

# Building Capacity for Integrated Occupational Safety, Health, and Well-Being Initiatives Using Guidelines for Total Worker Health<sup>®</sup> Approaches

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**Objectives:** To describe the process used to build capacity for wider dissemination of a Total Worker Health<sup>®</sup> (TWH) model using the infrastructure of a health and well-being vendor organization. **Methods:** A multiple-case study mixed-methods design was used to learn from a year-long investigation of the experiences by participating organizations. **Results:** Increased capacity for TWH solutions was observed as evidenced by the participation, plans of action, and experience ratings of the participating organizations. The planning process was feasible and acceptable, although the challenges of dealing with the COVID-19 pandemic only afforded two of the three worksites to deliver a comprehensive written action plan. **Conclusions:** A suite of services including guidelines, trainings, and technical assistance is feasible to support planning, acceptable to the companies that participated, and supports employers in applying the TWH knowledge base into practice.

**Keywords:** conditions of work, dissemination, guidelines, health promotion, occupational safety, planning, practice, total worker health, translation, worksite

## BACKGROUND

The integration of worksite health protection (safety) and health promotion represents a concept that brings together activities designed to improve the health of workers while simultaneously addressing the safety and healthfulness of working conditions. The World Health Organization's Healthy Workplaces: A Model for

Action,<sup>1</sup> served as an early model that influenced the National Institute of Occupational Safety and Health (NIOSH) in developing, introducing, and evolving the Total Worker Health<sup>®</sup> (TWH; a federal NIOSH initiative, Centers for Disease Control and Prevention, Atlanta, GA) initiative.<sup>2,3</sup> TWH is focused on policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness-prevention efforts to advance worker well-being.

Research on the concept, effectiveness, and impact of TWH has progressed steadily over the past decade.<sup>3</sup> As a result, increasing attention is being paid to translational efforts focused on advancement of adoption and implementation of TWH efforts. In particular, the systematic assessment of needs and priorities as expressed by employers and service providers as well as the availability of evidence-based guidance and resources for implementation deserve attention. In response, the Center for Work, Health, and Well-Being at the Harvard T.H. Chan School of Public Health (CWHW) designed a suite of resources including Implementation Guidelines, training, and technical assistance (TA) that addresses approaches to worker safety, health, and well-being through efforts that coordinate, integrate, and focus attention on working conditions.<sup>4</sup> The CWHW Implementation Guidelines are based on the "SafeWell Guidelines," a first-generation set of guidance from CWHW,<sup>5</sup> and needs assessments that included in-depth interviews with program vendors, brokers, health departments, and consulting agencies. The trainings are based on the Implementation Guidelines (4; and for additional information see [www.http://centerforworkhealth.sph.harvard.edu/](http://centerforworkhealth.sph.harvard.edu/)) and incorporate additional expressed needs from worksites, such as (1) skills identification and mastery; (2) articulation of an integrated approach to worker safety, health, and well-being focusing on the conditions of work; and (3) provision of TA to aid in planning. The Implementation Guidelines are supported by evidence<sup>3,6-15</sup> and are downloadable.<sup>4</sup>

Previous research also highlights challenges faced by employers who attempt to implement TWH approaches. Specifically, our previous research on measurement tools for TWH showed that for full implementation, employers need ample time for internal vetting of the TWH concept and to construct shared mental models among staff.<sup>16</sup> In the context of small to midsize companies, planning efforts must account for the delays caused by baseline measurements, internal decision-making, resource allocation, and preparation for interventions. Based on our previous experiences,<sup>10,16,17</sup> such delays may take anywhere from 6 months to a year. Planning efforts require time to generate a comprehensive assessment, consider initial baseline data, train staff for interventions, prepare supervisors for change, and bring company leaders together with a shared understanding of the commitments and expectations of a systems-wide initiative.

In support of setting an appropriate context for the Implementation Guidelines at worksites, we posit that a pilot investigation into the process of planning for TWH implementation efforts is needed. To do so, we describe here the application of the Implementation Guidelines along with training and TA to capacity building in three small-to-

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**Clinical Significance:** Building capacity for a TWH approach may be achieved by using implementation guidelines, training, and technical assistance in small-to-medium sized organizations.

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midsized organizations using a vendor organization as the delivery mechanism. The project described in this paper is based on the Implementation Guidelines but limited in scope to the planning phases only; we consider the creation of a bonafide plan for action the primary outcome of the project. It is recognized that needs will vary by organization based on size, workforce characteristics, demographics, product mix, geographic location, workplace culture, among others. The approach implemented in this investigation was specifically adapted to fit and align with the implementation processes of the collaborating health and well-being vendor.

## PURPOSE

The main goal of this paper is to describe the process used to build capacity for wider dissemination of a TWH model using the infrastructure of a health and well-being vendor organization. Capacity building, in this context, is operationally defined as a company's ability to implement change initiatives consistent with an integrated approach to safety and health promotion—it includes having the knowledge, resources (ie, time, funds, people, motivation) and skills necessary to accomplish the tasks delineated. The primary focus of this paper is related to the feasibility, acceptability, and practical use of the planning tools as outlined in the Implementation Guidelines, the trainings, and the associated TA. More specifically, the purpose of this paper is fourfold:

- Using a case study method, describe the development of an academic–vendor partnership to build capacity for worksites to create implementation plans for TWH approaches designed to improve working conditions, including knowledge transfer, leadership consulting, trainings, and TA.
- Assess a vendor-supported model as implemented to build capacity among worksites to plan for TWH approaches.
- Evaluate the process and outcomes, including a formal written action plan as the primary outcome.
- Describe the lessons learned or recommendations for using a vendor-supported model in similar settings.

## METHODS

This pilot investigation was designed as a multiple-case study using mixed methods as an evaluation strategy. The case study method has been identified as an appropriate study design for TWH-related projects since in this emerging field of scientific inquiry the case study can clarify highly complex issues and concepts such as integration of worksite health protection and health promotion, leadership support and commitment, worker engagement, culture, process, and worker well-being.<sup>18</sup> One of the greatest strengths of a case study is the opportunity to gather information on the context and rationales for TWH efforts, their specific details, and their perceived impact. Therefore, this mixed-method case study was considered appropriate to meet the goals and objectives for the present investigation. Furthermore, case study designs should systematically record evidence using qualitative, quantitative, or mixed-methods and be linked to a theoretical framework.<sup>18</sup> In this case, we based our approach on our previously published conceptual model<sup>17</sup> and we triangulated our data using several evaluation tools further described below.

