

APPENDIX 1 – IMPORTANT DETAILS

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Biopsychosocioeconomic (BPSE) Model

The BPSE model, the work disability prevention approach and the concept of multi-dimensional intervention serve as the conceptual foundations for the design of the HWS service we are proposing (ACOEM 2010; ACOEM 2006; Christian 2009).

Researchers who have evaluated the situations of people on long-term disability discovered that the health condition itself is seldom the primary cause of prolonged work disability, but rather it is non-medical factors that act as obstacles to the expected timely restoration of function and return to work (Waddell et al. 2001).

The goal has been to create a term that acknowledges all the dynamics at play in a work disability situation and the factors in many domains that are influencing the reactions, decisions, and behavior of all participants. Starting about 20 years ago, the term “bio-psycho-social” came into use. Embracing that model to explain sickness and disability has provided a useful way to understand why some people have more difficulty recovering than others, and to find opportunities to intervene (Caruso 2010; Schultz et al. 2007; Waddell et al. 2008).

However, explicitly acknowledging that financial incentives influence everyone’s behavior in these situations increases the model’s acceptance among non-healthcare stakeholders – especially employers and payers. That is why we recommend renaming it the biopsychosocioeconomic model (BSPE or “bip-see”).

See more at: <http://www.webility.md/praxis/core-values.htm>

Non-Medical Issues in Health-Related Employment Predicaments

The predicaments – as well as the opportunities – facing adults with new health problems and/or newly acquired disabilities are quite different from those with longstanding stable disabilities. The person whose life has recently changed (for the worse) feels like they have experienced a significant loss and their future is in jeopardy. A period of confusion, uncertainty, and adjustment ensues (Aurbach 2014). Most have unwillingly entered an unfamiliar and sometimes hostile world. Individual circumstances vary widely.

Here are some common non-medical issues that may arise in the beginning of new medical episodes, and which can negatively impact the work status of the individual:

- lack of a shared sense of purpose, trust, and open communication among the multiple participants who typically are involved (the individual, healthcare providers, employer, community-based services, insurance company staff, etc.);
- uncoordinated responses to different aspects of the worker's situation being made by several professionals in different organizations on different timelines;
- variability in the quality, expertise, and philosophy of service providers who may be involved;
- failure to identify and acknowledge obstacles that need to be overcome;
- the individual's lack of necessary knowledge about their condition and how to deal with it effectively so that maximal function and employment are retained;
- the individual's lack of life skills and ability to cope with the many new, unfamiliar, and complex challenges the situation poses;
- and perhaps most importantly the absence of any professional who is charged and being paid for their efforts to proactively and urgently drive the situation forwards towards the best practicable outcome possible, regardless of the domain any obstacles are in or what type of help is needed.

Evidence shows that many of these issues can be identified and addressed at or near the beginning of episodes at relatively low cost and with reasonable effectiveness (ACOEM 2010; Mitchell 2012; Wickizer et al. 2011; Burton et al. 2013). It logically requires much more effort and expense, with far lower chance of success, to undo damage already done by the time that late efforts are made to return people to employment.

Design Features of the HWS Service

The proposed community-focused Health & Work Service is designed to prevent avoidable work disability by addressing both medical and non-medical obstacles and issues via early application of high-leverage, modest-cost expertise in cases where there are early signs of difficulty.

- The HWS will be community-focused with clearly defined geographic service areas and positioned as innovative state of the art centers of excellence focused on healthcare outcomes improvement.
- The HWS will be available to help whenever a working person who has a medical problem and a disrupted life needs to get back to work – no matter what benefits system or payer is involved as long as their doctor is a contracted member of the HWS.
- HWS services to individuals, physicians, employers and claims payers will be delivered telephonically, via email, or through the use of shared software systems, with occasional on-site services delivered on a by exception basis. Telephonic and web-based services have proven as or more effective as face-to-face, which will allow HWS to keep costs low and avoid the many constraints and challenges associated with on-site delivery models.

