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Article

Role of technical assistance in U.S. labor and health sector collaboration to address precarious work

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Summary

Precarious work has recognized adverse impacts on the health of workers; however, there are few policy, systems and environmental (PSE) change public health interventions that target the causes and consequences of precarious work. To build the capacity of health organizations to develop and implement such interventions, researchers engaged representatives from health organizations in a six-session learning process, entitled the healthy work collaborative. Representatives of labor organizations were engaged as technical assistance (TA) providers, which involved sharing content and skill knowledge with health participants. Semi-structured interviews were conducted with providers and participants to examine perceptions of the role of TA; providers' motivations for providing TA; and providers' and participants' perceptions of the impact of TA on learning and preparing for subsequent intervention. Results suggest that the provider–participant engagement evolved from one-way knowledge translation to a robust, two-way knowledge exchange with potential for collaborative intervention development and implementation. These results highlight the ways in which this provider–participant model facilitated engagement between representatives from sectors that had not previously worked together and suggests that such a model may be effective in catalyzing multi-level, multi-sectoral PSE change to address precarious work.

Key words: precarious work, technical assistance, policy, systems and environmental (PSE) change, labor, health

INTRODUCTION

In the USA, standard full-time, permanent jobs with benefits are on the decline, while non-standard, atypical and increasingly precarious forms of employment, such as temporary, part-time contract, unregulated, underground or home-based work, are on the rise in virtually all employment sectors (Weil, 2014; Smith and Halpin, 2019). There is mounting evidence that precarious work arrangements have adverse effects on worker health, prompting a demand for upstream public health intervention (Kalleberg, 2009). Despite this recognition, there is little evidence of multi-level public health interventions aimed at addressing the causes and consequences of precarious work (Baron *et al.*, 2014). In general, interventions that improve precariously employed

workers' health are difficult to design and implement, as these workers are hard to reach and many of the contributors to adverse health outcomes are upstream social and economic policies that drive increases in precarious employment (Commission on Social Determinants of Health, 2008). Public health professionals may lack sufficient knowledge of the causes, characteristics, and consequences of precarious work necessary to design and implement effective interventions in this arena, and the grounding of public health practice in behavioral paradigms may present challenges when aiming to address the upstream determinants of the issue (Freudenberg *et al.*, 2015). Furthermore, public health professionals may not have connections with organizations in other sectors, such as grassroots worker-based organizations in the labor sector, that are actively engaged in efforts to organize and advocate for precariously employed workers.

Given these challenges, public health professionals may need support to ensure they have the knowledge, tools and resources necessary to mobilize for and engineer upstream policy, systems and environmental (PSE) interventions to address complex and unfamiliar problems like precarious work. Experts from other sectors can provide these supports to public organizations in the form of technical assistance (TA). Several studies describe the benefits of involving TA in the development and implementation of PSE change, particularly helping to increase the capacity of recipient organizations to tackle complex problems through translation of knowledge into policies and programs (Trohanis, 1980; Mitchell *et al.*, 2002; Le *et al.*, 2016). Researchers and practitioners in many disciplines have also highlighted the need to enhance and expedite the transfer of research findings into practice in order to minimize the 'knowledge-to-action' gap (Graham *et al.*, 2006; Tetroe, 2007), and several describe ways in which TA can support knowledge-to-action processes with varying intensity (Fixsen *et al.*, 2009; Rushovich *et al.*, 2015). Public health has benefited from TA in other contexts as researchers and practitioners have mobilized to address complex problems (Mitchell *et al.*, 2002; Jolly *et al.*, 2003; Katz and Wandersman, 2016).

The healthy work collaborative initiative

In an effort to foster knowledge about and develop upstream health promotion interventions focused on precarious work, a group of researchers at the University of Illinois at Chicago (UIC) Center for Healthy Work invited representatives from health-focused organizations (local health departments, health advocacy, healthcare, legal, governmental and workforce development organizations) to participate in a learning and planning initiative, entitled the healthy work collaborative (HWC). The HWC involved a six-session series of instructional and planning-based activities that were designed to provide foundational knowledge and skills to catalyze intervention development to address drivers and consequences of precarious work. Researchers invited a group of labor experts (representatives from local worker centers, worker advocacy organizations, and labor research groups) to provide TA to the health-focused participants with a goal to increase participants' and their organizations' capacities to design and implement PSE initiatives. These TA providers are henceforth referred to as 'providers' and the health-focused participants referred to as 'participants'. The six in-person sessions were 4-h workshops scheduled approximately 2 weeks apart and facilitated by researchers and providers. Participants engaged in planning activities between sessions with additional supports from researchers and providers. At least one representative in a leadership position from each participant and provider organization attended the HWC sessions.

