide whether to have this service delivered by government employees or contract it out to vendor(s). In general, since this project will conceivably span all 50 states, it will be a very large undertaking for a government which has no experience doing this kind of thing. If it is decided to use vendors, there are companies accustomed to delivering health care and social services to hundreds of thousands or millions of people, such as the Employee Assistance Programs, SSDI Consultative and Veterans Disability Exams, and so on.

C. Workforce

There is a workforce available to staff a national HWS service. There is an enormous amount of pertinent know-how in the nation’s health care and rehabilitation professionals, albeit scattered, under-mobilized, and currently frustrated by the lack of opportunities to use their talent, skill and professional commitment to helping people get their lives back on track.

(Instead of paying them to focus their creative professional energy on the collaborative teamwork required to restore function and prevent or end work disability, the traditional systems today tend to pay most professionals to spend their time diagnosing and treating medical problems, and then certifying, justifying, determining the extent of impairment or work capacity, and predicting the length of work absence, and for vocational counselors only, documenting the availability of jobs in the local economy.)

There are several different kinds of helping professionals with training and expertise in occupational settings, for example occupational medicine physicians, disability management specialists, vocational rehabilitation counselors, social workers, occupational health nurses, occupational and physical therapists, health psychologists, and so on. At least one program in the United Kingdom found that professions from the information and referral sector can also be very effective in the role of recovery coordinator.

D. Costs and Funding Requirements

Of course, an HWS operating nationwide will require a substantial budget. We cannot even make a wild guess at the routine operating cost of the national HWS because neither the design nor the accompanying business models have been designed and financially modelled, much less tested.

The total cost to operate, and the share that must be borne by government will depend in major part on what is discovered about the business model when the service is pilot tested: whether state and local agencies and private sector organizations (employers and insurers) decide to help subsidize the service on an annual basis, pay market value for services one-by-one, or decline to participate. However, at this point we predict that several sources of revenue will be possible that should grow over time and partially offset outlays. And, it remains to be seen whether the various payers see the value they get from the services as more than offsetting the contributions to operating costs that the HWS requires of them.

Cost of getting started – Element B

A rough estimate of the cost of all sub-projects in Element B would be in the range of \$2 million per year for the first two years for a total of \$4 million:

- One million dollars should be devoted to “Element B-1. Build a Foundation of Support” to get the best-evidence synthesis reviews completed and written up prior to commencement of other activities in this long-lived Element.
- The rest of the funds would go toward Element B-2: Create the wherewithal: Pay for the design, development and refinement of the essential core of the materiel that will later be incorporated into C-1. Based on the actual design, estimates for subsequent elements can be corrected/ revised.

Data points re: future costs

Two pieces of financial information may be valuable in building financial models of the HSW during launch and operations. Washington State has no doubt developed some initial impressions of the cost-benefit of the COHE program since it has kept expanding it. Whether that analysis will be formally corroborated and reported by researchers, or might be obtained informally from the agency, a key difference is important to take into consideration. COHE includes all new injuries starting from day

one, even trivial ones with a single visit to the doctor and return to work on the same day, with no action required by the COHE. Thus, per capita costs will be expected to rise somewhat if the HWS is limited to referrals for cases that do require active response by HWS staff. Cost control will be facilitated by (a) carefully delineating the scope of services the HWS provides, (b) creating defined “packages” of services delivered for a flat fee instead of open-ended referrals for services, and (c) capturing data that allows evaluation of overall performance of vendors across all cases, which will assist with holding everyone accountable for delivering the intended outcomes, not just services.

The second piece of financial information is the ceiling amount that the United Kingdom was willing to pay its vendor for the first five years of the FFW. The fee was based on a very slow geographical rollout across England, Ireland and Wales (Scotland has a separate budget/program). In a personal conversation in late April 2015, the physician leading the vendor’s implementation said the contract reflected an expectation that the product design will be substantially revised and adjusted frequently, almost like a “keep-developing-while-delivering” model. The amount shown in the tender document (RFP) was £170 million, or approximately \$255 million.