- HWS staff will work together in a service center which can practically speaking be located almost anywhere. Since on-site service delivery will rarely be needed, both professionals and facilities can be contracted as needed.
- Within each area, community-based physicians will be recruited for membership in the HWS. With membership comes the ability to:
 - make referrals to the HWS and receive assistance from HWS staff in managing their patients with newly-compromised work ability and early signs of difficulty returning to work,
 - bill modest fees for time spent communicating with the HWS, employers, and payers concerning their patient's functional ability and return to work planning,
 - feel supported and part of a team, enhance professional mastery and satisfaction, improve patient satisfaction and overall health outcomes in their practice.
- All employers, workers' compensation, and disability benefits claims payers in the geographic service area will be invited to participate and make referrals of their employees/claimants with similar problems.
- Within the HWS, recovery coordinators (RCs) will:
 - monitor the progress of all cases referred by treating healthcare providers, employers or claims payers,
 - serve as a communications hub, working directly with and assisting the four key parties: worker, doctor, employer, and claims payer (if any),
 - augment medical treatment by coordinating actions among the parties; identifying and addressing small issues and uncertainties, referring the affected individual to other local resources for assistance as necessary; helping arrange temporarily modified work or reasonably accommodated work, or return back to usual work; and generally driving things forward towards the best practicable outcome.
- HWS will use a stepped-care approach that starts with fast / simple / low-cost techniques before turning to more complicated solutions in order to maximize speed and efficiency of services, and to conserve resources. Several screening instruments with good predictive validity already exist (Melloh et al. 2009; Turner et al. 2008).
- The service will be time-limited to 12 weeks (with a limited extension for cases meeting certain criteria). Cases not responding to the interventions offered will be closed or referred elsewhere. The HWS will not take the hardest, most complex, or most difficult situations, will decline those with little opportunity for success, and discharge those individuals who fail to engage or participate fully.
- The HWS will operate in a multi- system / multi-payer environment, accepting referrals of employed patients with disability benefits coverage, workers' compensation claims, healthcare insurance, Medicaid, Medicare, or no benefits at all.
- When the HWS is considering expansion into a new geographic area, it will engage key stakeholders in the community in dialogue to gauge the appetite for their services and estimate the potential volume of referrals and sources of payment as part of assessing the likelihood of financial viability once the service reaches full operation.

- When the HWS does enter a new geographic area, it will be funded entirely by Federal or State agencies during the start-up period and early operations. A gradual but major reduction in the amount of subsidy will occur after the HWS has had a chance to demonstrate its value to local employers and claims payers. After an initial free trial period, the HWS will deliver its services on a fee for service basis to those who can pay. HWS service operators will be expected to develop multiple sources of revenue within their geographic service areas.
- Nevertheless, government, NGOs, or charitable organizations will probably need to continue long-term partial subsidy of operating costs. Some of the people most in need of assistance with managing health-related work disruptions are from vulnerable groups and lack any kind of benefits coverage. The HWS will need to have sliding scale fees to make its service attractive and affordable for very small employers to use. And payers will refuse to pay for some of the services that the HWS provides because they don't fit their coverage.
- The service will provide coordination services that augment medical treatment, identify and orchestrate available and needed support services, coordinate problem-solving actions across multiple involved services, improve communications, and identify and address small issues that can grow out of proportion and generally drive things forward towards the best practicable outcome.

Since the affected individuals, their doctors, and their employers are located in particular locations, the organization providing the service will need to work geographically, creating the channels necessary to make the service come to life in a specific community or contiguous geographic area. It will need to build and maintain relationships with local sources of referrals (physicians and other healthcare providers, employers, insurers, public agencies, social service organizations, etc.) as well as local resources to which affected individuals can be referred (healthcare providers, American Job Centers, social service agencies, non-profit organizations, etc.). The HWS will need to become a trusted and respected citizen of the local healthcare and social service community.