### Pilot Site Recruitment and Project Administration

HealthPartners, a not-for-profit, member-governed integrated health system headquartered in Minneapolis, Minnesota, partnered with the CWHW to conduct a 12-month pilot (from September, 2019 through August, 2020) with three small- to medium-sized client organizations to learn how to best support organizations as they plan TWH approaches in their own worksites. HealthPartners, therefore, served as the vendor organization through which the delivery of the services was coordinated. The HealthPartners Worksite Health & Population Well-being Department and the

Occupational Medicine Department provided the necessary coordination with the pilot companies. The HealthPartners Institute's Center for Evaluation and Survey Research (CESR) provided data collection and analytic support for surveys conducted as part of this investigation in collaboration with the CWHW at Harvard University's Chan School of Public Health.

Three small-to-medium size (less than 750 employees) organizations were recruited for this study from the customer base of HealthPartners. To recruit pilot sites, HealthPartners reviewed their book of business to identify potential clients. Inclusion criteria included: small-to-medium sized businesses, current clients of HealthPartners, based in the greater Minneapolis area, and having leadership committed to improving safety, health, and well-being.<sup>19,20</sup> HealthPartners sponsored a breakfast for leaders of potential companies and followed up with those that expressed interest. Eight companies were invited to attend the breakfast and four attended it. To participate, company leaders needed to agree to the following activities at their site: kick-off webinar; identify co-champions to lead the work at the site; establish an integrated team comprised of safety, health, human resource, operations, and other areas with blend of front-line and management; complete the CWHW's Workplace Integrated Safety and Health (WISH) Assessment<sup>21</sup>; complete an occupational safety walk-thru developed by HealthPartners<sup>16</sup>; assign co-champions to convene periodic integrated team meetings to assess major working conditions that impacted worker health, safety and well-being, prioritize actions to address these working conditions and create an action plan to implement them; and participate in post-pilot evaluations. Of the four organizations that attended the breakfast, three participated in the pilot: (1) a pest control company, (2) a manufacturer and retailer of woodworking tools, and (3) a regional medical center.

Technical assistance was built into the pilot by training a small team of occupational medicine residents and physicians and health and well-being consultants within HealthPartners on the TWH approach. The trainings were spaced throughout the course of the year instead of a single event at the beginning of the project. The trainings were conducted in-person as well as remotely and involved role-playing, didactic teaching, and scenario critiques to prepare the TA Providers for their role in supporting the sites. In a typical month, a TA Provider, on average, spent up to 12 hours per month supporting a given worksite with duties including preparation time, direct service, follow-up, and travel (prior to the COVID-19 outbreak). This time estimate did not include training of TA Providers.

This pilot investigation was focused on the first few chapters of the Implementation Guidelines (ie, leadership support, building collaboration, and planning). The main outcome of the study was for the pilot sites to develop an action plan for how they would implement the integrated approach in their own organizations. To complete the action plans, integrated teams were responsible for developing goals, objectives, working conditions targets, policies, programs, and practices, and tactics related to improving safety, health, and well-being at their sites.

### Implementation Guidelines and Tools Development

The Implementation Guidelines were based on CWHW research, a previous set of guidelines,<sup>5</sup> and a pre-project needs assessment with a range of (business network) providers of health, safety, and well-being services, as well as available guidance from NIOSH on essential elements of effective program design.<sup>22</sup> The guidelines focused on building awareness of safety, health, and well-being issues and resources that may be present but not necessarily recognized at the company as well as on aiding worksites in their efforts to plan and implement integrated approaches to worker safety, health and well-being, and conditions of work by engaging workers in these efforts. The Implementation Guidelines followed a Model for Improvement<sup>23</sup> that

included pre-planning phases of garnering leadership and worksite-wide support, planning, implementing, evaluating, and continually improving. They included case examples, tools and resources, both within the chapters, as well as in the included appendices. As mentioned above, four trainings were conducted; one in-person training at the beginning of the project and three additional ones, spaced months apart, to coordinate with TA Providers when they would implement various components of the Implementation Guidelines.

The vendor also requested that certain tools be developed for use with the sites. These tools were co-created by CWHW and the vendor and included an introductory slide deck for co-champions to use to garner support throughout the organization, assessments (the WISH tool,<sup>21</sup> safety walkthrough tool,<sup>16</sup> and a report from assessments), a short case study about Dartmouth-Hitchcock Medical Center's use of integrated approaches,<sup>24</sup> monthly integrated team meeting agendas, sample action plans, and a guide for prioritizing policies and practices.

## Implementation Process

Once recruited in late 2018, each site appointed co-champions who attended an hour-long webinar to review the pilot in detail, including champion roles, responsibilities, and expectations. Co-champions were responsible for setting up "integrated teams" and conduct periodic meetings. Strong suggestions were made that the teams include broad representation from different departments representing health, safety, and well-being, as well as different levels of employees, including front-line workers. HealthPartners suggested that the teams meet at least monthly and provided draft agendas for their client's use at the meetings. The agendas were based on components of two chapters of the Implementation Guidelines and divided into 12 topics that became the "purpose" of the monthly meeting agendas with the integrated site teams.

For the 12-months (2019 to 2020) of this pilot study, activities focused on building leadership support, collaboration, and planning of system-wide integrated approaches to safety, health, and well-being that addressed unique working conditions within each company and were designed to produce a specific action plan that addressed the specific needs identified by each company by the end of the year.

Unfortunately, due to the COVID-19 pandemic, activities were suspended from March through May of 2020. Following a rapid shift from mostly in-person to remote operations, activities were resumed during the summer of 2020.

## Evaluation

We developed a combination of qualitative and quantitative evaluation tools. Since this project was designed as a case study and the main outcome for the pilot sites was to deliver an action plan, we did not presume that there would be differences in site-specific objectives.

The evaluation tools included: (1) a final survey of worksite co-champions and integrated team members involved in the project, (2) interviews with co-champions and vendor staff at HealthPartners, (3) meeting notes/presentations, and (4) an action plan review. To obtain results we triangulated data from these different sources to develop themes.