Researchers recognized participants' needs for basic, introductory information about precarious work, its drivers and consequences, and ways in which organizations in the labor sector were working to address them. To fulfill these needs, providers engaged participants in various activities intended to increase participants' knowledge to build skills that would support PSE action.

Activities in the first two HWC sessions aimed to develop and deepen participants' understanding of precarious work and included a root cause analysis and rich picture activity (Frerichs *et al.*, 2016). In sessions three and four, providers engaged participants in a Power Mapping activity (Schiffer, 2007), designed to identify entities best-poised to promote social change and identify strategies to communicate with those entities. Several frontline workers also engaged participants in a simulation activity, in which participants pretended to be temporary workers on a production line. The final sessions focused on planning for action and included a Theory of Change activity (De Silva *et al.*, 2014), in which participants described how and why a desired PSE change would happen. Additional detail regarding the HWC structure and researchers' roles are described elsewhere (Bonney *et al.*, 2019).

Unlike most TA models described in the literature, providers in the HWC were not sought out by individual organizations to meet a specific, self-identified need; rather, researchers brought representatives from

primarily health organizations together with representatives from labor organizations and organized sessions to fulfill participants' collective needs. Furthermore, unlike most traditional provider–participant engagements, the HWC involved multiple providers sharing content and skill knowledge in a formal, instructional setting with pre-determined agendas and learning objectives.

Given the focus on basic knowledge transfer from providers to participants, HWC TA was conceptualized as less intensive TA, focused on sharing content and skill knowledge with participants in a few encounters, instead of more intensive relationship-based TA, which typically involves more established partnerships between providers and participants and sustained engagement (Fixsen *et al.*, 2009; Le *et al.*, 2016). Less intensive TA models are described in the literature as mostly unidirectional provider to recipient knowledge transfer, which fits with role of TA conceptualized by researchers at the outset of the HWC.

Contribution of current study

This study explores providers' and participants' perceptions of the role of TA, as well as their perceptions of the impacts of provider–participant engagement in the HWC. The study highlights some of the unique features of provider–participant engagement in the HWC and considers similarities and differences between this TA model and others described in the literature. Qualitative methods—and semi-structured interviews in particular—allow for examination of providers' perceptions from their initial engagement to the conclusion of the HWC and allows for an examination of shifts in perceived TA intensity.

METHODS

This study was part of a larger mixed-methods evaluation of the overall HWC. Researchers used an exploratory qualitative study design to examine providers' and participants' perceptions of the role of TA and the intensity and impacts of TA provision in the HWC. This study was approved by the UIC Institutional Review Board in 2018.

Several semi-structured interview guides were developed to obtain information from providers and participants (Table 1). Two interview guides were designed to examine perspectives of providers at baseline prior to the start of the HWC and again immediately post-HWC. A third interview guide was designed to examine perspectives of the participants 3 months post-HWC, as well as the perspectives of providers who continued to engage with participants beyond the HWC.

All seven labor experts who agreed to participate in the HWC as providers were invited to participate in an interview prior to the start of the first HWC session and a follow-up interview immediately following the last session. All 14 participants were invited for phone interviews approximately 3 months after the final session, as were two providers who continued to engage with participants beyond the six-meeting period. Participants were interviewed at the 3-month time point instead of immediately post-HWC to better capture ways in which they had applied what they had learned since the conclusion of the sessions and any implementation of activities planned during the sessions. Given the 3-month follow-up focus on continued engagement and collaborative implementation activities, providers who were not involved with participants post-HWC were not contacted for additional follow-up interview.

Notably, two of the researchers who helped to facilitate the sessions conducted all interviews. Potential limitations of this approach are described in the Discussion section. All interviews were recorded and professionally transcribed. Interviews were qualitatively analyzed using a hybrid inductive and deductive coding and theme development approach, which is described elsewhere (Bonney *et al.*, 2019). Dedoose software was used for all analyses.

