

Adaptation and Implementation of an Intervention to Reduce HIV-Related Stigma Among Healthcare Workers in the United States: Piloting of the FRESH Workshop

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Abstract

HIV-related stigma has been shown to have profound effects on people living with HIV (PLWH). When stigma is experienced in a healthcare setting, negative health outcomes are exacerbated. We sought to assess the feasibility and acceptability of a healthcare setting stigma-reduction intervention, the Finding Respect and Ending Stigma around HIV (FRESH) Workshop, in the United States. This intervention, adapted from a similar strategy implemented in Africa, brought together healthcare workers (HW) and PLWH to address HIV-related stigma. Two pilot workshops were conducted in Alabama and included 17 HW and 19 PLWH. Participants completed questionnaire measures pre- and post-workshop, including open-ended feedback items. Analytical methods included assessment of measures reliability, pre–post-test comparisons using paired *t*-tests, and qualitative content analysis. Overall satisfaction with the workshop experience was high, with 87% PLWH and 89% HW rating the workshop “excellent” and the majority agreeing that others like themselves would be interested in participating. Content analysis of open-ended items revealed that participants considered the workshop informative, interactive, well-organized, understandable, fun, and inclusive, while addressing real and prevalent issues. Most pre- and post-test measures had good–excellent internal consistency reliability (Cronbach’s alphas ranging from 0.70 to 0.96) and, although sample sizes were small, positive trends were observed, reaching statistical significance for increased awareness of stigma in the health facility among HW ($p=0.047$) and decreased uncertainty about HIV treatment among PLWH ($p=0.017$). The FRESH intervention appears to be feasible and highly acceptable to HW and PLWH participants and shows great promise as a healthcare setting stigma-reduction intervention for US contexts.

Keywords: discrimination, healthcare workers, HIV/AIDS, interventions, stigma, United States

Introduction

HIV-RELATED STIGMA presents a significant barrier for both the prevention and management of HIV.^{1–3} Despite advances in the medical treatment of HIV, the persistence of HIV-related stigma within healthcare settings in the United States (US)⁴ continues to be an obstacle to improving the health and well-being of people living with HIV (PLWH).^{5–7} Whether experienced or anticipated, HIV-related

stigma may adversely affect the health behaviors, and, hence, the treatment outcomes of PLWH in a number of ways.^{8–10} PLWH who experience higher levels of stigma are likely to have poorer overall health,^{7,8} less access to HIV care,⁹ and reduced linkage to care.¹⁰ Stigmatizing interactions with healthcare workers (HW) have been shown to negatively impact the patient–provider relationship, care provision, and the willingness of PLWH to access appropriate medical care.^{11–14} Likewise, the fear of experiencing stigma, *anticipated stigma*,

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from HW may deter PLWH from regularly engaging in healthcare visits^{3,13,14} and reduce adherence to antiretroviral treatments necessary to achieve viral load suppression and maintain their health.^{11,12} These consequences may be especially pronounced for individuals residing in the US South, where the population has less exposure to HIV education and prevention strategies coupled with the highest HIV infection rates in the US.^{15–17}

To address these problems, stigma-reduction interventions for healthcare settings—targeting individual, environmental, and policy levels—have been developed and tested in various settings around the globe.^{11,18} In their review of this literature, Nyblade et al.¹¹ identified strategies to achieve stigma reduction targeting each level. These strategies include, but are not limited to, the inclusion of all staff members, use of participatory methods, and inclusion of PLWH in stigma-reducing activities.