Critical Success Factors for the HWS

Critical success factors for the HWS include:

- A major and continuing focus on building good working relationships and teamwork among all participants including initial training, on-going communications, performance feedback, and performance tuning.
- Establishment of positive relationships of trust and mutual respect with referral sources to ensure an adequate flow of referrals. Failure to do this well will doom the effort.
- Establishment of positive relationships with local employers, unions, payers and providers of relevant benefits and services to ensure that the HWS is able to deliver the outcomes it has promised. Failure to do this well will also doom the effort.
- Adequate effort spent on training and on-going performance feedback for referral sources (treating physicians and employers) so they:
 - Understand and buy into the purpose and intended outcomes of the HWS;
 - Know what to do, when, and why;

- Feel part of a team and are aware of what other participants will be doing;
 - Receive, on a periodic basis, aggregate reports and individual feedback on how things are going and how they and their organization are doing, and plans for improvement.
- Adequate effort spent on training and on-going performance feedback for all HWS staff and contracted suppliers so they:
 - Understand and buy into the purpose and intended outcomes of the HWS;
 - Understand and feel prepared to play their role, see where they fit in the larger team, and are aware of what other participants will be doing;
 - Are familiar with all protocols and services and the administrative and financial constraints within which they will be working;
 - Receive, on a periodic basis, aggregate reports and meaningful individual feedback and coaching on how things are going and how they, their organization and the whole HWS service is doing and plans for improvement.
- Establishment of eligibility criteria and a stepped-care approach to conserve resources.
- Maximal use of technology in service delivery to reduce cost of service delivery and ensure effectiveness.
- Use of methods that cost-effectively deliver compassionate, individualized, human-centered and multi-dimensional services
 - that acknowledge and address the specific issues and circumstances influencing each eligible individual's current predicament; and
 - that make positive, substantive and objectively-determinable differences in their lives.
- Management information system capability to support data capture, reporting and analysis. Ideally, the HWS will be able to hook its information system to those of its larger referral sources. The HWS will need a case management system that is set up for maximum efficiency of communications with multiple parties, and that is shared with all neighboring HWS operating units. Since there are so many different potential payers and employers, none of whom will want to bear the entire cost of development, the government will have to be prepared to pay for its development (or acquisition and customization) and maintenance.
- Incentive alignment that encourages and rewards active engagement of all stakeholders, particularly treating doctors for whom there is little/no incentive for preventing avoidable work disability now.
- Process and outcome metrics that can be operationalized and for which all stakeholders can be held accountable, including favorable return on investment.
- A realistic business model for the HWS Centers that will assure sustainability, especially predictable sources of revenue to cover fixed costs (overhead) and variable costs (service delivery).
- Funding mechanisms that will create competition between HSWs without excessive dilution or disruption – and keep motivation high to win on customer satisfaction, as well as the quality and impact of services delivered (value).

Intermediate Steps and Sequential Elements of the Initiative

A. Legislative Authority, Funding Authorization, Appoint Lead Entity & Staffing – Year 1

This initiative will probably require legislative action to authorize and create accountability and provide funding for the HWS somewhere within the government. The entity created to assure that these services become available nationally must be familiar with the involved science, have access to the required practical expertise to oversee its development, implement it operationally and be held accountable for producing the intended outcomes. It should also be expected to stay current with and participate in research in the field and establish flexible updating processes as part of its quality management to ensure continuous improvement and innovation in delivery.

If demonstration authority is required, it might possible under existing Section 1115 of the Social Security Act. Medicare and Medicaid will be protected if people with health problems are able to stay employed with private healthcare benefits coverage – and avoid the deterioration of their health and the increased demand for care that would be a consequence of unemployment.

B. Vendor Contracting in Year 2:

Accountable agency creates rough plan for entire initiative and then defines key details for each element as it comes due, defines project phases, creates requests for proposals and manages the bid review, award, and contracting for elements C, D and E in a manner that assures smooth transitions and the most timely completion possible of the entire initiative.

C: Begin Foundation Work Immediately and Sustain It –Years 2 - 7

This element has two parts that constitute the foundation for the whole initiative, but focus on two distinctly separate domains: (C-1) building public awareness and support for public investment in the HWS, especially among influential stakeholders; this will continue throughout the entire 7 year development period; and (C-2) Creating and prototyping critically essential portions of the intellectual property the development effort will need during the next Element; this will take two years.

C-1. Build public awareness of the issues and support for public investment in the HWS, especially among influential stakeholders – This will take 5 years.

