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Integrating Worker Health Education in Community Agencies to Address Immigrant Worker Health: A Pilot Implementation Trial

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The data that support the findings of this study are available on reasonable request.

No AI was utilized at any stage during research development and design, data collection, manuscript formulation, writing, and reference gathering.

Ethical Considerations & Disclosures The University of Washington Human Subjects Division determined that the study qualified for exempt status in accordance with federal regulations under 45 CFR 46.101/ 21 CFR 56.104. No written informed consent was collected. Information sheets about the study were provided in lieu of informed consent.

Abstract

Objective

This pilot trial aimed to determine implementation processes and outcomes to integrate Basic Worker Health Education (WHE_B) in co-ethnic, not directly worker-focused, community agencies that function as cultural-linguistic brokers and service providers to immigrants.

Methods

A Chinese WHE_B prototype was developed and implemented at Chinese, Pan-Asian, and nonprofit community-based and Chinese faith-based organizations (N=8). The implementation process (delivery model choice and areas for change) and outcomes (suitability and adoption sustainability) were evaluated qualitatively.

Results

The agencies selected four delivery models. Five agencies reached ≥ 70% of their target goal. Respondents described the chosen delivery models as suitable for the varying agency contexts. Three agencies continued WHE_B; reasons for continuing or not continuing were identified.

Conclusions

Findings highlight strategies to enhance the uptake and diffusion of worker health educational interventions in community settings.

Keywords:

Immigrant worker health, occupational health equity, translation research, implementation science, community-based worker health interventions

Learning Outcomes

After reading this article, the readers will be able to:

1. Describe two reasons for collaborating with co-ethnic, not directly worker-focused community organizations to address occupational health disparities

2. Discuss two design strategies that could improve the uptake of community-based occupational health and safety education in community settings that do not generally have occupational health and safety professionals on site.

Two major occupational health worksite strategies include improving worker knowledge and skills through occupational health and safety (OHS) training and modifying the work environment using engineering and administrative controls. Such strategies have not been highly successful for employees of small businesses (< 500 employees), which account for 99.7% of US employers.[1] Limited OHS resources, cost of control measures, and views that OHS is the employee's responsibility are common reasons for the deferment of prevention in small businesses.[2-5] Inadequate culturally and linguistically responsive approaches also make these worksite strategies relatively ineffective for racially minoritized and immigrant workers[6-8] who experience OHS disparities and inequities. With these complex and potentially intractable barriers, new approaches are needed to address OHS disparities and inequities. Evidence shows the remarkably complex influence of social conditions (e.g., systematic racism, work and employment conditions, neighborhood, and health care systems) on health outcomes.[9-11] Given these social constraints, only intervening at the workplace is problematic. Hence, to reduce OHS disparities and inequities, prevention efforts need to extend beyond worksite approaches and a primary focus on high-health risk industries.

Community-based Collaboration for Prevention

Community agencies that function as cultural-linguistic brokers for and provide service to immigrant workers are vital resources and can serve as alternative venues to disseminate OHS knowledge for injury and illness prevention. Community-based collaboration is a promising strategy that has been used to address non-OHS public health problems in minoritized populations.[12-14] Some OHS researchers use this approach to reach target populations, bringing together the knowledge, experience and representation of community partners (e.g., labor unions, community and migrant health centers), workers, and employers.[15-18] While community-based

collaborative endeavors enhance the relevance of knowledge and solution generation, a critical gap in prevention remains, requiring incisive OHS disparities and equities research. Strengthening information dissemination and engagement in communities outside specific workplaces is critical to shifting sociocultural norms about worker health and safety and, in turn, behavior, and systems change in the community.[19,20]

Translation of OHS Knowledge and Innovation in Community Settings

With growing emphasis on translation research and dissemination and implementation (D&I) science, initiatives have been advanced to facilitate knowledge transfer and ensure the adoption of research findings by the intended agencies. These efforts recognize the crucial roles of community members and agencies to ensure the cultural relevance of scientific discovery as well as culturally appropriate dissemination and implementation of findings to improve health.[14,19] Additionally, adopting innovations and research findings in practice at the organization or community level is a highly complex, iterative process.[21] Organizational innovation is linked to the characteristics of the innovation, the user agencies, and the external organizational contexts. Innovations most likely to be adopted are assumed to have clear benefits for the agency; perceived as compatible with agency values, norms, or needs; viewed as simple and convenient to use; capable of being implemented on a limited basis or modified to suit agency needs; carrying a low degree of uncertainty of outcomes; and using context-transferrable knowledge.[21-23]

