Effectiveness of Train-the-Trainer HIV Education: A Model From Vietnam

Ann Bartley Williams, RN, EdD
Suu Thi Le, RN
Donn Colby, MD, MPH
Trang Thi Thu Le, BA
Todd Pollack, MD
Lisa Cosimi, MD

*As HIV prevention and treatment efforts expand around the globe, local capacity-building to update and maintain nurses' HIV competence is essential. The purpose of this project was to develop and sustain a national network of nurse-trainers who could provide ongoing HIV continuing education and training experiences to Vietnamese nurses. Over the course of 6 years, 87 nurses received training to become HIV trainers; their HIV knowledge increased significantly (*p = *.001),* as did teaching self-confidence *(*p = *.001 to .007). The 87 nurses subsequently reported training more than 67,000 health care workers. Recipients of train-the-trainer-led workshops demonstrated increased HIV knowledge (*p = *.001) and increased willingness to provide nursing care for HIV-infected patients (*p = *.001). The program demonstrated that including a substantial amount of instruction in pedagogical strategies and experiential learning could enhance knowledge transfer, expand education outreach, and contribute to sustainable HIV competence among nurses.*

(Journal of the Association of Nurses in AIDS Care, 25, *341-350*)

Key words: *HIV, nursing education, train-the-trainer, Vietnam*

In much of the world, barriers to the expansion and sustainability of HIV treatment are heightened by the concentration and spread of HIV infection among socially isolated and impoverished populations, whose vulnerability often is exacerbated by minority status and substance abuse. Vietnam is such a country where HIV is well established. Since the first case of HIV infection was detected in 1990, the epidemic has remained concentrated in distinct geographic regions and urban centers, with a rapid rise in prevalence in high-risk groups over the past decade. Estimates of the number of people who were living with HIV in 2012 ranged from 200,119 to 360,106 (Vietnam Administration of AIDS Control, 2009).

Ann Bartley Williams, RN, EdD, is a Professor and Associate Dean for Research, School of Nursing, University of California, Los Angeles, California, USA. Suu Thi Le, RN, is a Nursing Program Officer, Harvard Medical School AIDS Initiative Vietnam, Hanoi, Vietnam. Donn Colby, MD, MPH, is Director of Prevention and Clinical Research, Harvard Medical School AIDS Initiative Vietnam, Ho Chi Minh City, Vietnam, and Internist, Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA. Trang Thi Thu Le, BA, is an Evaluation Coordinator, Harvard Medical School AIDS Initiative Vietnam, Hanoi, Vietnam. Todd Pollack, MD, is the In-country Medical Director, Harvard Medical School, AIDS Initiative Vietnam, Hanoi, Vietnam, and Infectious Diseases Specialist, Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA. Lisa Cosimi, MD, is a Co-Director, Harvard Medical School AIDS Initiative Vietnam, Boston, Massachusetts, USA, and Infectious Diseases Specialist, Brigham and Women's Hospital, Boston, Massachusetts, USA.

JOURNAL OF THE ASSOCIATION OF NURSES IN AIDS CARE, Vol. 25, No. 4, July/August 2014, 341-350
http://dx.doi.org/10.1016/j.jana.2013.07.005

In Vietnam, HIV is viewed through its association with the "social evils" of drug use and sex work. The level of stigma against people living with HIV (PLWH) is quite high (Thi et al., 2008). Discrimination toward PLWH is against the law, but the law is rarely enforced (Messersmith et al., 2012). Currently there are an estimated 200,000 drug users in Vietnam, among whom the HIV prevalence is reported to be 35% nationally, with considerable geographic variation (Needle & Zhao, 2010). Although there have been increasing reports of nonopiate drug use, including amphetamines and ecstasy, either alone or with heroin, injection of heroin still accounts for 73%–90% of use in published reports (Nguyen & Scannapieco, 2008). Detention and forced detoxification in drug rehabilitation centers (known as 06 centers) is common practice. Rehabilitation in these centers consists of detoxification, manual labor, and education on how to resist drugs.

In response to the growing HIV epidemic, the Vietnamese government partnered with international agencies on rapid expansion of HIV prevention and treatment programs. By the end of 2011, 57,663 adults and 3,261 children were receiving antiretroviral therapy (ART; National Committee for AIDS, Drugs, and Prostitution Prevention and Control, 2012). Estimates of the number of adults in need of ART in 2012 ranged from 100,547 to 130,007 (Vietnam Administration of AIDS Control, 2009). HIV treatment is supported primarily by international donors, including the U.S. President's Emergency Plan for AIDS Relief and the Global Fund for AIDS, TB, and Malaria.

Nursing in Vietnam

As in many parts of the world, professional nursing in Vietnam is in the midst of profound changes driven by social and economic forces leading to increased demand for health care services and rapidly evolving changes in the status of traditionally female roles. The lack of a perception of nursing as a discipline distinct from medicine, and continuing control of nursing education and practice by physicians mean that Vietnamese nurses face major challenges as they seek to establish a distinct and valued role for their profession in the health care system (Jones, O'Toole, Hoa, Chau, & Muc, 2000). Issues include low status, ambiguous roles, inadequate professional education, multiple levels of education and practice roles, and a large number of physicians both teaching and practicing nursing (Jones et al., 2000).