In addition, research on stigma-reduction programs emphasizes three key principles. First, fundamental to any stigma-reduction program is *addressing immediately actionable drivers*, or those causes of stigma that can be tackled in the short or immediate term, for example, raising awareness, discussing and challenging shame and blame, and discussing HIV fears and misconceptions. Second, stigma-reduction programs must *put individuals experiencing stigma at the core of the response* by developing and strengthening networks of PLWH, empowering and strengthening capacity, and addressing internalized stigma. Third, stigma-reduction programs must *create and sustain partnerships* between those experiencing stigma and those in the community and in institutions (health facilities, schools, etc.) who have the power to shape opinions and model nonstigmatizing behavior.¹¹

Overall, there is scant literature on stigma-reduction interventions in the US, especially those targeting HW or the healthcare setting. In the US, intervention studies have been largely focused on the person, or groups of people, living with HIV. However, the global stigma intervention literature has also addressed stigma reduction among HW and in healthcare settings.^{19,20} Preliminary results of these studies indicate promise in decreasing stigma among specific healthcare-providing populations, although additional research is needed to further develop and evaluate this type of targeted intervention.

Given the key importance of an ongoing, positive interaction between PLWH and the healthcare system and the dearth of literature on strategies to alleviate HIV-related stigma in these settings, there is a need to develop, or adapt, and test culturally relevant interventions for HW and PLWH in the US. The aim of this study is to examine the feasibility and acceptability of the Finding Respect and Ending Stigma around HIV (FRESH) Workshop, an adapted HIV stigma-reduction intervention, originally developed and tested in Africa, for use in the US South.

Methods

Original intervention

We adapted and tailored an HIV stigma-reduction intervention for healthcare settings in the US originally developed and tested in five African countries (Lesotho, Malawi, South Africa, Swaziland, and Tanzania). The original intervention brought together healthcare professionals (nurses) and patients (PLWH) from the same health facility for a 2-day workshop,

facilitated by a representative from each target group, followed by a 1-day project evaluation workshop after a 1-month interval. The intervention included three key elements: (1) Sharing of information, (2) increasing contact between HW and PLWH, and (3) utilizing empowerment strategies to improve coping with HIV-related stigma. A full description of the original intervention is provided elsewhere.²¹

Adaptation process

To inform the adaptation and tailoring of the intervention for the US South, the team initially collected and examined local data from several sources. These included the following: (1) An online survey of public health and primary care HW, (2) questionnaires with HIV clinic patients, and (3) focus groups with PLWH. The methods and results of these data collection exercises are summarized below. Findings from these activities informed the adaptation of the HIV stigma-reduction intervention, and the initial plans for the intervention were then presented for feedback to two focus groups consisting of PLWH. The adapted intervention, the FRESH Workshop, was piloted twice in the local area.

Online survey of public health and primary care HW. Online surveys were conducted in Alabama and Mississippi to assess perceptions of HIV-related stigma and discrimination among staff working in public health and primary healthcare settings in these states. The *Measuring HIV Stigma and Discrimination among Health Facility Staff* questionnaire, a 34-item survey available through the Health Policy Project,²² was adapted for online administration. The results of this survey, presented elsewhere,¹⁰ suggest that stigmatizing attitudes toward PLWH persist among HW from a wide range of job types and healthcare settings. For example, endorsing at least one stigmatizing attitude was observed for 89–93% of all survey respondents (social and community workers, clinical staff, and all other staff members) in both urban and rural settings. Survey participants indicated support for a workshop focusing on reducing HIV-related stigma, with 70% expressing potential interest in participation. Approximately 90% of these participants suggested they would be willing to devote a half-day or whole day to such a workshop.

Questionnaire data from patients at a local HIV clinic. An adapted 41-item questionnaire was administered to patients of a university-based HIV primary care clinic in Alabama to measure experiences of stigma in healthcare settings ($n=203$). The results, presented elsewhere,²³ suggested that patients continue to experience stigma in healthcare facilities, manifested through denial of care, being given poorer quality of care, or having one's HIV status disclosed to others without permission.