CONCLUSION

We are confident that the orderly sequence of projects like that laid out here will confirm the feasibility and delivered value of establishing a community-focused Health and Work Service, and then allow it to become a nationwide reality. There is a strong evidence base for this type of service, which uses a holistic approach linking healthcare with the workplace to overcome obstacles to work participation for people with work-relevant health problems. There is also a strong evidence base for helping people avoid adverse secondary consequences and unnecessary time away from work due to common health problems—because it is good for their health and well-being.

Similar services have already been shown to improve life outcomes and reduce long-term disability for people with workers’ compensation injuries in Washington State, and for people with medical problems due to any cause in Ireland, Scotland, and England.

Once established, the HWS is likely to be well-utilized given the number of people who need help and the lack of anything like it today here in the US. The service will create a practical channel through which to more consistently prevent avoidable work disability in a timely manner.

We acknowledge that bringing the HWS to life and realizing its benefits will take longer and cost more than some other proposed fixes for the SSDI program's problems. However, we think it is going to be far more powerful, will improve the lives of many more people and reduce the drain on a wider array of taxpayer-funded health and disability-related programs than other solutions.

Assuming that the development process proves successful, we believe that systematically making services available to working individuals to prevent the harmful secondary consequences of illness, injury or the effects of age on their lives and livelihoods will prove to be a very wise investment.

REFERENCES

- Abásolo, Lydia, Margarita Blanco, Javier Bachiller, Gloria Candelas, Paz Collado, Cristina Lajas, Marcelino Revenga, Patricia Ricci, Pablo Lázaro, María Dolores Aguilar, Emilio Vargas, Benjamín Fernández-Gutiérrez, César Hernández-García, Loreto Carmona, and Juan A. Jover. 2005. "A Health System Program to Reduce Work Disability Related to Musculoskeletal Disorders." *Annals of Internal Medicine* 143: 404-414.
- American College of Occupational and Environmental Medicine (ACOEM). 2010. "Cornerstones of Disability Prevention and Management." Chapter 5, *ACOEM Practice Guidelines*, American College of Occupational & Environmental Medicine 2010.
- _____. 2006. "Preventing Needless Work Disability by Helping People Stay Employed." Guidance Statement, 2006.
- Arends, Iris, Jac JL van der Klink, Willem van Rhenen, Michiel R de Boer, and Ute Bültmann. 2014. "Predictors of recurrent sickness absence among workers having returned to work after sick leave due to common mental disorders." *Scandinavian Journal of Work, Environment, & Health* 40(2): 195–202. doi:10.5271/sjweh.3384
- Aurbach, Robert. 2014. "Breaking the Web of Needless Disability." *Work* 48(4):591-607 (ISSN: 1875-9270).
- Autor, David H. 2011. "The Unsustainable Rise of Disability Rolls in the United States: Causes, Consequences and Policy Options." MIT, National Bureau of Economic Research, November 2011.
- Bernacki, Edward J., Xuguang Tao, and Larry Yuspeh. 2010. "The Impact of Cost Intensive Physicians on Workers' Compensation." *Journal of Occupational & Environmental Medicine* 52(1): 22-8.
- Black, Carol M. 2008. "Working for a Healthier Tomorrow: Summary of Evidence Submitted, Dame Carol Black's Review of the Health of Britain's Working Age Population." The Stationery Office.
- Black, Carol M., and David Frost. 2011. "Health at Work: An Independent Review of Sickness Absence." Presented to Parliament by the Secretary of State for Work and Pensions. The Stationery Office.
- Boos, Norbert, Rico Rieder, Volker Schade, Kevin F. Spratt, Norbert Semmer, and Max Aebi. 1995. "Volvo Award in clinical science: The diagnostic accuracy of MRI, work perception, and psychosocial factors in identifying symptomatic disc herniations." *Spine* – 1995; 20:2613-2625
- Bowling, Maddy. 2000. "The 'Halo Effect': Measuring the Power of Intangibles in Workers' Compensation." *Journal of Workers Compensation*, Fall 2000.