RESULTS

Researchers conducted 24 total. Interviews at baseline and at immediate post-HWC follow-up lasted approximately 30 min, while 3-month follow-up interviews lasted approximately 60 min. All seven providers participated in baseline interviews, and five providers participated in immediate follow-up interviews.

The two providers who did not participate in follow-up interviews immediately post-HWC attended only one of the six sessions and did not respond to requests for follow-up. Ten of the 14 participants agreed to participate interviews at 3-month follow-up. Two providers with substantial, continued involvement with at least one other recipient beyond the HWC, either in the form of tailored and intensive TA provision or a formalized partnership, also participated in 3-month follow-up interviews.

Interviews with providers and participants revealed a range of perceptions of the role of providers, the intensity of the provider–participant engagement, and the impacts of TA provision in the HWC. The following results are organized under three broad categories to

Table 1: Summary of interview guides

Interview guide	Key constructs	Intended audience
Baseline (pre-HWC)	• Attitudes and motivations for participating in HWC. • Preparedness for role as TA provider; relevant knowledge and experience. • Expectations for TA provider role. • Expected impacts of TA provision for participants.	All invited providers ($n = 7$): • *Worker Centers (4)* • *Advocacy Organizations (2)* • *Academic Organization (1)*
Immediate post-HWC	• Outcomes of TA provider and TA recipient engagement; impacts of TA provision in HWC. • Perceptions of value of TA provider role in HWC. • Facilitators and barriers of TA provision in HWC.	All invited providers ($n = 7$): • *Worker Centers (4)* • *Advocacy Organizations (2)* • *Academic Organization (1)*
3-month post-HWC	• Experiences with TA providers; perceptions of TA role in HWC. • Outcomes of TA provider and TA recipient engagement; impacts of TA provision in HWC. • Engagement with TA providers beyond HWC sessions.	Providers involved beyond sessions ($n = 2$): • *Worker Centers (2)* All participants ($n = 14$): • *Local Health Departments (4)* • *Public Health Advocacy Organizations (3)* • *Hospital System (1)* • *Government Organization (1)* • *Workforce Development Organization (1)* • *Legal Organization (1)* • *Worker Center (1)* • *Public Health Academic Organization (1)* • *Healthcare Labor Union (1)*

describe interviewees' perceptions of TA. Providers' and participants' perceptions are outlined separately, although some overlapping themes emerged.

Expectations for TA provision in the HWC: providers' perspectives at baseline

Interviews with providers at baseline offered some insight into their perceptions of their roles and what they expected participants might gain from TA. Providers also shared their reasons for participating in the HWC, which contributed to perceptions of their roles and outcome expectations.

Perceptions of role and readiness

Providers generally characterized themselves as labor experts. Many described direct engagement with precariously employed workers to understand and address worker concerns, with examples ranging from grassroots organizing to multi-level policy advocacy. At baseline, providers perceived their roles as primarily instructional, focused on sharing this expertise and fielding participants' questions. Several noted that they might offer helpful resources to workers served by participants' organizations and that the HWC offered an opportunity to expand their networks.

> '*I feel like [providers are] able to bring in day to day experience and on the ground experience and really a perspective of what's really going on in the workplace now a days*'.—Provider, baseline

> '*[Participants' initiatives] won't be grounded in any reality of what precarious work is unless there's some information, brought to the table from people who worked with precarious workers for a long time and understand the dynamics of the work. . .*'—Provider, baseline

Given their expertise, several providers noted that they felt well-positioned to help participants understand how their own organizations' positioning, networks and resources might be leveraged to address drivers of precarious work. Some felt that their direct engagement with precariously employed workers, as well as their organizations' approaches to worker-centered policy advocacy would be especially relevant to participants, especially those who sit at higher administrative levels and might rarely interact with workers on the ground.

'*Well hopefully we're in a position to help inform the [interventions] that the [participants] are embarking on. And share any information, knowledge that we've gained through our work with them as it would be relevant to their [initiatives]. I think as they are also developing those [initiatives] and kind of thinking them through, I think we also have the potential to be helpful in that sense on kind of the design side of things*'.—Provider, baseline

Motivations for participating as providers

Virtually all providers shared that their pre-existing relationship with UIC researchers, several of whom were involved in the development and facilitation of the HWC, and their desire to maintain that relationship were instrumental in their decision to participate. Some providers also described interests in connecting with new groups and understanding participants' motivations for expanding their organizations' efforts to tackle drivers of precarious work.