## Final Survey

The Center for Evaluation & Survey Research (CESR) at the HealthPartners Institute fielded a post-implementation survey of co-champions and integrated team members from the three organizations involved in the pilot. The survey assessed participant experience and sought feedback for future improvements. The survey was fielded from July 13, 2020 through July 31, 2020 to 29 integrated team members from Company 1 ( $n=5$ ), 2 ( $n=9$ ), and 3 ( $n=15$ ). All participants were sent a pre-notification email from their organization's co-champions requesting survey completion. The same day, they were sent a survey invitation email from CESR with

additional details about the survey and a unique survey URL for online completion. This email was signed by two of the TWH pilot project leaders. Non-responders were sent up to three reminder emails; before the third reminder email, co-champions were asked to send a final request to all participants. The survey was designed to take 5 to 10 minutes to complete. Due to the emergence of the COVID-19 pandemic during the course of this pilot investigation, we included several questions designed to learn whether the project was impacted by the pandemic.

## Interviews With Co-Champions and HealthPartners Vendor Staff

The overall purpose of the final interviews was to answer research questions related to the use of, adaptations to, recommendations for, and results from the capacity building suite used in the pilot. Two interview guides were developed: one for the site co-champions and one for HealthPartners staff. Constructs for the co-champions' guide included:

- Impact of the COVID-19 pandemic on conducting the project at the pilot sites.
- Perspective on the overall pilot program and how things went at the sites.
- Use of adaptations to and recommendations for the Implementation Guidelines and other tools that were created.
- Role of HealthPartners TA in adoption and implementation of integrated approaches.
- Future impact of the project at the sites.

The constructs for HealthPartners staff and site co-champions were similar except questions on the role of HealthPartners TA and future impact of the project at sites were replaced with questions about staff's experience with and perceptions of the project and the trainings provided by CWHW staff.

Two CWHW staff conducted interviews remotely between June and July 2020. One staff member conducted interviews with a total of seven pilot site co-champions. The other staff member interviewed a total of five HealthPartners staff, including three TA Providers, one project manager, and one senior advisor to the project. These interviews were audio-recorded and lasted about 60 minutes each. Most interviews occurred individually, but two (one of site co-champions and one of HealthPartners staff) interviews had two people participating in them.

## Meeting Notes/Presentations

Throughout the project, we collected meeting notes and drew lessons learned from different phases and characteristics of the pilot.

## Action Plan Review

Each of the pilot sites were asked to complete a formal action plan as the primary outcome of this pilot investigation. Two members of the research team independently scored the action plans based on a priori determined criteria for each of the following sections derived from the Implementation Guidelines: overall goals, SMART objectives, working conditions, tactics and planning actions, policies and practices, and create an action plan (well-crafted plan with accountability). The approach to the action plan review was based on practice-derived insights and guidance of design and evaluation of health promotion programs, referred to as the PIPE Impact Metric framework.<sup>25</sup> Following separate ratings, the two reviewers met to address areas of disagreement and sought to come to resolution. Final observations were presented back to the companies as direct feedback. Table 1 provides an overview of the elements and the evaluation criteria used for scoring. Scoring for each section was based on a 0 to 5 score (higher is better) for a total possible 30 points.

**TABLE 1.** Action Plan Evaluation Elements and Scoring Criteria

Action Plan Element	Definition*	Scoring Criteria
Overall goal(s)	<p>Define goal. An effective goal provides direction for your team. When you align the initiative's goal with your organization's mission and business objectives, you also increase the odds that you'll get buy-in and support from across your organization.</p> <p>The overall goal should:</p> <ol style="list-style-type: none"> <li>(1) Seek to reduce risk and improve health, safety and well-being of employees and worksites</li> <li>(2) Focus on improving work</li> <li>(3) Promotes collaboration</li> <li>(4) Align with strategic vision and goals of the organization</li> </ol>	<p>The overall goal meets the criteria:</p> <ol style="list-style-type: none"> <li>(1) Fully = 5 (met 4 out of 4)</li> <li>(2) Partially = 3 (met 2 or 3)</li> <li>(3) Not at all = 1 (met fewer than 2)</li> </ol>
SMART objectives	<p>Choose SMART objectives. SMART objectives—Specific, Measurable, Attainable, Relevant, and Time-bound—help you get the most from your process. They drive accountability and clarify what you want to accomplish. SMART objectives should:</p> <ol style="list-style-type: none"> <li>(1) Addresses a Specific change</li> <li>(2) Identifies measure that help objectively check progress toward that change</li> <li>(3) Sets an outcome that's attainable for your timeframe</li> <li>(4) Verifies that objectives are Relevant to the organization</li> <li>(5) Sets a target date (time-bound) for measuring objective</li> </ol>	<p>The overall objectives meets the criteria:</p> <ol style="list-style-type: none"> <li>(1) Fully = 5 (met 5 out of 5)</li> <li>(2) Partially = 3 (met 3 or 4)</li> <li>(3) Not at all = 1 (met fewer than 3)</li> </ol>
Working conditions	<p>Identify relevant working conditions. By targeting working conditions, you work at the systems level and focus on the root causes of health and safety issues.</p> <p>Identified working conditions (WC) work at the systems level and focus on root causes of health and safety issues and include:</p> <ol style="list-style-type: none"> <li>(1) Physical environment</li> <li>(2) Work organization</li> <li>(3) Psychosocial environment</li> </ol>	<p>The working conditions meet the criteria:</p> <ol style="list-style-type: none"> <li>(1) Fully = 5 (all WC focus on root causes and address all three types)</li> <li>(2) Partially = 3 (most WC focus on root causes and address multiple types)</li> <li>(3) Not at all = 1 (WC don't focus on root causes and/or address multiple types)</li> </ol>
Tactics and planning actions	<p>Tactics are what you do to address working conditions. Planning actions are the specific steps you plan to take to achieve your tactics.</p> <p>Tactics and planning actions should:</p> <ol style="list-style-type: none"> <li>(1) Appeal to leadership, so they'll communicate their support and allocate required resources</li> <li>(2) Promote collaboration and participation by different organizational stakeholders</li> <li>(3) Change policies or practices to support positive working conditions while adhering to regulations and ethical norms</li> <li>(4) Are measurable, so you can gauge progress</li> </ol>	<p>The tactics and planning actions meet the criteria:</p> <ol style="list-style-type: none"> <li>(1) Fully = 5 (meet all the above for all tactics)</li> <li>(2) Partially = 3 (meet most of the above for all tactics)</li> <li>(3) Not at all = 1 (do not meet the above for all tactics)</li> </ol>
Policies and practices	<p>The actions you implement that, in turn, influence working conditions.</p> <p>Policies and practices (PP) can be either formal (written and disseminated) or informal (done on an ad hoc or informal basis) and influence working conditions. They may address the following areas:</p> <ol style="list-style-type: none"> <li>(1) Management and leadership</li> <li>(2) Worker participation</li> <li>(3) Hazard identification and assessment</li> <li>(4) Hazard prevention and control</li> <li>(5) Education and training</li> <li>(6) Program evaluation and improvement</li> <li>(7) Communication and coordination for host employers, contractors, and staffing agencies</li> </ol>	<p>The policies and practices meet the criteria:</p> <ol style="list-style-type: none"> <li>(1) Fully = 5 (all PP focus on influencing WC)</li> <li>(2) Partially = 3 (most PP focus on influencing WC)</li> <li>(3) Not at all = 1 (few or no PP focus on influencing WC)</li> </ol>
Create an action plan	<p>A well-created plan charts your course and drives accountability. It also guides efforts to track progress, allowing you to identify areas that need improvement.</p>	<p>Your overall impression of the action plan was:</p> <ol style="list-style-type: none"> <li>(1) Well-crafted plan that drives accountability = 5</li> <li>(2) Mostly complete, some improvements needed = 3</li> <li>(3) Incomplete or missed the mark on many elements = 1</li> </ol>