- Burton, A. Kim, Nick Kendall, Serena McCluskey, and Pauline Dibben. 2013. "Telephonic Support to Facilitate Return to Work: What Works, How, and When?" UK Department of Work and Pensions, 2013.
- Caruso, Garson M. 2013. "Biopsychosocial Considerations in Unnecessary Work Disability." *Psychological Injury and Law* 6: 164-182.
- Charbonneau Andrea, William Bruning, Teresa Titus-Howard, Edward Ellerbeck, Jeff Whittle, Sandra Hall, Jan Campbell, Susan Crain Lewis, and Stuart Munro. 2005. The Community Initiative on Depression: Report from a Multiphase Work Site Depression Intervention. *Journal of Occupational & Environmental Medicine* 47(1): 60-67.
- Cheadle, Allen, Gary Franklin, Carl Wolfhagen, James Savarino, P.Y. Liu, Charles Salley, and Marcia Weaver. 1994. "Factors influencing the duration of work-related disability: a population-based study of Washington State workers' compensation." *American Journal of Public Health*. 1994 February; 84(2): 190–196.
- Christian, Jennifer. 2009 "Introduction to the New Work Disability Prevention Paradigm." 60 Summits Project, 2009.
- Cornelius, L.R., J.J.L. van der Klink, J.W. Groothoff, and S. Brouwer. 2011. "Prognostic factors of long term disability due to mental disorders: A systematic review." *Journal of Occupational Rehabilitation* 21 (2): 259–274.
- Darlow, B., B.M. Fullen, S. Dean, D.A. Hurley, G.D. Baxter, and A. Dowell. 2011. "The association between healthcare professional attitudes and beliefs and the attitudes and beliefs, clinical management and outcomes of patients with low back pain: A systematic review." *European Journal of Pain* 16: 3-17. DOI: 10.1016/j.ejpain.2011.06.006.
- Dartmouth Institute for Health Policy and Clinical Practice. 2008. "Tracking the Care of Patients with Severe Chronic Illness." Dartmouth Institute for Health Policy and Clinical Practice, 2008.
- DeWitt, Marcia, and The Guilford Group, Ltd of Baltimore, MD. 1995. Graph with data from a 1995 study of employees of a large company with workers compensation claims showing the decreasing likelihood of ever returning to work by increasing weeks of work disability, in *Workers' Compensation Newsletter*, 1995.
- Deyo, Richard A. 2013. "Real Help and Red Herrings in Spinal Imaging." *New England Journal of Medicine* 368;11: 1056-1058. March 14, 2013.
- DMEC - Disability Management Employer Coalition. 2015. Conference brochure. Employer-speakers discuss their own company's best practices and success stories. Available at: <http://www.dmec.org>.

- Feinberg, Steven D., Robert J. Gatchel, Steven Stanos, Rachel Feinberg, and Valerie Johnson-Montieth. 2013 "Interdisciplinary Functional Restoration and Pain Programs" in *Treatment of Chronic Pain by Medical, Interventional, and Integrative Approaches*, Chapter 82. American Academy of Pain Medicine, 2013. DOI 10.1007/978-1-4614-1560_82
- Franklin, Gary M., and Kathryn Mueller. 2015. Letter to NIOSH, February 15, 2015. ACOEM Public Comments: http://www.acoem.org/PrioritizingSecondaryPrevention_NIOSH.aspx
- Franklin, Gary M., Bert D. Stover, Judith A. Turner, Deborah Fulton-Kehoe, and Thomas M. Wickizer. 2008. "Early Opioid Prescription and Subsequent Disability Among Workers With Back Injuries: The Disability Risk Identification Study Cohort." *Spine* 33(2): 199-204. doi:10.1097/BRS.0b013e318160455c.
- Franklin, Gary M., Judith A. Turner, Thomas M. Wickizer, Deborah Fulton-Kehoe, and Robert D. Mootz. 2013. "Disability Prevention." *Encyclopedia of Pain*: 628-31.
- Franklin, Gary M., Thomas M. Wickizer, Norma B. Coe, and Deborah Fulton-Kehoe. 2014. "Workers' Compensation: Poor Quality Health Care and the Growing Disability Problem in the United States." *American Journal of Industrial Medicine* 58: 245-251. doi:10.1002/ajim.22399
- Global Burden of Disease Study 2013 Collaborators. 2015. "Global, regional and national incidence, prevalence, and years living with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013". *The Lancet* June 7, 2015. DOI: [http://dx.doi.org/10.1016/S0140-6736\(15\)60692-4](http://dx.doi.org/10.1016/S0140-6736(15)60692-4)
- Habeck, Rochelle V., H. Allan Hunt, and Brett VanTol. 1998. "Workplace Factors Associated With Preventing and Managing Work Disability." *Rehabilitation Counseling Bulletin* 42(2) (December): 98-143.
- Harris, Ashley M., E. John Orav, David W. Bates, and Arthur J. Barsky. 2008. "Somatization increases disability independent of comorbidity." *Journal of General Internal Medicine* 24: 155-161.
- Hashemi, Lobat, Barbara S. Webster, Edward A. Clancy, and Ernest Volinn. 1997. "Length of Disability and Cost of Workers' Compensation Low Back Claims." *Journal of Occupational and Environmental Medicine* 39(10): 937-45.
- Hill, Jonathan C., Kate M. Dunn, Chris J. Main, and Elaine M. Hay. 2010. "Subgrouping low back pain: A comparison of the STarT Back Tool with the Örebro Musculoskeletal Pain Screening Questionnaire." *European Journal of Pain* 14(1):83-9.
- Hillage, Jim. 2012. "Evaluation of the Fit for Work Service pilots: first year report." Department of Work and Pensions, Research Report 792.