Many worker health and safety protection entities, such as the Occupational Safety and Health Administration (OSHA), Washington State Department of Labor and Industries (L&I), and the National Institute for Occupational Safety and Health (NIOSH) have produced ample and easily accessed educational materials and research-informed strategies for implementation of

worksite OHS promotion. Because these materials are usually oriented to worksites and specific to industries or occupations, modifications and systematic assessments are needed for use in non-worksite contexts. These steps are also often required for use with immigrants with limited English language skills. Moreover, health promotion interventions developed by researchers for use in community agencies, typically constrained by limited resources, must fit the user agency conditions to foster sustainability. The current literature provides little guidance for partnering with community agencies that do not usually include OHS promotion in their services to disseminate OHS knowledge and advance community-based prevention efforts to eliminate OH disparities.

Conventionally, interventions are tested first for efficacy and effectiveness *before* researchers identify a range of organizations or communities with an expressed interest in adopting the newly developed "evidence-based" programs. Thus, program sustainability and fidelity adherence have become major challenges to implementing "evidence-based" programs.[24,25] Even projects that begin with community partners experience these challenges, particularly when research funding ends.[22,26] Instead of starting with an efficacy study, this trial was designed to evaluate the integration of immigrant-centered basic worker health education disseminated by community agencies. Specifically, we sought to first gain an understanding of the planning process with the agency, delivery model selection, agency's perceived suitability of the delivery model, and adoption sustainability for basic worker health education in co-ethnic community-based organizations (CBOs) and faith-based organizations (FBOs). Co-ethnic organizations or community groups, defined as entities established and run by people of the same ethnic or national background, are potentially powerful collaborators for designing and implementing community-based worker health interventions and ultimately serving as change

agents to sustain the prevention efforts.[27,28] We used existing, trusted educational materials and three trifold brochures, a cost-sensitive, convenient-to-use vehicle, to package and deliver the basic worker health and safety information for CBOs and FBOs without any specific OHS professionals to disseminate. Using an alternative approach to the conventional translational process, the knowledge generated from this trial would create a foundation necessary to move toward a community-based, non-worksite approach to address OHS disparities and inequities. It would also help avoid resource expenditures used to develop efficacious interventions that need further modifications to fit the intervention designs to real community settings with limited resources (e.g., by using existing paid or volunteer CBO or FBO staff with little funds).

METHODS

Design

This single-group, community-based pilot implementation study using a mixed-methods approach was conducted between June 2016 and October 2017. It focused on the feasibility of the implementation process (planning and delivery model selection) and outcomes (suitability and adoption sustainability) in eight diverse community agency settings. Data were collected at the end of the 2-month implementation period and again two months post-trial. The University of Washington Human Subjects Division reviewed the study and qualified for exempt status.

Agency Participants

The pilot trial was conducted with agencies representing Chinese, Pan-Asian, nonprofit CBOs, and Chinese FBOs (Christian and Buddhist). Chinese CBOs and FBOs referred to CBOs or FBOs run by Chinese Americans, primarily serving the Chinese population. Pan-Asian and nonprofit CBOs were those serving mainly Asian clientele or a wide range of clientele (including

Chinese), respectively. All agencies were in King County, which had the highest proportion of Chinese residents in Washington State. Among Chinese residents, 63% (n = 73,057) were born outside the US. Sixty-one percent (n = 56,990) of Chinese residents ages 16 and older were in the labor force.[29] The Chinese served by the CBOs were mainly in lower-income occupations, whereas the Chinese FBOs had members working in a range of income occupations, including self-employment.

Agencies were randomly drawn from a pool of 29 agencies that had participated in earlier aspects of our research and had expressed interest in integrating Basic Worker Health Education (WHE_B) into their services for Chinese immigrant clients. In the initial phase of this study, we worked with each of the designated agency administrators to determine program mechanisms appropriate for WHE_B integration, identify a staff person who was part of the selected program mechanisms to serve as the "agency implementation specialist" and provide WHE_B, establish training plans to bring the specialist onboard and formulate the agency timeline for completing the pilot trial.