The Vietnamese health care system includes national and provincial hospitals and clinics, township health centers, and health stations in each commune (rural village). Precise numbers, titles, and descriptions of working nurses in Vietnam are elusive. There are many routes to professional nursing in Vietnam; eligibility to sit for the national examination requires a variety of combinations of post high school study and work experience, leading to a range of titles.

Approximately 66,000 health care workers are categorized under the nursing profession, 43,500 are nurses, 12,500 are midwives, and 10,000 are assistant physicians who work as nurses (Jones et al., 2000). The role of nurses varies greatly from province to province and according to education and context. For example, each commune has a health station staffed by a nurse or midwife with only a secondary school education followed by brief health education. Also known as "*y te thon ban*," the role of these nurses ranges from counseling on availability of health services such as antenatal care and vaccinations, to simple checkups. In contrast, nurses trained at Bach Mai Nursing School in Hanoi compete for a place in a 2- to 3-year highly regarded postsecondary school hospital training program that includes four semesters of education followed by 400 hours of residency (Crow & Thuc, 2011).

The Vietnam Nurses Association was established in 1990. This government-affiliated organization has the mission of developing the nursing profession through research and training (Vietnam Nurses Association, 2009). The Vietnam Nurses Association describes nursing as a triangle with three equal sides representing caregiving, physician partnership, and community health education (Jones et al., 2000). In practice, 70% of nurses are hospital-based caregivers (Vietnam Nurses Association, 2009), where many of the hands-on functions are shared with family members. Vietnamese nurses do not routinely counsel patients nor provide extensive health education for patients or their families. They are not involved in discussions or decisions regarding treatment planning.

In contrast, international consensus holds that comprehensive HIV care comprises a multidisciplinary team of physicians, nurses, pharmacists, counselors, and other health care workers (Agins, Bacon, & Balano, 2011; Soto, Bell, & Pillen, 2004). Achieving this standard is a significant challenge in most parts of the world, including Vietnam, and will require major changes in how nurses are educated and practice (Vitiello & Willard, 2010). Even in the United States, a recent report from the Institute of Medicine (2010) acknowledged that until nurses are able to practice to the full extent of their education and in partnership with physicians and other health care workers, the benefits of health care reform will not be realized. The list of essential competencies for HIV nursing care established by an international working group of nurses ranges from basic clinical skills to counseling, spiritual support, psychosocial assessment and intervention, and education (Relf et al., 2011). This is a daunting agenda, but its accomplishment is essential if the promises of HIV prevention and treatment are to be realized (Vitiello & Willard, 2010).

Methods

The purpose of this project was to develop and sustain a national network of nurse-trainers who could provide a range of HIV continuing education and training experiences to Vietnamese nurses. Five assumptions guided the development of this program and informed the educational strategies used and logistical choices made.

First, accurate and comprehensive knowledge regarding HIV transmission, natural history, prevention, and treatment is the foundation of HIV nursing care. Knowledge combats fear, reduces stigma, and decreases avoidance of patients perceived to be at risk for HIV infection (Li et al., 2011; Nyblade, Stangl, Weiss, & Ashburn, 2009). In addition, although the clinical severity of advanced HIV is intimidating, at its core, good HIV care is simply good basic nursing care, with a focus on symptom management (Bhengu et al., 2011; Hughes, 2004; Shawn, Campbell, Mnguni, Defilippi, & Williams, 2005; Williams & Ropka, 1998).

Second, while knowledge is essential, it is not sufficient. To be effective, education and training must acknowledge and address underlying personal feelings and assumptions. Because fears, values, and emotions surround people's attitudes toward sexuality, drug use, illness, and death, self-awareness of personal assumptions and beliefs is critical to the provision of competent care. HIV education that includes affective as well as cognitive learning can uncover the personal values that nurses carry into their work, dramatically increasing their willingness to care for patients with HIV infection, as well as improving the quality of care (Eliason, 1993). Dialogic learning, grounded in adult education theory, offers a safe context in which learners can challenge their own unexamined assumptions, leading to perspective transformation. The dialogic approach was established in adult education practice more than 3 decades ago (Mezirow, 1981, 1985) and used in the very earliest HIV nurse training programs in the United States and elsewhere (Burgess et al., 1995; Schietinger, McCarthy, Gillen, & Hammrich, 1988).

Third, an effective train-the-trainer program requires training in pedagogical techniques. In most of the world and in most academic specialties, the dominant mode of teaching is didactic lecturing. Most direct care providers, nurses, and physicians alike have limited teaching experience and are most comfortable with structured and predictable classroom encounters. Experiential and interactive teaching strategies, although effective, are challenging for the teacher and learner alike, requiring self-confidence on the part of the teacher regarding both training content and pedagogical choices and willingness to engage on the part of the learners. In order to fulfill the dissemination goals of a train-the-trainer program, most participants must learn how to teach.