\*Definitions derived from reference McLellan et al.<sup>4</sup>

## Analytical Methods

This case study used a mixed methods approach by soliciting qualitative insights through surveys and interviews and quantitative data based on simple counts and proportions stemming from the participation of the vendor organization and three organizations. Qualitative interviews were transcribed into text-based data and in-depth content analyses used in anthropology were conducted.<sup>26</sup> Analyses included development of themes and these themes were deliberated in multiple group discussions by research collaborators during August 2020. No statistical analyses were conducted.

## Ethics Approval and Consent to Participate

This project is part of the Outreach Core of the CWHW and the Harvard Office of Regulatory Affairs and Research Compliance determined that the Outreach Core is not classified as human subject research as defined by DHHS or FDA and therefore not subject to review. The project was determined exempt from institutional review and the HealthPartners organization deemed this project to be quality improvement.

## RESULTS

### General Observations

The three pilot organizations were all new to using TWH approaches and they all noted that while the Implementation Guidelines and tools were useful resources, the TA provided by HealthPartners was “essential” to the process of the project and generated a great overall experience. This was especially the case in the beginning of the project as the sites were learning about TWH approaches, what they were, and how to use them. For all clients, the understanding of working conditions as the primary focus of analysis was considered a paradigm shift that required education and learning before successful use of the tools and processes could be expected to occur. By the end of the project, sites thought they could move forward on their own, although they would still appreciate periodic check-ins with TA Providers for guidance and holding themselves accountable. At each company, the integrated team membership was comprised of safety, health, human resource, and operations staff. The sites and integrated team members were excited about participating in the pilot and realized that a long-term perspective and approach will likely be needed to adopt and implement integrated approaches to worker safety, health, and well-being focused on working conditions.

The capacity building tools provided in-depth background information for the TA Providers to use. But the trainings, and particularly the components that included practicing how to describe TWH approaches and how to coach sites on how to use them, may have been the most important components for the TA Providers. Furthermore, TA Providers were excited about learning more about TWH approaches, offering them to clients, and saw them as a benefit to their own career development. Most of the site co-champions appreciated the vendor “breaking down” the comprehensive Implementation Guidelines chapters into more “bite-size” formats more conducive for learning.

The three major components that constitute the CWHW capacity building suite—the Implementation Guidelines, training, and TA—appear to have varying degrees of importance depending on the organization and its previous experience using TWH approaches. For the TA Providers, trainings on the contents of the Implementation Guidelines were important for them to be able to learn about TWH approaches and practice how best to coach their clients. The Implementation Guidelines and tools were used by TA Providers and site co-champions. Co-champions, however, did not share the information provided widely within their organizations, although some shared abridged information to executive leadership and with their integrated teams. Initially, leadership support for safety and well-being was

strong for all companies due to the required time commitment of the co-champions and integrated team members. However, in some instances, leader turnover and changes required groups to “re-engage” leaders and in those cases, the Implementation Guidelines section on “making the business case” was revisited. The Dartmouth Hitchcock Case Study<sup>4</sup> was a successful component of making the business case to executive leaders. When meeting with the client, the TA Provider would focus attention on specific sections of the Implementation Guidelines such as the planning cycle diagram to promote a shared conceptual model of TWH sections that had visuals such as the TWH hierarchy of controls,<sup>27</sup> and tables articulating policies and practices that impact working conditions.

### Final Survey Results

A total number of 29 surveys were sent out to planning team members in the three organizations. One participant was furloughed due to the COVID-19 pandemic and was removed from the denominator. A total of 18 completed surveys were returned (a response rate of 64%). Six of the 18 respondents were co-champions, and all respondents had been on the integrated planning teams since the pilot began. Response rates by company were 80% (four out of five surveys completed), 78% (seven out of nine surveys completed), and 50% (seven out of 14 surveys completed) for Company 1, 2, and 3, respectively. Overall, the responses were positive with all respondents indicating the program added value to their organization. Table 2 presents the major insights or themes distilled from the final survey responses.

### Interviews With Vendor Staff and Co-Champions

Vendor staff and co-champions reported that the Implementation Guidelines, training, and TA supported the adoption of TWH approaches by the vendor and the worksites. All three components were important separately with different emphasis across the three companies depending on the organization.

### TA Providers

For the TA Providers at the vendor, trainings on the contents of the Implementation Guidelines taught them about TWH approaches and provided opportunities for practicing how best to coach their clients.