Worker Health Education Intervention

Content. Following guidelines and recommendations available on the OSHA, Washington State Department of L&I and NIOSH websites, a prototype WHE_B program was developed with content incorporated into three trifold brochures. The content covered related to (1) workplace health and safety practices in the United States, (2) common workplace hazards, and (3) examples of low-cost ways employers and employees can use to prevent musculoskeletal disorders and falls. Table 1 describes the purpose of each trifold and the talking points included in the implementation manual for the agencies' selected implementation specialists. The intention was to promote community education and awareness by diffusing basic worker health and safety

protection knowledge through CBOs and FBOs.[20] Hence, we included information relevant to employers and employees and examples, including photos, applicable across industries. Each trifold also had some website resources. For example, a registration link for the Washington State Department of L&I's free workshops for employers to learn about employer responsibilities and a Washington State Department of L&I's toll-free number and website link for reporting unsafe or unhealthy workplace conditions or discrimination were included in the first trifold. The intent was that the trifold brochures were the key resources for community members with no expectation that the implementation specialists would become well-versed in worker health education or in specific resources.

A Chinese language version of the brochure was developed in collaboration with six English-Chinese bilingual and bicultural professionals involved in providing human, social or spiritual service to Chinese immigrants at local CBOs or FBOs. Relevance, cultural appropriateness, accurate translation, reading level (8^{th}-grade equivalent) for Chinese immigrants, layout clarity, ease of use, and the likelihood of organizational support to integrate the WHE_B materials in agency-based work were assessed. Minor wording modifications were made to capture dialectic variation and improve clarity and readability for Chinese with less formal education. The pamphlet was finalized after receiving positive feedback during the follow-up focus group.

Implementation process. After an agency committed to participating in the trial, an experienced OH nurse worked with the designated administrator and implementation specialist to develop implementation plans. To evaluate translation of research and creation of sustainable interventions in "real world contexts," four principles were given to guide agency's

implementation decisions: (1) select an implementation mechanism to maximize the proportion of the client target population reached, (2) identify a target outreach number of clients for the 2-month implementation trial period, (3) minimize agency efforts and resources needed to achieve the target number, and (4) use direct interactive delivery mechanisms (i.e., individual session, group meeting, or stand-alone workshop) to integrate the three WHE_B brochures into the existing service(s) provided by the participating agencies. For example, one CBO chose to present the brochures to the client at the end of their scheduled case management meeting, whereas another CBO decided to present all three brochures with activities in a group meeting. Despite differences in the delivery mechanisms, implementation specialists were instructed to disseminate all three brochures as a set and review and explain the contents of each brochure to the clients.

During the hour-long individual training, the OH nurse reviewed and discussed study procedures and each brochure with the implementation specialists. An implementation manual was provided to ensure the implementation specialists' comprehension of and skills for disseminating WHE_B materials. The manual included information regarding (1) the study purpose; (2) the brochure content; (3) talking points for each brochure; (4) the delivery model, procedures, and timeline; (5) the implementation specialist's tasks and responsibilities; and (6) the communication plan with the research team. The Implementation Specialist's Tasks and Responsibilities section was tailored to each agency according to the selected delivery mechanism. The OH nurse provided check-in every 1 to 2 weeks to answer questions and support the implementation specialists.

Measurement

The process and outcome variables are detailed in Table 2. The Pilot-Trial Evaluation Survey assessed the implementation process and outcomes from the agency's perspective. The Post-Trial Sustainability Survey gathered data about agency decisions and activities related to WHE_B integration and the reasons for their decisions. The OH nurse used the Contact Summary Form to record main issues and relevant information gained during each contact and to specify questions or issues to be addressed in the following contact.

Data Collection Procedures

Each agency's designated administrator and implementation specialist received the Pilot-Trial Evaluation Survey by email at the end of the trial and the Post-Trial Sustainability Survey two months post-trial. Each respondent was compensated $10 for completing the surveys. Each agency was compensated for its time with $500 upon trial completion.

Analysis

Descriptive statistics were used to summarize the agency evaluation for areas for change, suitability of community-based WHE_B and sustainability of the intervention following the trial. Content analysis was used (1) to categorize the delivery models chosen based on the field notes, and (2) to identify and summarize suggestions for future modifications given responses to the open-ended questions.