Focus groups with PLWH. Two focus groups were conducted to further explore PLWH experiences of stigma in healthcare settings in Alabama and perceptions of the potential intervention (the FRESH Workshop). Participants were recruited from PLWH support groups facilitated by a local AIDS service organization (ASO). Sixteen consumers (10 males, 5 females, and 1 transgender) completed the informed consent process and participated in a focus group. Both focus groups

were conducted by gender-matched members of the research team over 1.5- to 2-h audio-recorded sessions. Facilitators reviewed each section of the proposed workshop and solicited feedback from participants regarding its relevance, organization, and feasibility. Throughout this process, participants were encouraged to share insights and perspectives from their personal experiences with stigma that were relevant to the topics being addressed. After all sections of the adapted workshop were reviewed, the groups concluded with a brief open-ended discussion about the perceived community value and potential impact of the adapted intervention.

Among the most salient findings from the focus groups were participants' confirmations that PLWH continue to experience HIV-related stigma in healthcare settings, particularly in settings outside of primary HIV care facilities (e.g., urgent care centers, emergency departments, and dentist offices). Participants also discussed the pertinence of other intersecting stigmas, mainly around sexual orientation. In terms of the intervention workshops, participants stressed the importance of including receptionists and other first points of contact at the healthcare facility in the intervention workshops. For PLWH participants, it was suggested to include both newly diagnosed and experienced PLWH in the intervention so that they could support and learn from each other. Participants also suggested including basic education on HIV transmission and treatment for healthcare staff and patients who may have limited HIV knowledge. In terms of logistical aspects of the proposed intervention, the team learned that many PLWH preferred to have workshops in a "neutral location" rather than health department clinics, given past experiences with their initial HIV diagnosis associated with that setting.

Adapted intervention: the FRESH workshop

The FRESH Workshop was built on key elements of the African intervention (sharing of information, increasing contact between HW and PLWH, and utilizing empowerment strategies to improve coping with HIV-related stigma) and incorporated local data from the abovementioned sources. Intervention adaptation was also guided by two theoretical perspectives that provide insight into how stigmatizing attitudes and behaviors may be influenced: Social cognitive theory (SCT)²⁴ and intergroup contact theory (ICT).²⁵ To effect behavioral change, SCT suggests that, to at least some degree, the following must be present: (1) Behavioral capability, or one's actual ability to perform a specific behavior; (2) observational learning; (3) reinforcement(s); (4) expectations; and (5) self-efficacy, or confidence to achieve certain behaviors. ICT suggests that the most effective way to reduce prejudice between minority and majority group members is through properly managed, interpersonal contact. In addition, we incorporated the three key principles of Nyblade et al.¹¹ for developing stigma-reduction interventions as mentioned above.

The final form of the adapted intervention consisted of a 1.5-day workshop designed to sensitize both HW and PLWH participants to HIV-related stigma and to encourage collaborative development of a public health strategy for increasing awareness of and reducing HIV-related stigma and discrimination among HW. In addition to being shorter than the original intervention, the FRESH Workshop (1) included a module on intersecting stigmas and discrimination (e.g., sexism, rac-

ism, homophobia) to address diversity issues prevalent in the US, and (2) requested group projects focused on developing public health strategies for reaching the larger population of HW in the region instead of the specific health facility where HW participants worked to broaden the potential impact of the workshop. Table 1 describes the components of the original intervention and indicates adaptations made in this study.

Measures. At the outset of the workshop, all participants provided sociodemographic information and completed a battery of standardized pre-workshop questionnaires specific to their group (HW or PLWH). Measures were selected to assess potential outcomes and mechanisms for the effects of workshop participation and each measure's utility for use in future trials of the intervention. Measures for PLWH participants included empowerment,²⁶ HIV treatment self-efficacy,²⁷ self-esteem,²⁸ dimensions of HIV-related stigma,²⁹ and coping.³⁰ Measures for HW participants included empathy,³¹ HIV knowledge,³² HIV-related stigma and attitudes toward PLWH,³³ perceived risk of HIV,³⁴ and familiarity and social distance.³⁵⁻³⁷ A complete listing of specific measures is included in Table 2. Questionnaires were readministered at the end of the workshop along with a series of open-ended items regarding the workshop experience.