'*... the relationship with UIC and the idea that you know to be able to connect with a group of folks we wouldn't normally interact and maybe we wouldn't even be thinking of partnering up with, so I think that's really exciting of us too*'.—Provider, baseline

Expected impacts of provider–participant engagement

In general, providers expected participants' knowledge of precarious work to increase as a result of participating in provider-led activities. Beyond this, several providers hoped that participants might leverage providers for support on projects to address drivers of precarious work beyond the HWC.

'*I think that for some of the other [participants], the industry [participants], the governmental [participants], I really hope that they will make use of me beyond just this process because I think that ... it's [provider's organization's] obligation to provide these kinds of services to the state of Illinois in general and to workers across the state and interested stakeholders*'.—Provider, baseline

Role and impacts of TA in the HWC: providers' perspectives at immediate post-HWC and participants' perspectives at 3-month post-HWC

In follow-up interviews, both providers and participants reflected on their experiences interacting with one another in the context of the HWC. Interviewees from both groups described provider–participant interactions of increasing intensity over the course of the sessions, and several described shifts toward more formal partnerships outside of the HWC. Interviewees' perceptions of the role of TA are described below, organized from less intense to more intense interactions.

Knowledge sharing (one-way)

In interviews immediately post-HWC, providers reflected on their roles as being mostly aligned with their pre-process expectations. All providers described their duties as largely content and experience sharing, with some opportunity to engage with smaller groups to provide more nuanced support around possible interventions. Providers described apparent learning among participants and noted obvious enthusiasm for tackling drivers of precarious work overall, even from the earliest HWC sessions. Several providers reported observing 'aha' moments, where participants were able to make clear connections between the content and their own or their organizations' abilities to advocate for or engineer changes at systems or policy levels.

'*There was an enthusiasm for the issue, precarious work. It wasn't just people were happy to get the knowledge, when I say enthusiastic I mean they also wanted to do something about it*'.—Provider, immediate post-HWC

Participants described the provision of TA as multifaceted, with some general educational content shared around the drivers and manifestations of precarious work followed by more focused skill-sharing to meet individual organizations' needs. Interviews with participants revealed expanded understandings of the complexities of precarious work and a growing awareness of their own organizations' abilities to address some of its drivers. Several participants noted that the engaging, activity- or experiential learning-based ways in which providers and especially frontline workers presented content and led discussions helped them think about precarious work more broadly and inspired creative action planning. Several participants also noted very specific content and skill knowledge shared that was particularly relevant to their needs, such as knowledge of the workers' compensation system, existing or proposed sick leave and minimum wage policies at local and state levels, and best practices for conducting worker outreach.

'*...what [provider's] organization does to try to mitigate [how people are taken advantage of] in a whole host of areas, whether it's, not only is it legal, in the legal area, but in, for example in the legal area on wage theft issues, and I am just shocked at how people are treated, and I*

think that that really opened my eyes…'—Recipient, 3-month post-HWC

'*But what I saw … in being up there in the collaborative, was how difficult the decisions that front line workers often have to make, impact their family life, which impacts their health, which impacts their kids, you know it just got through to me. I didn't think of that before I got into this. It made me just go, look further down the road at that…*'—Recipient, 3-month post-HWC

Shared problem solving and relationship-building (two-way; increasingly intense)

Several providers shared that as much as participants learned, so did the providers. A few providers described ways in which their own thinking about participants' roles in taking on some of the challenges that precariously employed workers face expanded, and at least one provider expressed the utility that she found in having to think about issues that she is very familiar with using a public health lens. New connections and opportunities for future collaboration emerged as an important theme in post-HWC interviews, with shared learning in the HWC sessions described by several providers as a catalyst for thinking about future partnerships outside of a TA model.

'*What I was impressed was that because of that diverse playing field we were able to talk, even the people who did have more knowledge about the subject, were able to talk about these issues in a way that maybe they're not used to or is not typical for them. There was tangible learning for everybody, but any time you bring people even who are very knowledgeable and you have them sit down in a concerted effort for a long period of time and talk with interested parties who aren't as knowledgeable that there's a real learning curve there. That impressed me. Just generally the fact that it was such a wide, just a diverse group of stakeholders, that was so beneficial to everybody, exploring these issues from different perspectives*'.—Provider, immediate post-HWC

'*As much as they learned, I learned, too, right? … Even from hearing from some of the other institutions. How do they approach the work? Or how they want to change the work? And what's important to them*'.—Provider, immediate post-HWC

Several participants also noted that exposure to different approaches to thinking about and planning for action to address complex issues helped them consider innovative ways to approach problems like precarious work, potentially in partnership with HWC providers.