RESULTS

Ten agencies were contacted. One Chinese and one Pan-Asian CBO that were interested and willing to engage declined because the project timing did not align well with the

dissemination mechanisms that they identified. Eight agencies, representing two of each organization type, participated in and completed the implementation trial. All designated administrators (n = 8) and implementation specialists (n = 8) completed the Pilot-Trial Evaluation Survey, and 15 of the 16 completed the Post-Trial Sustainability Survey. Table 3 provides the characteristics of the eight participating agencies as well as the implementation trial summary.

Implementation Process: Delivery Model and Areas for Change

The designated administrators and implementation specialists expressed positive attitudes toward providing OHS information to their clients. One administrator wrote, "We offer different health education to community partners. We can include this [brochures] with other materials & education that we provide" (Chinese CBO 1). An implementation specialist indicated on the survey, "The information is good to share with immigrant families. I would suggest to have more language to deliver the knowledge, such as Vietnamese or Warmic. Therefore, we can reach more clients to receive it" (Pan-Asian CBO 2). Of note, some implementation specialists expressed concerns about delivering the WHE_B before the training because they were not OHS professionals. Yet, during the hour-long training with the OH nurse, seven specialists could associate the information in the WHE_B with their personal experiences, client experiences, or both, which facilitated their understanding of the materials. No suggestions were made to modify the OH nurse's planning session with the participating agencies. However, one suggestion regarding the brochures was to present the "Chinese translation in a less formal writing for Cantonese clients" (implementation specialist, Chinese CBO 1).

Overall, agencies found adding and explaining the brochures was not burdensome. For example, Chinese FBO 1 indicated that it would only require minimum efforts to include the brochures and set up a table to reach out to attendees at the end of their Sunday workshop. PAN-Asian CBO 2 stated that giving out the brochures and discussing the information with clients would be easy because the family support staff were expected to share helpful information. Each agency identified one or two delivery models that already existed in the agency for the implementation trial. Their choices included individual sessions (e.g., case manager's appointment with the client), group meetings (e.g., monthly client meetings), stand-alone workshops, and outreach events. Outreach event was a new direct interactive delivery mechanism proposed by Chinese CBO 1.

Analyses of the field notes and written survey comments revealed that five agencies reached at least 70% of their selected target numbers at the end of the 2-month trial, Chinese FBO 2 reached no program attendee, and nonprofit CBO 2 and Pan-Asian CBO 2 reached only 11% and 15% of their goals, respectively. Chinese FBO 2 indicated that while many attended their spiritual programs during the trial period, people went home immediately thereafter, and they were unable to discuss immigrant worker health and WHE_B. The agency suggested a longer trial period would have been helpful. Chinese CBO 2, Chinese FBO 1, nonprofit CBO 2, and both Pan-Asian CBOs (n = 5) modified their implementation plans because the initial model was not feasible, hindering achieving their proposed target number within the trial period. The hindrances included needing to recruit participants for the workshops, typical advertisement mechanisms not working this time, insufficient time to discuss WHE_B materials during the group meeting, and additional coordination between the implementation specialist and case managers. After modifying their plans, Chinese CBO 2, Chinese FBO 1, and Pan-Asian CBO 1 improved

their numbers and reached 70% of their selected target numbers. The nonprofit CBO 2 implementation specialist indicated that they overestimated their target. In addition, they should have focused on disseminating through their parent groups, not spending time on individual sessions, which turned out to be challenging to fit WHE_B into the session and parent groups as initially planned. A typical information-sharing delivery mechanism (e.g., case management meeting, support group), whether in an individual or group format, was perceived as the most logical venue by 5/6 CBOs to integrate the WHE_B.

It is important to note that implementation specialists at nonprofit CBO 2 and Pan-Asian CBO 1 asked one of our research team members to attend their group meetings or workshops. Their rationale was that because Chinese culturally listen to authority experts, the presence of a research team member would add credibility to the dissemination of the WHE_B materials, thereby reinforcing the information conveyed during the session.

Implementation Outcomes: Suitability and Adoption Sustainability

Despite the changes in the implementation plan, administrators and implementation specialists of 7 agencies agreed that the delivery models were suitable for their agencies. Nonprofit CBO 2 reported a partial agreement. For this CBO, the implementation specialist thought the choice was a good fit as the topics were relevant to parents "who mostly engage in blue collar jobs." The administrator, on the other hand, had a mixed assessment. "The Chinese support group for parent/caregivers is the right place to bring education and resources for sharing and have the opportunity for questions," explained the administrator, [but] "the individual distribution/education may not work appropriately in most cases because the individual time meeting with clients often focus on other specific urgent needs families needing assistance with."