Facilitation and workshop agenda. The workshop was facilitated by a social work-trained HW and a PLWH. Other members of the study team, including public health faculty and research assistants, also participated in facilitating different sessions of the workshop. Day 1 of the workshop was divided into the following five sections addressing different aspects of stigma: (1) Overview of HIV-related stigma and its varying forms; (2) intersecting stigmas such as racism, sexism, and homophobia; (3) general knowledge update on HIV transmission, prevention, and treatment; (4) methods for coping with stigma; and (5) addressing stigma, which included working in small groups (mixed HW and PLWH) to develop stigma-reduction strategies/tools. Each section consisted of presentations, group discussions, and interactive exercises, adapted from several sources, including the Understanding and Challenging Stigma Toolkit.³⁸ Day 2 of the workshop consisted of three sections: (1) Participants worked in small groups to prepare PowerPoint presentations on the stigma-reduction tool they developed during Day 1; (2) each group introduced their strategy to workshop participants and received feedback on their ideas, including feedback from guest "judges" and prizes for the group who received the highest scores; and (3) participants reflected on their experiences participating in the workshop and completed the post-workshop questionnaires. To conclude, the study team joined participants in a luncheon provided in appreciation for their time and effort.

Human subjects protections. The pilot intervention study was approved by the University of Alabama at Birmingham (UAB) Institutional Review Board, and all participants provided signed informed consent for their participation and were compensated for their time and effort.

Analytical methods. Pre- and postmeasures were examined for internal consistency reliability, and Cronbach's alphas were calculated for each multi-item scale. Although

TABLE 1. COMPARISON OF CHARACTERISTICS OF ORIGINAL AFRICAN INTERVENTION²¹ AND CHARACTERISTICS OF ADAPTED ALABAMA FRESH INTERVENTION

Characteristic	5 African Countries	Alabama
Facilitator (s)	1 nurse and 1 PLWH	1 social worker and 1 PLWH
Length and timing of workshop	2-day project initiation and 1-day project evaluation workshop; 35–49 h total	1.5 days, 2 weeks apart on the weekend; 12 h total
Participants	84 total; 43 nurses and 41 PLWH	36 total; 17 HCW and 19 PLWH
Recruitment	All participants in a given workshop were from the same healthcare facility within one of five African countries.	HCW participants were recruited from HIV clinics and health departments; PLWH were recruited from ASOs, HIV clinics, HIV support groups, and social venues
Participation criteria	HCWs: Nurse at identified clinic PLWH: Living with HIV, patient at identified clinic	HWs: Staff in healthcare setting with patient contact PLWH: Living with HIV, age 19 or older
Content	Understanding and defining stigma The outcomes of stigma Why is stigma hard to change? Identifying stigma interventions and local examples Evaluating options for action Planning for change Choosing project options Planning the project Vision, aim, and objectives Task analysis and action plan	Understanding stigma Intersecting stigmas and outcomes of stigma HIV knowledge update Coping with and changing stigma Intervening in stigma Group presentations Large group discussion, feedback on group presentations, next steps Reflections on workshop experience
Assessments	Qualitative interviews and questionnaires 3 months before the intervention and within 1 month of completion of the intervention	Questionnaires before the first workshop session and immediately following the last workshop session

ASO, AIDS service organization; FRESH, Finding Respect and Ending Stigma around HIV; HW, healthcare workers; PLWH, people living with HIV.

sample numbers were very small, pre- and postscores were compared using paired *t*-tests. In most cases, the measures assessed were different for HW and PLWH resulting in the need for separate pre–post analyses. Open-ended responses from the post-workshop questionnaires were examined using content analysis methods.³⁹ Responses were imported into the NVivo qualitative data analysis software program and coded according to emerging themes and subthemes, and illustrative quotations were identified to illustrate each code.