'*Met a lot of people up there, a lot of free exchange of, discussion too… we got to talking so much and it's just like, you know, let's meet for lunch, and let's talk this over*'.—Recipient, 3-month post-HWC

Unique features of HWC provider–participant engagement

Several providers noted that participants seemed highly motivated to learn and were open to thinking broadly about complex issues and potential solutions. One provider noted the importance of the diversity of groups in the HWC, and that this facilitated robust, expansive conversations in a way that would not be possible in a more traditional TA model with one provider and one participant. Along these same lines, several providers also described the utility in meeting and interacting with so many organizations in one setting, which facilitated both learning and networking and served as a jumping off point for future engagement.

'*Even if it was just about, not even the projects, but just meeting with each other and learning from each other was an amazing result of this last three months*'.—Provider, immediate post-HWC

Although providers generally felt that the HWC structure allowed for robust discussions, there was a collective feeling that there was never enough time to complete activities and discuss them to the degree needed for greatest impact. Several providers shared that information presented in sessions only scratched the surface of such a complex issue and noted at an on-going, long-term process is really needed to deepen participants' knowledge and enhance their commitment to take meaningful action. A few providers found navigating both larger group and individual organization needs difficult, and one felt that they might have had more impact working with groups of participants on a more individualized basis.

'*I think learning about things is something that doesn't happen inside of a room. I think that learning requires experience, actually dealing with the issues, and then seeing the challenges that workers face. In order to have an idea of what makes sense to do or not do you have to get your hands dirty interacting with the workers and the real situations that they're facing, and trying to intervene and see what happens. If you don't do that then it is very theoretical*'.—Provider, immediate post-HWC

Participants shared many of these same sentiments regarding the HWC structure, highlighting the utility of the in-person sessions and the openness of all attendees to engage with one another.

> '*I really liked the idea of having these sort of half-day sessions, and certainly being introduced to the issue of precarious work for the first time. So I felt that the teaching portion was really substantial for me. And working with a small group, as you're sort of learning that, and getting to know more people in areas that you don't necessarily connect with was also really a substantial piece for me in terms of my growth and also thinking about this work can feed back into our work here*'.—Recipient, 3-month post-HWC

Like providers, participants felt that information presented in sessions was impactful but difficult to digest in such a short time. Several participants felt they never had enough time to apply content learned between sessions.

> '*I kind of feel like some of the stuff that [providers] presented to us was very new. With the information being so raw, I don't know if I really had an opportunity to digest it like I probably wanted to. It kind of surprised me that we would move to these different kind of concepts on such . . . I guess back to back . . . It was so much content in each session, and the sessions were so close together*'.—Recipient, 3-month post-HWC

Despite these limitations, many providers and participants indicated that they were interested in continued engagement with one another in some capacity beyond the HWC. Two providers in particular continued to engage with participants in more formal partnerships post-HWC, and both attributed this deepening engagement to their dialogue and knowledge exchange within the sessions. At the 3-month mark, several participants shared instances in which they had connected with providers post-HWC, either for continued networking or for potential engagement in activities of shared interest. Nearly all providers and participants expressed interest in staying connected beyond the HWC, and most described the utility in having expanded trans-disciplinary networks.

DISCUSSION

This study examined perceptions of TA shared by HWC providers and participants. The study specifically honed in on both groups' perceptions of providers' roles, features of provider–participant engagement, and the impacts of TA provision on both providers' and participants' thinking and actions. Findings provide initial insight into the potential for innovative provider–participant engagements, designed to catalyze development of PSE change to address complex issues, which shift along a TA continuum from less intensive, content-focused TA to more intensive, relationship-based TA.

As a prerequisite to examining perceptions of the role of labor expert TA in the HWC, this study considered providers' initial motivations for participating. Given the importance of diverse stakeholder involvement in understanding complex issues and developing interventions to address them (Stokols *et al.*, 2013; Golden *et al.*, 2015), researchers understood that engaging labor experts in the HWC was likely to be important to the success of the initiative. Findings from this study suggest that providers' existing individual or organizational relationships with the university were paramount in their decisions to participate in the HWC sessions, highlighting the importance of leveraging existing networks to enlist providers in an engagement, like the HWC, that is brokered by a third party, like UIC, when the providers and participants have little to no existing relationships with one another. Although the university served as this third-party connector, other organizations with strong ties to stakeholders may be able to function in a similar capacity in other contexts to bring diverse groups together to explore complex issues.