As for agency efforts to integrate WHE_B materials post-trial, the survey responses showed that three agencies continued to deliver the WHE_B without further modification. The reasons for continuing included (1) relevant and important information in the brochures, (2) brochures written in Chinese, (3) brochures were resources to share with other staff and clients, and (4) the agency served a high percentage of immigrant clients without access to OHS information. The reasons reported for not continuing the WHE_B included (1) change in staffing or office location, (2) limited staff resources due to management of other projects, (3) the pause of the group meeting mechanism that was selected for the pilot trial, (4) no new service users since the pilot trial, (5) having reached the goal set for the pilot trial, and (6) no instructions from supervisor to continue.

Additional Feedback on the Chinese WHE_B

The research team did not collect data from Chinese immigrants who received the WHE_B materials because of the focus of the study. However, some implementation specialists wanted to know their clients' thoughts about the information provided. Except for Chinese CBO 1, which used outreach as the mechanism, the other agencies asked for feedback from those who received the WHE_B materials. Reportedly, people found the information useful and provided a starting place for them to think about occupational health and safety, and some shared or planned to share the brochures with their family or friends.

Some agency respondents also described clients' reactions in the open-ended question at the end of the Post-Trial Sustainability Survey. The comment below captures the sentiment in agency respondents' feedback:

> The brochures with Chinese version help Chinese immigrants clearly in understanding and educating. They feel comfortable in receiving it because their mother language. Most

of them don't understand English well. Some didn't understand why should they know it, after my explanation, they know that it's not against their company, it help them to work in safety and healthy. One day they become an owner, they need to know their employee rights in US.

One respondent indicated that many people they talked with "were happy to see there are Chinese brochures made for them to read and share the information with their families and friends and clients."

DISCUSSION

This pilot implementation trial focused on generating new knowledge about alternative methods to translate existing basic OHS protection knowledge, which is typically provided on the job, into co-ethnic CBOs and FBOs that generally do not offer such a service. The eight co-ethnic CBOs and FBOs were receptive to integrating WHE_B into their existing service and acknowledged its value for immigrants (Chinese and other groups). While not all agencies reached their own target goals by the end of the 2-month trial, the pilot trial sheds some light on what can work or needs modifications to develop a prototype for implementing community agency-based prevention work for immigrant worker health and safety and design community-based WHE_B for future pilot efficacy studies.

The WHE_B was designed for easy adoption in settings such as CBOs and FBOs with no OHS expertise on site, limited financial resources and staff time, and clientele working across industries. We purposefully kept contents basic and applicable to the general workforce and used a trifold brochure format. Our experience suggests that it is possible to integrate basic worker health education within existing CBO and FBO programs when the contents are basic,

information-focused (vs. skills-focused), relevant across industries, and presented using low-cost, easy-to-replicate, and easy-to-implement methods. The implementation specialists, who were not OHS professionals, could comprehend and relate to the WHE_B content and felt comfortable presenting the information to their clients after one hour of training with the OH nurse. This is likely attributed to the first three design characteristics: basic, information-focused, and relevant across industries. The trifold pamphlet format is a commonly used format for educational or informational materials; implementation specialists found it easy to include the WHE_B brochures and fit the information sharing into varying individual or group delivery formats.

Early engagement of the staff responsible for intervention implementation, the identification of suitable delivery models for each setting, simple principles of operation, and built-in flexibility also facilitated the integration of basic worker health education. Participatory approaches are effective in improving the relevance of intervention design to the intended settings and users, intervention delivery, and the translation of research to practice.[12,14] Eldredge et al.[30] emphasized seeking input from potential adopters (e.g., CBO and FBO administrators), implementers and maintainers (e.g., CBO and FBO staff) of the intervention during its design and planning phase, rather than waiting until the implementation phase of an efficacy trial. While there were only eight agencies participating in this study, each had different organizational capacities, programs and services, as well as clientele and staff demographics. Working with the implementation specialists to determine delivery models most likely contributed to the positive responses about the suitability of the delivery model across organization contexts. This approach also may have enhanced a sense of WHE_B ownership for the implementation specialists and the organizations.