Results

Participants

The FRESH Workshop was piloted with two different groups in Alabama in May and September 2014. Participants were recruited by word-of-mouth, with research assistants making initial contacts with HW at local health departments and HIV clinics and with PLWH through initial contacts with ASOs, other agencies providing social services, local bars, and HIV-related support groups. Reminder calls were made to individuals who indicated interest in participating before each workshop. The May workshop was attended by seven HW and six PLWH, and the September workshop was attended by a group composed of ten HW and thirteen PLWH. A total of 36 participants (HW and PLWH) attended both days of the workshop (see Table 3 for demographic characteristics).

Illustrated in Table 3, the overall sample of workshop participants was mostly female (67%), black (69%), and more than 35 years old (66%). A majority of participants reported at least some college education (77%). Participants overwhelmingly identified with some religious affiliation (89%), and the majority of these considered themselves to be Protestant (69%) or Catholic (17%). The sample was evenly distributed between HW (47%) and PLWH (53%), and there were few differences between the groups in terms of gender, race, age, and religious preference. As expected, the HW group was composed of individuals with higher education than the PLWH group (76% vs. 16% college graduates).

As can be seen in Table 2, most of the measures had good–excellent internal consistency reliability in these samples, with Cronbach's alpha scores for most scales and subscales ranging from 0.70 to 0.96, with a few exceptions (observed healthcare stigma=0.36, negative attitudes toward PLWH=0.59, using emotional support=0.18, and self-blame=0.43). Pre- and postquestionnaire results on the scales measured are presented in the last three columns of Table 2. Although most changes were not statistically significant in this small sample, we did detect a statistically significant ($p=0.047$) increase in reported observations of stigma in their workplaces among HW at post-workshop. We also observed a change in healthcare empowerment among PLWH participants, in that postintervention participants had statistically

TABLE 2. DESCRIPTION AND RELIABILITY (CRONBACH'S ALPHA) OF STANDARDIZED INSTRUMENTS INCLUDED IN BATTERY OF MEASURES COMPLETED AT THE BEGINNING AND AT THE END OF THE FRESH INTERVENTION BY PARTICIPANT TYPE (HW AND PLWH)

Topic	Scale used	No. of items	Cronbach's alpha ^a	Pretest mean, SD	Post-test mean, SD	Paired t-test result
Healthcare workers (<i>n</i> 's ranged from 13 to 17, due to missing data on some measures)						
Empathy	Adaptation of the Jefferson Scale of Physician Empathy, ³¹	11	0.738	4.59, 0.388	4.66, 0.402	0.979
HIV knowledge	HIV Knowledge Questionnaire (HIV-KQ-18) ³²	18	0.807	16.41, 2.152	16.06, 2.384	-1.244
Observed healthcare stigma	Tool for measuring HIV-related stigma among health facility staff ^{22,33}	8	0.356	1.72, 0.375	1.82, 0.356	2.163*
Negative attitudes toward PLWH	Measuring HIV stigma and discrimination among health facility staff: Comprehensive Questionnaire ^{22,53}	12	0.589	1.38, 0.327	1.33, 0.330	-0.861
Social distance	Adaptation of the Social Distance Scale ³⁶	7	0.851	1.28, 0.445	1.38, 0.528	1.871
Perceived risk of HIV	Perceived Risk of HIV Scale ³⁴	10	0.706	0.403, 0.518	0.540, 0.522	0.076
People living with HIV (<i>n</i> 's ranged from 10 to 14, due to missing data on some measures)						
HIV-related stigma	HIV Stigma Scale ²⁹	32				
	<i>Enacted Stigma</i>	11	0.915	1.97, 0.487	1.87, 0.585	-1.420
	<i>Disclosure Concerns</i>	8	0.820	2.41, 0.514	2.30, 0.583	-1.926
	<i>Negative Self-image</i>	7	0.850	1.85, 0.503	1.69, 0.628	-1.264
	<i>Concern with Public Attitudes</i>	6	0.914	2.42, 0.674	2.59, 0.712	1.291
Empowerment	Healthcare Empowerment Inventory ²⁶	8				
	<i>Informed, Committed, Collaborative, Engaged</i>	4	0.721	4.77, 0.346	4.71, 0.336	-0.562
	<i>Tolerance of Uncertainty*</i>	4	0.854	4.13, 0.754	3.59, 0.959	-2.776*
Adherence	HIV Treatment Adherence Self-Efficacy Scale (HIV-ASES) ²⁷	12	0.929	8.22, 1.866	8.58, 1.324	0.916
self-efficacy						
Self-esteem	Rosenberg Self-Esteem Scale ²⁸	10	0.863	3.39, 0.857	3.40, 0.462	0.036
Coping	Brief COPE ³⁰	14				
	<i>Using Emotional Support</i>	2	0.179	2.75, 0.754	2.63, 0.644	-0.453
	<i>Using Instrumental Support</i>	2	0.814	2.50, 0.680	2.50, 1.038	0.000
	<i>Substance Use</i>	2	0.966	1.32, 0.541	1.14, 0.363	-1.794
	<i>Self-blame</i>	2	0.429	1.73, 0.563	1.46, 0.519	-1.460
	<i>Venting</i>	2	0.864	1.86, 0.633	1.96, 0.950	0.444
	<i>Religion</i>	2	0.771	2.82, 1.012	2.57, 1.072	-0.940
	<i>Humor</i>	2	0.884	1.46, 0.571	1.64, 0.949	0.616