“I think that the most valuable thing that myself and many got out of the trainings was that the way that we made the training less about speaking at people but made them practice the skills, made them do preparation and homework and then apply those through roleplays.” (TA1)

“I think it forced us to bring the concepts to life...you’re expected to perform...so you couldn’t passively take the information in. You had to take it in, synthesize it, and then be able to demonstrate it in the role play.” (TA3)

These components appear to have been the most important elements to prepare the TA Providers for the project.

Results from the post project interviews supported those from the needs assessment—having trainings spread out over the course of the project instead of just a single longer one at the beginning was preferred.

“It was nice to have [the trainings] broken down throughout the year to...hit on approximately where we were in the pilot at that point.” (TA2)

This helped TA Providers learn pertinent information they used with their sites in a timelier manner. Interviews showed that the TA Providers thought it was very helpful to include concrete examples of TWH including visuals, frameworks, and models in the trainings.

**TABLE 2.** Insights and Themes Gathered From the Survey Responses From Study Participants (N = 28)

Insight or Theme	Additional Information
Most respondents rated the TWH pilot as excellent or very good.	72% of all respondents
Most respondents believed that 12 months was the right length of time or the amount of work required and that the workload was “about right.”	67% of all respondents
Most respondents thought that the amount of work that needed to be done each month was “about right.”	78% of all respondents
Meeting agendas were the tools used most frequently (followed by sample action plans), with the introductory slide deck used least frequently.	89% and 83% of all respondents used agendas and sample action plans most frequently, respectively
All of the tools were found to be useful. The sample action plans was the tool most frequently cited as being “very useful” for most respondents.	63% of all respondents
The process was considered very or somewhat easy to implement, with no one saying it was very difficult.	83% of all respondents
Almost all respondents felt very or somewhat confident that the action plan would be implemented at their organization.	89% of all respondents
Almost all respondents were very or somewhat confident that their company would see measurable improvements from developing and implementing the committee and plan.	89% of all respondents
Most agreed that the TWH approach helped identify ways to improve safety and health and well-being at their workplace.	88% of all respondents
Though many indicated that they would have “somewhat” started using TWH approaches without the guidelines or tools, none of the respondents indicated “definitely.”	63% of all respondents indicated “somewhat” and 38% indicated “no”
Overall, almost all respondents thought the TWH approach would add at least moderate value to their organizations.	59% of all respondents indicated “moderate” and 35% indicated “large” value
Overall, all respondents would “probably” or “definitely” recommend the TWH approach to other companies similar to theirs.	47% of all respondents indicated “definitely” and 53% indicated “probably”
The COVID-19 pandemic had a significant impact on the job roles of participants.	78% of all respondents
The COVID-19 pandemic had a significant impact on the choice of goals and working conditions selected within the pilot.	78% of all respondents
Due to COVID-19, open-ended question responses indicated that shifting roles and priorities left less time for the TWH work. Furthermore, the pandemic narrowed the focus of the TWH pilot onto fewer goals, and basic financial and emotional needs of employees became top priority.	

“[The training] provided some concrete examples...of Total Worker Health. And they provided...useful visuals and models to help communicate complicated topics.” (TA4)

In-person trainings were appreciated with subsequent video trainings preferred over strictly phone-based. In general, TA Providers were enthusiastic about the trainings. They appreciated learning about TWH and felt confident to work with clients throughout the year.

Opportunities for improvement included the observation that role clarification is a necessary element to be addressed in order to set appropriate and clear expectations. The roles of the clients and TA Providers were different from what they were used to; organizations were to own their programs more and be responsible for the actual implementation, while the TA Providers served in more of a guidance and advisory role. Clarity of roles and responsibilities is an important part of constructive partnerships and may need to be expressed explicitly.

“They were expecting more handholding.... They wanted me as a TA provider to be the driving force with the integrated team, to take the lead on those meetings and to educate the integrated team on the different Total Worker Health perspectives and the tools that we had in the implementation guide... versus them taking that lead... Over the course of the pilot, I was able to work with the co-champions, and they really had started to take a much more active role...” (TA2)

Based on the feedback provided, the TA Providers applied their learnings to their interactions with the site co-champions. They were able to successfully coach co-champions to form integrated teams, share definitions of working conditions and share strategies to address them, encourage co-champions to develop action plans,

provide advice and confidence to the co-champions, and hold them accountable.

### Co-Champions

Whereas some members of the vendor organization had previous experience with TWH approaches, the three pilot organizations did not. All three of the organizations noted that while the Implementation Guidelines and tools were useful resources, the TA provided by the HealthPartners team was essential.

“In the beginning we needed help with direction, and so he helped support us there and with action steps. He provided some information from a healthcare perspective for our business, particularly, and provided some technical expertise. And very important to me, he provided us the encouragement that we really needed in order to understand that we were on the right track.” (Company 1)

“Having somebody there to guide you I thought was exactly what we needed.” (Company 2)

“...[I]t wouldn’t be anywhere where it is... I think we probably would have gotten a little confused on what we were doing if we were just going based off of a book... We may have made some type of difference or change, but I don’t think it would have had the results that I feel that this is going to yield in the end.” (Company 2)

This was especially true in the beginning of the project as the sites were learning about what TWH approaches were and how to use them. By the end of the project, sites thought they could probably move forward on their own, though they would still appreciate periodic check-ins with TA Providers for guidance and holding themselves accountable.

All but one of the company interviewees reported the 12-month timeframe of the project was an appropriate length of time for garnering support and collaboration, building a team, and completing an action plan with goals, objectives, working conditions, tactics, and policies and practices.

“I first heard of the idea that we’d need to have a work plan in 12 months and honestly, I thought why on earth would it take 12 months to put this together? . . . And in reality, 12 months was probably a minimum amount of time that was needed.” (Company 3)

“At first, I was like, oh, gosh. What are we gonna do for a full year here? [During the pilot] I thought it was great. . . with how busy everybody is, it was nice that each month it was one step at a time, so it was very realistic.” (Company 2)

The outlier felt if they had met more than monthly, and the COVID-19 pandemic had not occurred, that the action plan could have been done in about 3 months.