While researchers envisioned the role of TA to be primarily instructional, focused on sharing content and skill knowledge with participants, findings suggest that this role evolved into a much more intensive and dynamic one. Instead of a TA arrangement focused on one-way knowledge transfer, providers and participants in the HWC engaged in deeper, two-way knowledge exchange that resembled more intensive forms of TA described in the literature (Figure 1) (Fixsen *et al.*, 2009; Le *et al.*, 2016).

Findings from baseline interviews with providers indicated that in addition to perceiving their roles as instructional, several providers welcomed the opportunity to connect with participant organizations for resource sharing beyond the HWC. This openness to more intensive engagement with participants beyond the HWC, despite the lack of existing relationships between providers and participants, suggested that, there was potential for two-way knowledge exchange between the two groups even before the start of the in-person sessions.

Data from interviews post-HWC indicated that two-way knowledge exchange did in fact occur in addition to the expected unidirectional knowledge transfer from providers to participants. Both providers and participants described what they had learned from the other: providers felt that they were able to present information in ways that the participants understood, and participants described significant shifts in their own thinking which they attributed to the content shared by providers

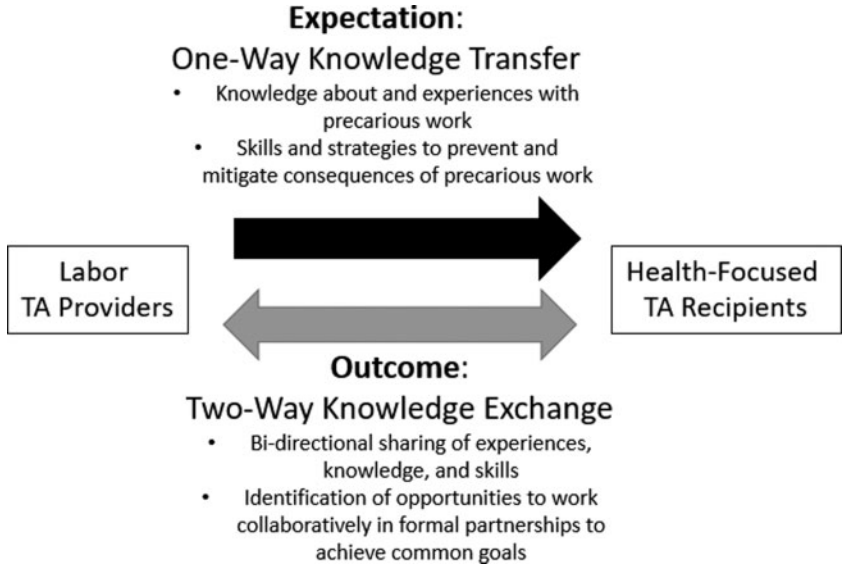

Fig. 1: HWC TA provider–participant model.

and discussions that they had with them during the HWC sessions. Providers also shared ways in which their own thinking shifted given their exposure to participants' perspectives, highlighting the shift toward two-way knowledge exchange. This was especially evident with providers who participated in several HWC sessions, all of whom were interviewed post-HWC, suggesting that these sorts of experiences were more profound with longer exposure to participants. These findings suggest that there may be a natural tendency for diverse stakeholders to learn from one another when time allows for more intensive engagement, especially around complex issues of shared interest.

Along the same lines, interviews with providers and participants showcased the ways in which the structure of the HWC supported opportunities for deeper engagement. One finding that emerged from the interview data was the readiness of participants to engage with the issue of precarious work, which providers highlighted as a particularly important factor in their abilities to guide and engage with participants. This readiness likely stemmed in part from the fact that the HWC was topically focused, and organizations with an interest in and readiness to engage with that topic were likely to be willing participants in the six sessions. It is likely that this resultant openness among participants to learn more about the issue of precarious work contributed to the substantial shifts in thinking among both parties as they engaged with one another throughout the HWC.