* $p \leq 0.05$.

^aReliability calculated for post-test scores only.

FRESH, Finding Respect and Ending Stigma around HIV; HW, healthcare workers; PLWH, people living with HIV.

TABLE 3. SOCIAL AND DEMOGRAPHIC CHARACTERISTICS OF PLWH AND HW PARTICIPANTS (N=36) IN THE FRESH INTERVENTION WORKSHOPS CONDUCTED IN ALABAMA, MAY AND SEPTEMBER 2014

Variable	PLWH (n=19) N (%)	HW (n=17) N (%)	Total (N=36) N (%)
Age	Mean = 51, SD = 10.22	Mean = 40, SD = 9.52	Mean = 46, SD = 11.32
23–34	1 (5)	5 (29)	6 (17)
35–44	3 (16)	4 (24)	7 (19)
45–54	6 (32)	4 (24)	10 (28)
55+	6 (32)	1 (6)	7 (19)
Unreported	3 (16)	3 (18)	6 (17)
Gender			
Male	7 (37)	4 (24)	11 (30)
Female	11 (58)	13 (76)	24 (67)
Unreported	1 (5)	0 (0)	1 (3)
Race			
Black	14 (74)	11 (65)	25 (69)
White	4 (21)	6 (35)	10 (28)
Unreported	1 (5)	0 (0)	1 (3)
Highest education completed			
HS equivalent or less	6 (32)	0 (0)	6 (17)
Some college	8 (42)	4 (24)	12 (33)
College graduate	3 (16)	13 (76)	16 (44)
Unreported	2 (10)	0 (0)	2 (6)
Religion			
Catholic	3 (16)	3 (18)	6 (17)
Protestant	13 (69)	12 (70)	25 (69)
Other	0 (0)	1 (6)	1 (3)
None	2 (10)	1 (6)	3 (8)
Unreported	1 (5)	0 (0)	1 (3)

FRESH, Finding Respect and Ending Stigma around HIV; HW, healthcare workers; PLWH, people living with HIV.

significant ($p=0.017$) lower means for tolerance of uncertainty regarding their HIV treatment. This subscale of the healthcare empowerment measure includes items such as “I accept that the future of my health condition is unknown even if I do everything I can” and “I am comfortable with the idea that there may be setbacks in my treatment.”