When reflecting on the highlights of the project, the site champions identified three major changes from how they usually address safety, health, and well-being at their sites. First, they formed “integrated teams” which included staff from different divisions and hierarchical levels of their organization. Suggestions of who to include were provided in the Implementation Guidelines and were communicated by the TA Providers. Co-champions were enthusiastic about participating on the teams and hearing from staff who provided different perspectives on issues and how to address them.

“It’s been fun to bring that integrated team together of people with different longevities of the company, different roles, different levels, different perspectives, different areas of experience, and bringing everyone together to share well-rounded knowledge steps, and learning more about what people see as areas of concern and interest . . . Everybody was pretty proud to be participating in that. . . .” (Company 2)

It was also acknowledged that all these different views may lengthen the decision-making process. Second, focusing on working conditions and policies and practices that can influence them provided a new structure for sites to consider ways to address safety, health, and well-being. For instance, at Company 3, staff realized how work organization factors such as breaks and scheduling can impact the well-being of their employees.

“It was surprising to find out how uncomfortable some of our staff felt taking what is legitimately their break period, how they felt like if I go on break I’m leaving all of this extra work for the people that aren’t on break and I feel guilty about that. . . This program is designed to break that mold and say, no, you deserve this time. It’s healthy for you to take this time. And then if everybody has that same attitude, you don’t have to be guilty about it.” Company 3

Company 2 was able to look at some of their current practices regarding loading boxes and shipping, recognized why and how those practices might contribute to injuries, and considered how to change them. Again, the Implementation Guidelines, training, and TA Providers all focused on these areas.

“It got us to take a step back and look at the broad picture of what we’re doing, what are our regular practices that maybe we didn’t think twice about in terms of practices, policies, every day dos and don’ts and what we’re doing on a regular basis in terms of motions, job descriptions, things like that, and needing to take a look at it and being like, oh, you know what? Maybe this isn’t the best way to pack pallets, unload pallets, get the trucks ready. . . . And just figuring out how we need to structure some of that

differently. . . what is a better way to make some of this happen?” (Company 2)

Third, using a more strategic systems approach to health, safety, and well-being was described as eye-opening in terms of the importance of everyone working towards the same goal and how integrating data across systems and involving more diverse stakeholders can facilitate identification and understanding of root causes.

“...[It] really helped us setting our strategic plan together. Because we all have the same goal. We wanna improve health. . . within our organization and then within our communities. But we’re all going about it in such different ways and so siloed that it really did help us bring everything together. (Company 3)

“All the pieces started to click together and it was really cool to see how it was moving from one milestone to the next and seeing how we were getting to that end goal of creating a safer work environment.” (Company 2)

The Implementation Guidelines, trainings, and TA Providers intentionally address this systems approach and by working through the process the sites came to recognize and embrace this model. These observations support the notion that both vendor organizations and companies need to build an internal capacity for TWH. Such a capacity will allow organizational changes to be implemented that improve the conditions of work through a TWH strategy.

## Meeting Notes/Presentations

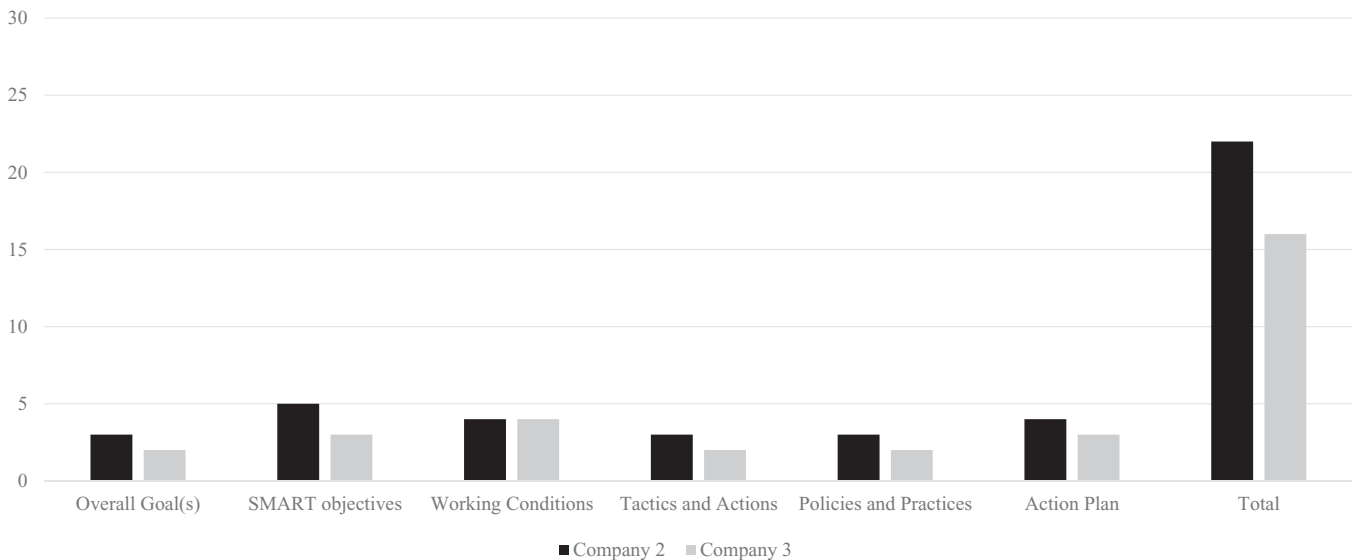
### A Focus on Working Conditions

The TA Providers were trained on definitions and examples of working conditions and their relationship to health, safety, and well-being outcomes that the sites set as goals. Subsequently, they relayed this knowledge to sites. However, despite providing guidance and direction, TA Providers did not decide which working conditions their sites chose to focus on, that is, final decisions remained with the integrated teams. For instance, one site chose a more individually-oriented working condition (safe driving practices) because it was the one the integrated team could agree upon to be politically expedient and acceptable in their company and because accidents were a major cost concern for the organization. Despite the TA Provider’s suggestion to look at tight scheduling of appointments as a working condition that might impact unsafe driving practices such as speeding, the company chose safe driving practices.

Another insight derived from discussions and deliberations among study staff relates to the need for and importance of participatory approaches. Despite the recognition of the importance of engaging workers in decision-making regarding programmatic aspects in order to generate a sense of co-ownership (ie, the companies all mentioned collaborating with employees from all levels of the organization), the integrated teams struggled to include this design element into their action plans.