Despite findings pointing to deeper engagement between providers and participants than may have been initially expected, there were some limitations in what the HWC structure allowed both providers and participants to accomplish. Although the HWC was designed to foster upstream action planning to address the drivers of precarious work, data from interviews with both providers and participants highlighted some of ways in which the HWC structure may have hampered movement toward action. Both providers and participants opined that the tight HWC timeline limited the degree to which they were able to share and digest new information, with providers noting that the content that they shared only scratched the surface of what they felt participants needed to know to begin planning for action to tackle drivers of precarious work. This perceived limitation aligns with some of the knowledge-to-action literature, which suggests that knowledge transfer alone may not be sufficient to inspire action (Graham *et al.*, 2006).

In spite of this limitation, interview data from providers and participants indicated that the HWC structure allowed for providers to share broad, introductory knowledge about precarious work, which was uniformly reported as useful to participants. This finding supports the utility of a systems approach to provider–participant engagement, like the HWC TA model, in allowing diverse stakeholders to learn about and grapple with a complex issue in preparation for PSE strategy development to address it. Findings also suggest that this type of

provider–participant model allows for shifting in intensity of TA, even when the original goals of the provider role are focused primarily on knowledge transfer. A shift toward more intensive TA over the course of the HWC's six sessions inspired two-way knowledge exchange, which suggests that a model like this one, in which diverse stakeholders come together as providers and participants with few existing relationships, has the potential to help close knowledge gaps.

Finally, although UIC researchers initially envisioned a less intensive TA arrangement in the HWC, the findings from this study suggest that some providers and participants are likely to engage beyond the HWC. These findings highlight the potential of provider–participant engagement models, like the HWC, to facilitate both knowledge exchange and networking opportunities that together prepare providers and participants for subsequent partnership. The literature suggests that transdisciplinary partnerships, such as those that might form between the labor experts and largely health-focused organizations from the HWC, have the potential to create more sustainable and broadly impactful PSE change (Stokols *et al.*, 2013; Golden *et al.*, 2015).

Limitations

Because the HWC was a pilot, there were only a small number of representatives in both provider and recipient roles who participated in this study. Furthermore, there were no opportunities to compare findings from this study to another similar collaborative process, as similar examples of provider–participant models were not found in the literature.

Another potential limitation of this study is author involvement in the design and facilitation of the HWC. This presents a potential bias, both due to the authors' own involvement and perceptions of the HWC and the potential bias in interviewees' responses to interview questions. To partially address this limitation, assurances were made to study participants that their data would be both de-identified and reported in the aggregate and would not be shared outside of the UIC research team. Engaging an independent researcher to conduct future follow-up interviews may help avoid potential biases, though this may limit robustness of the contextual interpretation that arises from engagement of the research team in both the facilitation and evaluation of the process.

The absence of interviews with participants at baseline potentially limits our understanding of shifts in thinking that can be attributed to their engagement with TA providers in the HWC. All participants were asked to consider their thinking and learning retrospectively, and there were no opportunities to compare post-HWC responses to participants' perceptions of their own readiness, knowledge, or expectations of providers' roles prior to the HWC. Similarly, we did not interview the frontline workers who led participants in the simulation activity, which many participants described as particularly impactful. The role of frontline workers, or individuals who are directly impacted by phenomena of concern in similar processes should be explored in future studies.

CONCLUSION

Despite the limitations, this study offers important insight into an innovative provider–participant model and potential applications in other contexts. There is an opportunity for health-focused organizations to learn from, share knowledge with, and form partnerships with labor-focused organizations as they expand their efforts to address the increasingly precarious nature of work and its determining impact on worker and community health. The findings from this study highlight the bidirectional knowledge exchange and opportunities for partnership development that resulted from an intensive provider and participant engagement designed to promote learning and action to address precarious work.

ETHICS INFORMATION

This study was approved by the University of Illinois at Chicago Institutional Review Board in 2018 (protocol #2018-0370).

SUPPLEMENTARY MATERIAL

Supplementary material is available at *Health Promotion International* online.

AUTHORS' CONTRIBUTIONS

Conceptualization: T.B., C.W., E. J.-R.; Methodology: T.B., C.W., E.J.-R.; Analysis: T.B.; Investigation: T.B. and E.J.-R.; Writing-original draft: T.B.; Writing-review and editing: C.W., E.J.-R., A.V., L.C.; Funding acquisition: C.W., L.C.