In response to the participant satisfaction questions included in the post-test survey, both HW and PLWH participants conveyed their positive experiences in the FRESH Workshop. Eighty-seven percent of PLWH participants ($n=15$) and 89% of HW ($n=18$) completing the post-questionnaires rated the workshop experience as “excellent” (the remainder rated it as “good”). Similarly, the majority of PLWH and HW participants said that they felt that other people like themselves would likely be interested in participating in such a workshop (PLWH: 87% Yes, 7% Maybe; HW: 89% Yes, 11% Maybe). The majority of both types of participants responded it would be important to reach clinicians (PLWH: 87%; HW: 100%), HIV testing counselors (PLWH: 87%, HW: 89%), receptionists (PLWH: 80%; HW: 94%), social workers (PLWH: 80%, HW: 89%), and laboratory workers (PLWH: 80%, HW: 78%) with the workshop stigma-reduction messages.

Content analysis of open-ended items. In open-ended workshop feedback items, content analysis revealed that overall evaluations of the workshop experience were largely positive. Participants appreciated that the workshop sessions were informative (19), interactive (5), well-organized (5), understandable (2), fun (6), inclusive (5), and addressed real

and prevalent issues (3). Only one participant mentioned that the workshop content was hard to understand.

I enjoyed the workshop very much. I learned a lot. The workshop was well-organized and presented well. I would encourage others to participate. (PLWH)

The workshop content was easy to understand and implement in one's personal and professional life. (HW)

In terms of important things that participants learned, topics mentioned included the effects of stigma (6), different levels or types of stigma (5), causes/roots of stigma (4), methods for preventing or coping with stigma (7), and knowledge of the experiences of others with stigma (9).

Mapping out the causes/roots/outcomes of stigma. How to take my experiences with stigma and deliver it to others to reduce stigma. (PLWH)

I have been to numerous workshops, and this particular one opened my eyes regarding my own personal stigma. This makes me want to address the issue more strongly. (HW)

Although many participants noted that nothing was missing from the workshop, some participants suggested inclusion of more diverse types of people and more time to hear individual stories. Others suggested more time for interactive exercises and projects and more efforts to empower participants to address stigma. Two participants expressed frustration with the length of the pre- and postsurveys. Suggestions included:

Participation from doctors and nurses from other professions besides HIV. (PLWH)

I would have enjoyed digging deeper into topics—from a healthcare professional perspective. (HW)

Small groups to develop public health strategies for HIV-related stigma reduction. Participant groups, consisting of a mix of HW and PLWH, utilized workshop time and, on occasion, time between workshops, to brainstorm potential high-impact interventions. For example, one proposed intervention titled, "Let's Talk About IT," was designed to expose future HW, specifically students entering the healthcare field, to the concept of HIV-related stigma and the disparities that surround it. The proposed intervention delivery included a one-day workshop, including education on HIV-infection and related stigma as well as group exercises that explicitly involved the sharing of stigma experiences. Another strategy, "Labels Are for Cans," proposed the use of TED (Technology, Entertainment, Design) Talks,⁴⁰ a popular mechanism for conveying information on scientific, cultural, and academic topics to broad audiences in brief seminars. The proposed intervention would last between 30 min and 1 h and would provide directed communication with HW about the negative effects of HIV-related stigma and on ways to prevent HIV-related stigma. It was further proposed that the TED Talk would comprise the views and ideas of various health professionals and PLWH. Proposed strategies generally included the key principles to consider when implementing stigma-reduction programs as suggested by the work of Nyblade et al.¹¹ The exercise was intended to get participants thinking about concrete ways to address HIV-related stigma and projects they might be able to develop in the future, if resources became available.

Discussion

The findings of our study suggest that it is possible to learn from the innovative stigma-reduction work for healthcare settings conducted outside of the US. Incorporating insights from two focus groups and data from regional questionnaires, our study adapted an HIV-related stigma-reduction intervention for healthcare settings originally implemented in African countries²¹ for use in the US. A pilot test of the adapted intervention in two workshops conducted in Alabama demonstrated it to be feasible. Further, quantitative and qualitative post-test data provided evidence that participants were highly receptive to and appreciative of the intervention.