- Iles, Ross Anthony, Mary Wyatt, and G. Pransky 2012. "Multi-Faceted Case Management: Reducing Compensation costs of Musculoskeletal work Injuries in Australia." *Journal of Occupational Rehabilitation* 22(4). DOI: 10.1007/x10926-012-9364-2
- Institute of Medicine (IOM). 2001. "Crossing the Quality Chasm: A New Health System for the 21st Century." National Academy Press.
- IBI-Integrated Benefits Institute. 2015. "Low Back Pain: A Major Employer Uses Guidelines to Manage Quality, Costs and Outcomes." William Bunn, MD, Harris Allen, PhD, Michael Erdil, MD. Recorded webinar presentation. Available at <https://www.ibiweb.org/research-resources/detail/low-back-pain-a-major-employer-uses-guidelines-to-manage-quality-costs-outc>.
- Johnson, David, and Tim Fry. 2002. "Factors Affecting Return to Work after Injury: A study for the Victorian WorkCover Authority." Melbourne: Melbourne Institute of Applied Economic and Social Research.
- Kendall, Nicholas A.S., A. Kim Burton, Chris J. Main, and Paul J. Watson. 2009. "Tackling musculoskeletal problems: a guide for the clinic and workplace – identifying obstacles using the psychosocial flags framework." London, The Stationery Office.
- Krause, Niklas, and David R. Ragland. 1994. "Occupational disability due to low back pain: A new interdisciplinary classification based on a phase model of disability." *Spine* 19:1011-1020.
- Kroenke, Kurt, Jingwei Wu, Matthew J. Bair, Erin E. Krebs, Teresa M. Damush, and Wanzhu Tu. 2011. "Reciprocal Relationship Between Pain and Depression: A 12-Month Longitudinal Analysis in Primary Care". *The Journal of Pain* 12 (9) (September): 964-73.
- Lagerveld, Suzanne E., Roland W.B. Blonk, Veerle Brenninkmeijer, Leoniek Wijngaards-de Meij, and Wilmar B. Schaufeli. 2012. "Work-Focused Treatment of Common Mental Disorders and Return to Work: A Comparative Outcome Study." *Journal of Occupational Health Psychology* 17 (2) (April): 220-34. doi: 10.1037/a0027049
- Leopold, Ronald S. 2003. *A year in the life of a million American workers*. MetLife Group Disability: 17-20.
- Lerner, Debra, David A. Adler, William H. Rogers, Hong Chang, Annabel Greenhill, Elina Cymerman, and Francisca Azocar. 2015. "A Randomized Clinical Trial of a Telephone Depression Intervention to Reduce Employee Presenteeism and Absenteeism." *Psychiatric Services* 66 (6): 570-77. dx.doi.org/10.1176/appi.ps.201400350
- Loisel, Patrick, Lucien Abenham, Pierre Durand, John M. Esdaile, Samy Suissa, Lise Gosselin, Robert Simard, Jean Turcotte, and Jacques Lemaire. 1997. "A population-based, randomized clinical trial on back pain management." *Spine* 22 (24): 2911-2918.
- Loisel, Patrick, and Johannes Anema, Eds. 2013. *Handbook of Work Disability Prevention: Prevention and Management*. Springer, New York.