### COVID-19 Pandemic Response

With the advent of the COVID-19 outbreak, work and working conditions changed for everyone involved and it impacted the staffing, activities, and outcomes of this pilot project for all sites. All three pilot sites experienced extreme work volumes because they were all considered essential organizations. Yet the pilot sites, as well as HealthPartners, had to furlough and lay-off employees due to business challenges as a result of the pandemic. Role changes for those who remained on the project and new staff additions occurred and a 3-month hiatus on the project was implemented. When the TA Providers re-engaged with the sites, trainings were conducted on re-engaging and motivating the integrated team as well as on refining



**FIGURE 1.** Action plan evaluation scores. Each component received a 1 to 5 score providing a total range of 6 to 30 points.

the action plans that sites were developing. All pilot sites decided to simplify their action plans by focusing on one objective rather than multiple ones. Many operational changes were made to ensure high levels of flexibility for workers in response to expressed worker needs when the COVID-19 pandemic struck. This observation in some ways supports the importance of participatory approaches to generate worker engagement but also indicates the challenges in ensuring that such planning happens early and deliberately.

### Action Plan Review

The action plans for Company 2 and 3 were tabulated into a standardized evaluation tool and following review each element was scored. Both reviewers consulted on their reviews and came to agreement on all elements. Company 2 scored 22 out of 30 possible points (73%) and Company 3 scored 16 out of 30 (53%) (Fig. 1). Unfortunately, due to the COVID-19 pandemic, Company 1 was not able to submit a formal action plan sufficiently complete for review.

High scores (more than or equal to four) were noted for SMART objectives, working conditions, and the creation of an action plan for Company 2 but Company 3 only scored high for working conditions. Lower scores (less than or equal to two) were observed only for Company 3 for the Action Plan elements of overall goals, tactics and planning actions, and policies and practices. Notable gaps between optimal scores and observed scores related to a lack of data-driven approaches to goal achievement, a lack of participatory approaches to stakeholder engagement, a lack of specificity to goal development and measurement, and an emphasis on tactics at the expense of policies.

### DISCUSSION

The goal of this pilot investigation was to design and test the feasibility, acceptability and practical use of a TWH Capacity Building Suite, which included Implementation Guidelines, trainings, and associated TA as it applies to both a vendor organization providing services related to TWH and the pilot organizations identified to implement a TWH approach. The main outcome of interest was the ability of the pilot organizations to create an action plan as a result of this year-long experiential process to plan for a TWH approach. Results indicate that the vendor organization increased its capacity to do so based on the increased number of trained staff, development of additional TWH tools, and ability to

provide essential technical assistance to the three pilot companies. The capacity of the companies to engage in TWH leading towards developing comprehensive action plans addressing total worker health also increased during the pilot. All three companies participated fully and rated the experience as being excellent or very good. However, the challenges of dealing with a global COVID-19 pandemic that affected each and every business in the project and the larger community only afforded two of the three worksites to deliver a comprehensive written action plan at the conclusion of the year-long experience.

### Major Lessons Learned

Overall lessons learned include those that apply to the worksites and those that apply to the vendor organization. For the worksites, the three organizations identified three major changes through their participation: (1) focusing on working conditions caused the companies to use new approaches to deploy resources to address safety, health, and well-being, (2) forming integrated teams created new and important collaboration and communication structures with employees from across the organization both horizontally and vertically, and (3) using a strategic systems thinking approach demonstrated the importance of integrating data across systems and building shared goals across the organization. The organizations noted that the project provided a new structure for identifying problems yet also allowed for them to identify ways to improve upon their existing processes. The organizations mentioned the importance of collaborating with employees from across the organization and from different levels to understand the issues at work and how they contribute to worker experiences. Although the primary objective of this investigation was to create a plan, companies were already thinking about needs related to implementation efforts, such as communication needs to ensure timely and effective updates for leaders and tools needed to address potential barriers. The companies planned to continue to actively engage the integrated teams by doing things such as attending meetings and providing status updates to leaders.

Twelve months appeared to be an acceptable time frame for building organizational support, forming an integrated team, and developing an action plan containing goals, objectives, working conditions, tactics, and policies and practices to address safety, health, and well-being. However, this observation needs to



recognize the context of the COVID-19 pandemic outbreak. Based on our experience, we conclude that approximately 9 months are needed for companies to gather support, align stakeholders, and make informed decisions for resource allocation prior to implementation of actual change processes. This is an important finding because projects are often organized around a year-long timeframe and expectations tend to include intervention components. Yet, experience also shows that internal and external factors frequently disrupt steady progress and add 2 to 3 months of time. Such factors include leadership engagement, integrated team member turn-over, market or customer shifts, or, in this case, a global pandemic.

The TA provided by the vendor organization was considered essential by the pilot site co-champions. Most of the co-champions found the Implementation Guidelines to be too long and too detailed and looked to their TA Provider to present the contents in a simpler manner. A more practical approach was to turn the contents into small actionable steps that the companies could easily envision to be implemented in their specific settings. Furthermore, the Implementation Guidelines, its tools, and tools derived from them provided in-depth background information to use and build confidence among the TA Providers and among some of the co-champions, an observation that may prompt follow-up research into the potential of this model to be a solution for experiential learning for providers and vendors. The TWH approach remains innovative and novel to many practitioners who are trained in safety, health promotion, or occupational health-related disciplines. Just-in-time trainings—whether in-person or virtual—added to the knowledge base and built confidence for this workforce. The trainings, scenario practices, and role-playing exercises of various TWH approaches appear to have been important component for the TA Providers. Several tools that were created as part of the pilot study were considered highly effective and impactful to the implementation process. In particular, meeting agendas to ensure vital topics were addressed and sample action plans to provide suggested approaches and milestones.

In terms of feasibility, the companies and the TA Providers described the timing of training and program rollout, creating and engaging workers in the integrated teams, and obtaining leadership support for program activities as acceptable and important in the success of starting and sustaining the program. The TA Providers also noted a difference with this project compared with other TA experiences. In this project, the pilot organizations took more of a leadership role which is usually the role of TA staff. Here, the TA Providers were more akin to facilitators eliciting a sense of accountability through the progression of the program.