These projects should begin immediately and will gradually unfold over 5 or 6 years until it is time to make a commitment to support, fund and launch the HWS.

Inspired by the success of the foundation-building efforts before major public investment and launch of the services in the UK and to a lesser extent in Washington, we recommend a strategic and persistent effort be undertaken to raise awareness of the problem of over-disablement and avoidable work disability, discomfort with the harm being done by the status quo, and build the political will for change.

We recommend adopting the strategy used by the civil service leaders in the UK and to a lesser extent in Washington state. They knew they had to build public support and conducted a strategic and long-term campaign to achieve it. The UK began by commissioning a couple “best evidence reviews” written in plain language – and every time a

big issue emerged, they did another one. Then they carefully orchestrated the dissemination of the findings of the reviews (and created simplified versions of them). They wanted to create widely-shared awareness of the factual evidence behind the assertion that the lack of a work disability prevention approach was causing harm, and that we already know what is needed and what will work better. They marketed these ideas to a variety of audiences and in many venues – and did it well enough to generate a real thirst for a better solution among all system participants, and agreement that the problem needed to be attacked soon.

In the US, this means reaching out to thought leaders and influential individuals in a variety of stakeholder groups (disability advocacy groups, healthcare professionals, the healthcare industry, the workers' compensation and commercial disability benefits industries, employers, officials in all relevant state and Federal agencies, policymakers, Congressional staff and legislators, etc.).

See below in this Appendix for a list of messages that we recommend stakeholders should hear.

C-2. Create the “core” wherewithal – This will take 2 years.

During this phase, preliminary versions of all the materials to support and conduct the entire initiative will be created. Some specific pieces will require small scale testing and refinement. These projects will begin immediately and take an estimated 2 years to complete.

- Develop preliminary drafts of program design, start-up kit including job descriptions and operating manual, performance specifications, criteria for test community selection, criteria for vendor selection, prototype RFP, and vendor contract.
- Gauge the interest of local communities in having this service (and discuss some design ideas). Develop and conduct an initial market customer readiness study to survey a sampling of local jurisdictions or entities as to whether their community would benefit from and want to have something like the HWS service in their area, and if so, what features they would want it to have. The readiness survey could be a mixed paper and interview format. The survey would also ask whether they might be interested in participating as a test site in one or more of the preliminary or pilot studies below. If so, they could be asked for their ideas about how the HWS would have to be designed in order to succeed in their environment.
- Conduct a series of small hands-on studies to first design, then prototype, then assess the feasibility of delivering various isolated features or aspects of the proposed service design at three or four different pilot HWS sites, preferably in separate states with varying characteristics. These will begin delivering services to individuals on a very limited basis, but are expected to show positive results.

D: Design, Prototype, and Pilot Test the HWS by Conducting A Series of Projects in Sequence – Years 5, 6 and 7

This phase will begin in Year 5, following and building on the service configuration experiments in Element C, and continue for 3 years, ending 7 years from beginning of the entire initiative. Substantial service delivery using a model that has been refined following small scale pilots and a

randomized design will occur in this phase, showing conclusively that the HWS overall is feasible and desirable.

- Based on findings of the earlier projects and partial pilot tests, complete design of the entire model. Conduct small feasibility tests of the prototype in several separate locations to demonstrate that the concept can work well in the real world, and can be configured to accommodate the many situation variations found across our nation.
- The prototype phase followed by several pilot programs in different locations will help identify program design mistakes – incorrect assumptions, impractical ideas, and so on – before a major investment is made. It will also allow experimentation with alternate approaches to specific issues, determine configuration details needed for various environments involved (e.g. state laws, population demographics, geography, variations in medical landscape, dominant private sector employers and payers). This iterative process of experimentation and refinement under a range of different but realistic conditions will facilitate the development of generic performance specifications that create the flexibility needed for successful widespread adoption.
- The next step should be a large scale random assignment trial at several new locations to verify that the service reliably produces the expected outcomes for individuals and savings for payers, and that HWS Centers appear likely to become economically self-sustaining.
- Pilot HWS providers could be public entities, private for profit companies, or charitable organizations, chosen in an RFP bid process requiring community participation in determining service configuration. The pilots should be managed locally and housed in a healthcare provider-friendly institution, with sufficient creative autonomy to encourage fresh thinking and ensure constraints of the past do not dominate considerations for how to conduct the pilots.
- A multi-step management process will be required to effect these pilots, beginning with overall strategy and planning, socializing the idea and building interest in communities that might serve as pilot locations, gathering information from possible bidders, creating an RFP, making awards, managing and monitoring implementation, and evaluating results.