- Lötters, Freek and Alex Burdorf. 2006. "Prognostic factors for duration of sickness absence due to musculoskeletal disorders." *Clinical Journal of Pain* 22 (2): 212-21.
- Mahmud, Mohammed A., Barbara S. Webster, Theodore K. Courtney, Simon Matz, James A. Tacci, and David C. Christiani. 2000. "Clinical Management and the Duration of Disability for Work-Related Low Back Pain." *Journal of Occupational & Environmental Medicine* 42 (12)(December): 1178-1187.
- Martin, Brook I., Judith A. Turner, Sohail K. Mirza, Michael J. Lee, Bryan A. Comstock, and Richard A. Deyo. 2009. "Trends in health care expenditures, utilization, and health status among US adults with spine problems, 1997–2006." *Spine* 34 (19): 2077-84.
- McLaren, Christopher F., Robert T. Reville, and Seth A. Seabury. 2010. "How effective are employer return to work programs?" Rand Corporation, prepared for the California Commission on Health, Safety and Workers' Compensation. Working paper series WR-745-CHSWC.
http://www.rand.org/content/dam/rand/pubs/working_papers/2010/RAND_WR745.pdf
- Melloh, Markus, Achim Elfering, Carmen Egli Presland, Christoph Roeder, T. Barz, Cornelia Rolli Salathé, Oezguer Tamcan, Urs Mueller, and Jean-Claude Theis. 2009. "Identification of prognostic factors for chronicity in patients with low back pain: a review of screening instruments." *International Orthopaedics* 33 (2) (April): 301-13. DOI: 10.1007/s00264-008-07078/.
- Mitchell, Kenneth. 2012. "The Return to Work Dividend: Protecting Productivity. Stay-at-Work and Back-to-Work Strategies: Lessons from the Private Sector." Testimony to the U.S. Senate Committee on Health, Education, Labor and Pensions, March 22. Available at <http://www.help.senate.gov/imo/media/doc/Mitchell6.pdf>.
- Nicholas, Michael K., Steven J. Linton, Paul J. Watson, and Chris J. Main. 2011. "Early identification and management of psychological risk factors ("yellow flags") in patients with low back pain: a reappraisal." *Journal of the American Physical Therapy Association* 91: 737–53.
- Nguyen, Trang H., David C. Randolph, James Talmage, Paul Succop, and Russell Travis. 2011. "Long-term outcomes of lumbar fusion among workers' compensation subjects." *Spine* 36 (4): 320-31.
- National Institute of Mental Health. 2015. "Any Anxiety Disorder Among Adults." Accessed on September 10, 2015. Available at <http://www.nimh.nih.gov/health/statistics/prevalence/any-anxiety-disorder-among-adults.shtml>.
- National Institute for Occupational Safety and Health (NIOSH). 2015. "Disability Prevention Research: A Look to the Future." May 29, 2015. Featured speakers Kathryn Mueller and Gary Franklin. U.S. Centers for Disease Control and Prevention. Webinar recording available at <https://nioshtwh.adobeconnect.com/p9law27cnd3/>.