### Informing Dissemination and Implementation Approaches for TWH

Several observations may contribute to the ongoing development and improvement of methods to disseminate and implement TWH approaches. First, despite the observation that some on the planning teams found the content of the Implementation Guidelines too long and detailed, we do not conclude that the document needs revision at this time. Rather, it would be preferable to take small elements or components from the guidelines and turn those into teaching aids, visuals, and related content for the explicit purpose of supporting local, worksite-specific planning. The approach in this pilot investigation was to develop 12 modules that built a content library to be implemented monthly throughout the year-long project.

Second, development and inclusion of a larger number of brief (single page) case studies outlining how companies completed each step in the process, would be very instructive. The co-champions liked to be informed about how others had addressed challenges or how their thinking about particular issues could be informed by the experiences of others. In fact, the very experiences of the three companies in this project can serve as case studies for others.

Third, the Implementation Guidelines website<sup>4</sup> should be updated with additional tools and resources, such as short video modules that can serve as introductions to each chapter of the guidelines or slide decks that are ready for companies to use in their planning approaches. Other updates may include videos for TA Providers to share with the company, smart-phone apps for companies to use related to specific TWH programs or tactics, and considerations on how to move from planning to implementation.

Fourth, TA Providers who are coaching others at worksites on how to conduct integrated approaches need to be clear about the role and responsibilities of the vendor. This relationship between vendor and company should be considered a partnership in which both play certain roles. The company should own and manage its safety and health promotion programs and the vendor should act as a support mechanism. This issue showed particular relevance when the planning cycle by itself was designed to be up to 12 months and focused on learning without doing—an approach that is an artificial byproduct of the pilot project and its emphasis on planning. Pilot sites learned about issues or problems but did not necessarily work on solutions due to the focus on planning alone. This may not be a representation of the final TWH approach once the planning phase is integrated with implementation.

Fifth, vendor organizations and companies need to build an internal capacity for TWH. Organizations need to understand underlying foundational elements as well as the processes necessary to address the conditions of work that impact worker safety, health, and well-being. This understanding will support goal setting, identification of data collection and analysis methods, creation of action plans, and facilitation of ongoing implementation and improvement efforts. TA is an important component of this internal capacity building as it requires adaptation to the local company-specific context and the application of context-specific training to facilitate continued progress.<sup>28</sup>

Finally, a sixth observation is the importance of deploying a participatory environment. Participatory approaches provide valuable contributions to the implementation of the intervention and it generates a level of excitement and ownership among staff when their opinions are valued. Participatory approaches require a safe environment for staff to engage, a means to communicate observations in an orderly, respectful, and timely manner, and a process to align organizational policies, practices, and programs with the organizational values, beliefs and attitudes.<sup>29</sup> In addition, there needs to be support for workers to find the time to participate and to value their participation in activities such as brainstorming or describing current conditions of work. Related to active engagement in various aspects of program design and implementation is the continued feedback of results and interpretations to the workers as participants in the study. Such practices can build trust and continued active involvement over time.

### The COVID-19 Pandemic Context

This project took place during the COVID-19 pandemic and the varying associated impacts on businesses. This brought about a major shift in the conditions of work. The organizations included in this project were all busier than normal with new challenges in how work was being performed, which led to a 2- to 3-month hiatus on project activities. The project initially assumed that many of its activities would occur in person, including recruiting worksites, holding integrated team meetings, and building collaboration and consensus on goals and activities within the organizations. Changes were made quickly to adapt to this new situation and remote trainings and meetings were introduced that allowed integrated teams to continue their work.

### Limitations and Strengths

This pilot investigation was limited by the constraints of a case study methodology upon broad interpretation of findings.

**TABLE 3.** Main Insights From the Project

Locus	Main Insight
Vendor-specific	Building an internal capacity for training, tools, and TA to support customers (employers) is a fundamental mechanism for dissemination of TWH approaches
Company-specific	Clarification of roles and responsibilities between the vendor and the company related to the planning and the implementation of TWH approaches is paramount to building a trusting, lasting, and productive relationship
	Creation of co-champions and integrated teams with regular (eg, monthly) meetings is a critical step in generating progress and creating momentum for TWH planning efforts
	Formal planning for TWH approaches takes approximately 9 months; hence, a delay between a decision to implement and to actually start implementation is necessary to be accounted for
	Participation in formal planning for implementation of TWH approaches adds value from an organizational perspective
	Formal Implementation Guidelines based on evidence of effectiveness for TWH approaches need to be “translated” into more realistic, practical modules that can be implemented in smaller component pieces to fit workflow and be accessible to staff
	Participatory approaches that engage all stakeholders, in particular the workers perspective, should be deliberately included in the planning phase of a TWH approach
Both vendor and company	Partnerships designed around co-creation of new efforts to improve safety, health, and well-being of workers bring value to both organizations and strengthen relationships

TA, technical assistance; TWH, total worker health.

Furthermore, the year-long project was conducted while the COVID-19 pandemic hit the United States and created challenges in the lives of individual workers, their families, the companies, and communities as a whole and therefore is not representative of a “normal” business environment in which to implement a TWH approach.

These limitations should be balanced against its strengths. The multiple-case study approach deployed here allowed for replication across sites which supports the insights and findings generated. Our investigation was based upon and informed by a conceptual model designed specifically for TWH approaches.<sup>17</sup> Finally, the data were systematically collected, used a mixed-methods design, considered the context from multiple perspectives (ie, academic, vendor, company, employer, systems, process, and outcomes), and as a result presents meaningful insights into the highly complex issue of implementing systems-wide integrated approaches to health, safety, and well-being.<sup>18</sup> Therefore, the results of this pilot investigation may be used to inform future research endeavors into planning and implementation approaches to TWH.

## CONCLUSIONS

Insights and learnings from this project are considered in the context of the design and testing of the feasibility, acceptability, and practical use of a TWH capacity building suite. This suite of services consisted of Implementation Guidelines, trainings, and TA adapted to meet the needs of the vendor organization and the small-to-medium sized employer groups participating in this project. Taken together, Table 3 provides an overview of the main insights and includes the observation that this suite of services is feasible to be implemented, was shown to be acceptable to the companies that participated, and that the content of the Implementation Guidelines can be presented in a manner that allows vendor organizations to support employers to apply this TWH knowledge base into practice.

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