Moreover, adherence to the design of an established EBI is critical to intervention efficacy; however, the complexity of the intervention is a common barrier to adoption.[23,31] We found that when implementation specialists were given simple principles coupled with built-in flexibility, they were able to make necessary adjustments to sustain the fit with their agency context and thus meet the target outreach goal without compromising key intervention elements (i.e., content in the three pamphlets and direct interactive delivery). This approach was simple and convenient to use, had limited implementation, and allowed modifications to suit agency needs, all of which are facilitators of innovation adoption.[21,22,31] Chambers, Glasgow and Stange[32] argue that adaptation of an EBI is inevitable and should be encouraged to improve the fit with the local context because a strong fit between the intervention and the implementation setting enhances the likelihood of sustainment. Based on our pilot trial, keeping intervention protocols simple and building in flexibility to allow for modifications should be the orientation embedded in the intervention design. An intervention design that considers the potential for variations in future settings may reduce tension between internal and external validity[33] and improve the uptake of EBIs.

We also examined the sustainability of the intervention by examining if CBOs and FBOs would continue the WHE_B after the trial and funding ended. Only three of the eight agencies reportedly continued without modification. Community needs and the value of having immigrant-centered basic worker health education in Chinese for the Chinese immigrants they serve were shared as the reasons to continue. Such a mindset may explain why Chinese FBO 2 and Pan-Asian CBO 2 continued implementing the WHE_B even though they did not reach their target goal during the 2-month trial period. In other words, perceived benefits to agency clients and the availability of linguistically appropriate materials can facilitate the continuation of an

intervention, at least for a short term. Agencies indicated that the chosen delivery models were suitable for their agencies. The suitability of the delivery models, a facilitating factor for sustainability,[34] may have also contributed to their decision to continue.

As for the other five agencies that did not continue the WHE_B, the reasons cited provide insights into the range of changes occurring in CBOs and FBOs and the impact of such events on the continuation of programs even when the program delivery models are deemed suitable to the organizational context and valued by the stakeholders. Competing demands and resource issues, such as staffing, are common hindering factors for sustainability.[34] Some reasons for not continuing may be unique to this pilot study and could be mitigated in future designs. In our trial, we asked each site to use just one implementation specialist and one or two mechanisms to integrate the WHE_B. Using multiple implementation specialists to enhance organizational capacity as well as multiple existing mechanisms may be a design feature to consider for deepening the integration of OHS education in the existing structure of CBOs and FBOs. This design feature would be easy to do, given how comfortable the single trained implementation specialist was with the process and brochure content.

Major strengths of this study were that the content was derived from national OHS guidelines, the intervention design was based on principles known to promote innovation and implementation, and the Chinese language version was developed to ensure relevance and cultural appropriateness for the target population and diverse settings. However, the sample size was small, and implementation timing was defined by the funding parameters. Not all interested agencies could participate, and the trial and post-trial follow-up periods were limited.

CONCLUSIONS

For expanding and ensuring occupational health and safety, co-ethnic CBOs and FBOs are valuable options for the diffusion of worker health education. This pilot trial offered insights into a prototype for implementing such education in organizations that do not have integrated OHS professional services. Designing flexible programs to account for agency innovation is important to meet program goals. Moreover, community agencies often need to redefine the scope of services and use resources creatively to sustain pubic or grant-funded services when funding is discontinued.[35] In partnering with co-ethnic CBOs and FBOs and other community agencies, OHS researchers and professionals will need to grasp the relevance of ongoing organizational change and adaptation to the success of program implementation. Research is needed to shed light on the determinants of successful integration of evidence-based OHS interventions into these settings to optimize research-to-practice processes and sustain effective and meaningful outcomes for immigrant workers, especially before they enter high health-risk jobs.

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Table 1. Purpose and Talking Points for Implementation Specialists by WHE_B Brochure

Brochure 1: Occupational Health and Safety Practices in the United States: What Do you Need to Know…
Purpose: To let Chinese immigrants know that the United States has rules regulating the employee-employer relationship. Workers have their rights, and employers have their responsibilities. Working *together* workers and employers can reduce workers' risks of getting work-related illnesses and injuries and employers' loss of profits. **Talking Points:** • In America, there are rules requiring employers to follow to keep workplace safe and healthful. Workers with *and* without proper immigration documents are all under such protection. • Providing a healthy and safe work environment is good for both workers and employers. • OSHA (Occupational Safety and Health Agency) and Washington State L&I (Department of Labor and Industries) have many resources available to employers and workers. We have included a few of the resources on the back of the brochure. Washington State L&I has a toll-free 1-800 number for those who want to ask about L&I services in their own language. • In America, there are worker rights and employer responsibilities that each Chinese immigrant should know about.
Brochure 2: Occupational Health and Safety: Prevention
Purpose: To increase Chinese immigrants' awareness of workplace hazards (i.e., sources of damage, harm or adverse health effects), thereby begin to pay attention to the hazards at their workplace and make efforts to reduce the effects of the hazards.