- Rumack, Eric. 2015. Graph based on 1987 Ontario Canada Workers Compensation Board report. Accessed on September 10, 2015. Available at www.occupationalphysician.ca/history.html.
- Schultz, Izabela Z., Anna W. Stowell, Michael Feuerstein, and Robert J. Gatchel. 2007. "Models of Return to Work for Musculoskeletal Disorders." *Journal of Occupational Rehabilitation* 17: 327-52. DOI 10.1007/s10926-007-9071-6.
- Shaw, William S., Silje E. Reme, Glenn Pransky, Mary Jane Woiszwilllo, Ivan Steenstra, and Steven J. Linton. 2013. "The Pain Recovery Inventory of Concerns and Expectations: A Psychosocial Screening Instrument to Identify Intervention Needs Among Patients at Elevated Risk of Back Disability." *Journal of Occupational and Environmental Medicine* 55 (8): 885-94.
- Social Security Administration (SSA). 2013. "Annual Statistical Report on the Social Security Disability Insurance Program, 2013" Available at http://www.ssa.gov/policy/docs/statcomps/di_asr/2013/sect03.html.
- Sullivan, Michael J.L., Michael Feuerstein, Robert Gatchel, Steven J. Linton, and Glenn Pransky. 2005 "Integrating Psychosocial and Behavioral Interventions to Achieve Optimal Rehabilitation outcomes." *Journal of Occupational Rehabilitation* 15 (4): 475-89. DOI: 10.1007/s10926-005-8029-9.
- Steinbrecher, Natalie, Stephanie Koerber, Dirk Frieser, and Wolfgang Hiller. 2011. "The Prevalence of Medically Unexplained Symptoms in Primary Care." *Psychosomatics* 52: 263-71.
- Strully, Kate W. 2009. "Job Loss and Health in the U.S. Labor Market." *Demography* 46 (2): 221-46.
- Turner, Judith A., Gary Franklin, Deborah Fulton-Kehoe, Lianne Sheppard, Bert Stover, Rae Wu, Jeremy V. Gluck, and Thomas M. Wickizer. 2008. "ISSLS prize winner: Early predictors for chronic work disability: A prospective, population-based study of workers with back injuries." *Spine* 33: 2809-18.
- Unum. 2015. "Employer Spotlight: Tyson Foods." Accessed on September 10, 2015. Available at <http://www.unum.com/Employers/UnumDifference/EmployerSpotlight.aspx>.
- U.S. Burden of Disease Collaborators. 2013. "The State of US Health, 1990-2010: Burden of Diseases, Injuries, and Risk Factors." *Journal of the American Medical Association* 310 (6): 591-606. doi:10.1001/jama.2013.13805.
- Waddell, Gordon, and A. Kim Burton. 2006. *Is work good for your health and well-being?* United Kingdom. The Stationery Office.
- Waddell, Gordon, and Mansel Aylward. 2009. *Models of Sickness and Disability Applied to Common Health Problems*. Royal Society of Medicine Press.
- Waddell, Gordon, A. Kim Burton, and Mansel Aylward. 2008. "A Biopsychosocial Model of Sickness and Disability." *The Guidelines Newsletter*, AMA (May/June).

- Waddell, Gordon, and A. Kim Burton. 2004. *Concepts of Rehabilitation for the Management of Common Health Problems*. United Kingdom. The Stationery Office.
- Waddell, Gordon, A. Kim Burton, and Chris J. Main. 2001. *Screening to Identify People at Risk of Longterm Incapacity for Work: a Conceptual and Scientific Review*. Royal Society of Medicine Press.
- Wickizer, Thomas M., Gary Franklin, Deborah Fulton-Kehoe, Jeremy Gluck, Robert Mootz, Terri Smith-Weller, and Roy Plaeger-Brockway. 2011. "Improving quality, preventing disability and reducing costs in workers' compensation healthcare: a population-based intervention study." *Medical Care* 49 (12): 1105-11.
- Wickizer, Thomas M., Gary M. Franklin, Robert D. Mootz, Deborah Fulton-Kehoe, Roy Plaeger-Brockway, Diana Drylie, Judith A. Turner, and Terri Smith-Weller. 2004. "A communitywide intervention to improve outcomes and reduce disability among injured workers in Washington State." *The Milbank Quarterly* 82 (3): 547-67.
- Wickizer, Thomas M., Gary M. Franklin, and Deborah Fulton-Kehoe. 2015. "Evaluation of a System Intervention that Achieved the Triple Aim." Presentation at the 2015 AcademyHealth Annual Research Meeting, Minneapolis (June).
- Wickizer, Thomas M., Gary Franklin, Deborah Fulton-Kehoe, Judith A. Turner, Robert Mootz, and Terri Smith-Weller. 2004. "Patient satisfaction, treatment experience, and disability outcomes in a population-based cohort of injured workers in Washington State: implications for quality improvement." *Health Services Research* 39 (4 Pt 1): 727-48.
- Wickizer, Thomas M., Gary Franklin, Roy Plaeger-Brockway, and Robert D. Mootz. 2007. "Improving the quality of workers' compensation health care delivery: the Washington State Occupational Health Services Project." *The Milbank Quarterly* 79 (1): 5-33.