Other previous international studies, which investigated stigma-reduction interventions in the healthcare setting, confirm that stigma-reduction interventions can be effective. In China, Li et al.⁴¹ found greater reduction in prejudicial attitudes and ambivalence intent among HW recruited from primarily rural, county hospitals ($n=611$) compared to control group participants ($n=577$) after participation in a randomized controlled trial (RCT) consisting of a four-session plus three booster session intervention. In India, second-year nursing students ($n=91$) were statistically less likely to endorse blame toward PLWH for their illness and less likely to have intentions to discriminate against PLWH when administering medication and drawing blood after participation in a stigma-reduction intervention consisting of two 1-h training sessions.²⁰ In the original study conducted in Africa, Uys et al.²¹ also found trends of decreased stigmatizing behavior among nurse participants in the workshop intervention. PLWH participants in the African intervention demonstrated decreased overall stigma scores and a significant increase in self-esteem.²¹

Given the small numbers of participants included in our pilot workshops in Alabama, we were unable to measure sta-

tistically meaningful changes in comparing pre-workshop and post-workshop measures. We did detect a statistically significant increase in reported observations of healthcare stigma in their facilities among HW at post-workshop. Although seemingly counterintuitive, it is possible that this finding represents heightened awareness of healthcare stigma. Interestingly, in our measure of healthcare empowerment, PLWH participants demonstrated significantly lower tolerance of uncertainty regarding their treatment post-workshop. It is possible that PLWH participants felt more confident about their ability to manage HIV medication adherence without uncertainty after participating in the stigma-reduction workshop. These are important preliminary findings as they suggest that an HIV stigma-reduction intervention, conducted in a workshop format and consisting of both HW and PLWH, can change attitudes and perceptions of both types of participants.

A secondary component of the FRESH Workshop was the collaboration between HW and PLWH participants to develop strategies to reduce HIV-related stigma. In developing the projects, participants combined their efforts, utilized the strengths of each group member, and considered the community-level impact of their work. As a result, participants experienced information sharing among purposefully mixed groups. The team is currently pursuing funding options to make some of these projects a reality.

While implementation of the FRESH Workshops occurred smoothly, some challenges did emerge. A balance of HW and PLWH were recruited for both workshops, but recruitment was not seamless. Ultimately, participants were identified through a convenience sample of HW and PLWH. While the results of this study highlight the acceptability and feasibility of the intervention, it is not without limitations. The study is limited by sample size and single-city implementation, which hinders generalizability of the results. In addition, workshop participants in this study were mostly motivated to broaden their knowledge about HIV-related stigma. HW included staff from local university-based and community-based ASOs who routinely work with the PLWH population. PLWH participants were often known to the study team through their willingness to participate in other HIV-related research studies. Despite these limitations, the findings of the study preliminarily support the acceptability and feasibility of this type of intervention.

As delivered, the FRESH Workshops were highly accepted by both HW and PLWH participants, and implementation in this domestic US setting proved to be feasible. These results provide greater understanding of how HIV-related stigma among HW may be effectively addressed. In addition, we see that perceptions of HIV-related stigma among both participant groups may be altered, and related knowledge that is gained during such interventions may inform broader public health strategies in the future. Certainly, more research which utilizes greater rigor, including larger sample size and randomization, is needed. These studies should occur in diverse US settings with more targeted participant recruitment to include those HW whose practice does not routinely include PLWH (e.g., public health nurses and social workers, physicians and nurse practitioners in general primary care practice, and other ancillary professionals such as occupational therapists, physical therapists, speech therapists, nutritionists, and radiologists). Finally, application of knowledge gained from this study to influence key components of the

HIV continuum of care (e.g., HIV testing, linkage to care, and, especially, retention and re-engagement in care, ART receipt, and viral suppression) is an important next step in addressing stigma as a fundamental component of an AIDS-free future.⁴²

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