E: Launch and gradually roll out the HWS service nationwide

This phase is likely to begin about 7 years from initial start of the entire initiative. Its exact configuration will be substantially influenced by the work done in earlier years, but in general outline will include setting a final strategy and plan, setting up any government organizational entities required, arranging for the procurement processes required, and obtaining funding and any legislative actions required.

The full-scale roll-out must be managed very thoughtfully so the HWS gets off to a good start and proves its value right from the beginning. One way to assure this is to start the service in geographic areas thirsty for it – its macro level customers. Therefore a range of organizations at various levels from a variety of jurisdictions should have input into design of the program and its performance specifications as well as the specifications for the service provider(s) that will operate it.

Assuming that contractors will be selected to operate the service in an RFP process, the strategy for assuring that competent organizations are attracted and that they start by entering jurisdictions

thirsty for the service will be important. Both potential jurisdictions and potential bidders should be involved in appropriate ways in setting up the process.

Most likely a sequential roll-out process will be needed, perhaps in several waves. Further learning about how to do this successfully is expected, but most of the major issues should have been resolved before Phase 3 begins.

Key Messages for Stakeholders to Hear

They all need to learn about the problem of harmful secondary consequences of health conditions and acquired disability and discuss how the government can best help. In particular, these individuals need to hear some specific new ideas:

- Poor health outcomes and aggregate disability program costs from avoidable work disability need to be seen as a threat to the public's health. This problem must be addressed for humanitarian as well as social and financial reasons. America has responded powerfully to similar issues in the past, such as smoking cessation and prevention of heart disease.
- Free market forces in the healthcare and benefits industries, so often of great value to our society, have proven to impede rather than advance progress in this important area because of the thorny disconnects between who pays and who benefits.

Additional important points to make include these:

- A good number of people receiving disability benefits today were harmed instead of helped by the care they received in today's inadequate and uneven medical and disability benefits systems.
- Today's systems over-emphasize bodily anatomy and physiology, and over-aggressive treatments such as opioids, injections, and surgeries that often actually worsen outcomes.
- Today's systems under-acknowledge the influence of the individual's brain (memories, knowledge, thoughts, beliefs, reasonable concerns, fears, expectations and intentions) on their response to the predicaments that arise when symptoms appear that interfere with daily life and work.
- As a result of these distortions, treatments that have been shown to effectively address the latter things are seldom available.
- When we objectively "document" and "measure" functional limitations, it is critically important to distinguish whether the person who cannot do -- or is not doing -- something has:
 - A functional deficit that is irrevocable: paralysis, fused skeletal joints, loss of a body part or damaged organs; or
 - A functional deficit with potential for restoration if appropriate steps are taken: e.g. lack of necessary treatment, fear of activity, protective self-limitation, and/or deconditioning (physical or mental).

The current failure to routinely require clearly differentiating these things leads to the prevalent false impression that all objectively documented or measured impairments are irrevocable and nothing can be done about them. Chronic pain is the poster child for this failure, as there are many options for addressing it but typically are not used.

An evaluation of remediability should be part of every assessment – as an aid to decision-making by the patient as well as to the entity requesting the evaluation. However, this is not done today. Sometimes work disability is being caused by impairment that is restorable. Sometimes it is being caused by irrevocable losses that can be circumvented with adaptive equipment or worksite accommodation.

Lastly, there is usually no professional available in the care system today whose job it is to keep things moving forward to the successful and safe return to function for each individual, including stay-at-work or return-to-work. Because of their inexperience with these situations, some affected individuals make poor decisions or end up with unfortunate outcomes that could have been avoided.

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