Talking Points:

- There are many hazards at workplace that can cause illnesses or injuries. Some of the hazards are invisible.
- Working *together* between workers and employers can reduce everyone's risks of getting sick or injured at work.
- The table (in this brochure) lists five types of hazards that could cause harm or adverse health effects to workers: biological, physical, enviromechanical, chemical, and psychosocial. Each type of hazard can cause its own kind of health and safety consequences.
- There are *simple* and *inexpensive* ways that everyone can use to prevent work related injury and illness. We have provided some examples in this brochure for you.

Brochure 3: Occupational Health and Safety: Simple Ways to Make Work Healthy and Safe

Purpose: To provide some simple and inexpensive methods for Chinese immigrants to use to reduce their risks of developing musculoskeletal problems and fall, the two most common work-related health and safety problems across settings.

Talking Points:

- Regardless of the type of job, musculoskeletal problems and fall are two most common work-related health and safety problems. We include some inexpensive prevention methods that everyone can use to reduce her or his risks of getting musculoskeletal problems or fall at work. For examples, there are examples about how to carry, hold or move objectives; how to use equipment or tools to assist with tasks; take breaks between repetitive motions; how to keep surface clean to avoid fall; and how to safely use a ladder.

- We include several website tools or resources on the back of the brochure for you.

Table 2. Variables, Description of Measures and Data Source

Variables	Description of Measures	Source
Process Variables		
Delivery model choice	Contact Summaries were used to assess agency perceptions of interactive WHE_B delivery and to identify and categorize delivery models.	OHN
Areas for change	Five open-ended survey questions and the Contact Summaries addressed agency recommendations for modification of specialist training, program mechanisms, targeted number, delivery model, and protocol.	IS, AA, OHN
Outcome Variables		
Suitability	Single item assessed the perceived fit between the selected delivery model and agency context (0=no, 1=yes); a follow-up question inquired about the basis/reasons for this assessment.	IS, AA
Adoption sustainability	Single item categorized agency post-trial efforts to integrate WHE_B materials: 0=stopped, 1=continuing same activity, 2=continuing, plan to develop further, 3=continuing, expanded activity. A follow-up question queried reasons for continuation or no continuation.	IS, AA

Note. IS = Implementation Specialist, AA = Agency Administrator, OHN = Occupational Health Nurse

Table 3. Agency Characteristics and Implementation Trial Summary (N = 8)

	Chinese CBO 1*	Chinese CBO 2	Chinese FBO 1* (church)	Chinese FBO 2 (temple)	Nonprofit CBO 1	Nonprofit CBO 2	Pan-Asian CBO 1	Pan-Asian CBO 2
Agency Characteristics								
Paid staff size** Full-time Part-time	304 156	0 0	2 4	0 0	Not available	14 2	26 8	Not available
Use unpaid staff	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Largest immigrant grouping	Chinese from Asian countries	Chinese from Asian countries	Chinese from Asian countries	Chinese from Asian countries	Chinese from Asian countries	Not available	Chinese from Asian countries	Africans from African countries
Largest US-born clients	Not available	Asian American	Asian American	White American	Black/ African American	Not available	Black/ African American	Asian American
# of Chinese immigrant clients/month (range)	901-1000	41-60	151-200	1-20	>1000	61-80	401-500	Not available
Trial Summary								
Delivery model Initially chosen	outreach	group	workshop	individual	workshop	Individual + group	individual	workshop
Delivery model used	outreach	individual + group	workshop + individual	individual	workshop	group	individual + group	individual + group
Reached 70% of target #	Yes	Yes	Yes	No	Yes	No	Yes	No
Continued WHE_B post-trial	Yes, without	No	No	Yes, without	No	No	No	Yes, without

	change			change				change

Note. *CBO=Community-based organizations that offer human, social, or health services. FBO=Faith-based organizations that provide spiritual services. **The paid staff size was an estimate provided by the agency.