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REFERENCES

Baron, S. L., Beard, S., Davis, L. K., Delp, L., Forst, L., Kidd-Taylor, A. *et al.* (2014) Promoting integrated approaches to reducing health inequities among low-income workers: applying a social ecological framework. *American Journal of Industrial Medicine*, **57**, 539–556.

Bonney, T., Welter, C., Jarpe-Ratner, E. and Conroy, L. (2019) Understanding the role of academic partners as technical assistance providers: results from an exploratory study to address precarious work. *International Journal of Environmental Research and Public Health*, **16**, 3903.

Commission on Social Determinants of Health (2008) *Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health*. Final Report of the Commission on Social Determinants of Health. Geneva. http://apps.who.int/iris/bitstream/10665/43943/1/9789241563703_eng.pdf (13 December 2019, date last accessed).

De Silva, M. J., Breuer, E., Lee, L., Asher, L., Chowdhary, N., Lund, C. *et al.* (2014) Theory of Change: a theory-driven approach to enhance the Medical Research Council's framework for complex interventions. *Trials*, **15**, 267.

Fixsen, D. L. *et al.*, (2009). Intensive Technical Assistance. Scaling-Up Brief. Number 2. *FPG Child Development Institute*. ERIC.

Frerichs, L., Lich, K. H., Dave, G. and Corbie-Smith, G. (2016) Integrating systems science and community-based participatory research to achieve health equity. *American Journal of Public Health*, **106**, 215–222.

Freudenberg, N., Franzosa, E., Chisholm, J. and Libman, K. (2015) New approaches for moving upstream. *Health Education & Behavior*, **42**, 46S–56S.

Golden, S. D., McLeroy, K. R., Green, L. W., Earp, J. A. L. and Lieberman, L. D. (2015) Upending the social ecological model to guide health promotion efforts toward policy and environmental change. *Health Education & Behavior*, **42**, 8S–14S.

Graham, I. D., Logan, J., Harrison, M. B., Straus, S. E., Tetroe, J., Caswell, W. *et al.* (2006) Lost in knowledge translation: time for a map? *The Journal of Continuing Education in the Health Professions*, **26**, 13–24.

Jolly, D., Gibbs, D., Napp, D., Westover, B. and Uhl, G. (2003) Technical assistance for the evaluation of community-based HIV prevention programs. *Health Education & Behavior* **30**, 550–563.

Kalleberg, A. L. (2009) Precarious work, insecure workers: employment relations in transition. *American Sociological Review*, **74**, 1–22.

Katz, J. and Wandersman, A. (2016) Technical assistance to enhance prevention capacity: a research synthesis of the evidence base. *Prevention Science*, **17**, 417–428.

Le, L. T., Anthony, B. J., Bronheim, S. M., Holland, C. M. and Perry, D. F. (2016) A technical assistance model for guiding service and systems change. *The Journal of Behavioral Health Services & Research*, **43**, 380–395.

Mitchell, R. E., Florin, P. and Stevenson, J. F. (2002) Supporting community-based prevention and health promotion initiatives: developing effective technical assistance systems. *Health Education & Behavior*, **29**, 620–639.

Rushovich, B. R. *et al.* (2015) Technical assistance: a comparison between providers and recipients. *Human Service Organizations: Management, Leadership & Governance*, **39**, 362–379.

Schiffer, E. (2007) *The Power Mapping Tool: A Method for the Empirical Research of Power Relations*. International Food Policy Research Institute, Washington, DC.

Smith, V. and Halpin, B. (2019) Non-standard work and non-standard workers. In Gall, G. (eds) *Handbook of the Politics of Labour, Work and Employment*. Edward Elgar Publishing, Northampton, MA, pp. 281–297.

Stokols, D., Hall, K. L. and Vogel, A. L. (2013) Transdisciplinary public health: definitions, core characteristics, and strategies for success. In Haire-Joshu, D. and McBride, T. D. (eds) *Transdisciplinary Public Health: Research, Methods, and Practice*. Jossey-Bass, San Francisco, pp. 3–30.

Tetroe, J. (2007) Knowledge translation at the Canadian Institutes of Health Research: a primer. *Focus Technical Brief*, **18**, 1–8.

Trohanis, P. L. (1980) Technical assistance: an innovative approach to building new partnerships in continuing and inservice education. *Educational Technology*, **20**, 30–36.

Weil, D. (2014) *The Fissured Workplace*. Harvard University Press, Cambridge, MA.