Fourth, sustainability of a training network requires ongoing support for the members of the network. Serving as the sole HIV training expert in an institution or local health care system can be lonely and stressful. Colleagues, patients, families, and the public present a range of clinical, psychological, and educational needs and demands for services and attention. In addition, "courtesy" stigma (e.g., stigma by association) limits the extent of support nurses engaged in HIV education and care receive from colleagues and supervisors (Li et al., 2007;

Pham et al., 2012; Phillips, Benoit, Hallgrimsdottir, & Vallance, 2012) and even contributes to the isolation of nurses who are identified as "AIDS nurses."

Fifth, because implementation and delivery of high-quality comprehensive HIV nursing care requires policy changes at institutional and professional levels, it is essential that individuals who are in a position to influence policy locally and nationally participate in the program from the beginning. Nurses who serve as administrative and bureaucratic leaders need a thorough and nuanced understanding of HIV nursing if they are to be effective and dedicated advocates for the needed policies. Institutional support is an essential factor in reducing stigma and personal distress associated with providing HIV care (Li et al., 2007).

Program Content

The first assumption, that accurate and comprehensive knowledge regarding HIV transmission, natural history, prevention, and treatment is an essential foundation for HIV nursing care, drove the selection of content for training modules. The modules addressed major topics in HIV epidemiology, natural history, prevention, treatment, nursing care, symptom management, and special issues such as substance abuse, stigma, sexuality, and adherence. The content was consistent with HIV nursing texts (Williams & Ropka, 1998) and other international HIV nursing curricula (Kohi et al., 2010).

Nurses' concerns about occupational exposure to HIV and other blood-borne pathogens are legitimate. In the United States, between 1981 and 2010, 57 documented and 143 possible cases of occupationally acquired HIV infection among health care workers were acknowledged by the U.S. Centers for Disease Control and Prevention; 60 (30%) of the individuals infected were nurses (Centers for Disease Control and Prevention, 2011). Given the lack of disposable and protective equipment in the great majority of Vietnamese health care facilities, the risk is real and must be acknowledged and addressed in order to increase nurses' willingness to care for PLWH.

Two strategies for reducing risk include emphasizing standard precautions (formerly known as universal precautions) with all patients and identifying strategies for prevention of exposure to blood-borne pathogens based on an understanding of the mechanisms of transmission and tailored to the local context. For example if recapping needles is necessary, the one-hand technique can be used. If commercially distributed equipment for safe disposal of potentially infectious waste is not available, substitutes can be created using locally available supplies.

The second assumption, that personal fears, values, and emotions influence one's ability to provide competent clinical care, led to the inclusion of program content related to attitudes and beliefs about sexuality, drug use, illness, and death. Small group and individual exercises asked trainees to reflect upon their personal experiences and attitudes. A key feature of the program was participation of local PLWH who were willing to discuss their situations formally and informally. Including HIV-infected and affected individuals in training programs has been shown to combat stereotypes and to challenge assumptions regarding PLWH (Nyblade et al., 2009).

In response to the third assumption, that participants in a train-the-trainer program need teaching skills, a substantial proportion of the program (approximately 30%) was devoted to pedagogical theory and practice. Content included adult education theory, course planning, setting educational objectives, assessing learner needs, developing and delivering lectures, managing difficult training situations, and program evaluation.

To address the fourth assumption, that sustainability of a training network requires ongoing support for the members of the network, and the fifth assumption, that policy changes at the institutional and professional level are required to ensure high-quality nursing care, the program included didactic and small group work introducing theories and strategies for organizational change and policy development at a local and regional level. Trainees worked in regional teams that included local leaders to develop plans for mutual support and program delivery.

Program Structure

To accomplish the goal of developing and sustaining a national network of nurse-trainers who

would provide HIV continuing education to colleagues, a small, selective, national cohort of nurses participated in biannual workshops between 2006 and 2012. The total of 11 workshops lasted from 2 to 4 days, sequentially addressing more advanced topics in HIV care and bringing information up to date as conditions and clinical practice in Vietnam evolved. During the months between workshops, trainees conducted training in their local provinces, districts, and institutions. In addition, small regional groups of trainees convened as necessary to review and revise training materials, to identify new topics for training, and to discuss logistical and process challenges in delivering training at the local level.

Trainee Selection

The initial cohort of trainees was selected in consultation with the Vietnam Nurses Association to fulfill the minimum criteria of including two nurses from each province, one with clinical responsibilities for the care of PLWH and the other with administrative and policy responsibilities at the provincial or city level. To ensure that members of the cohort would have time and resources to conduct training at the local level, support from direct supervisors and administrators also was required.

Evaluation Plan

Program evaluation was tri-fold: (a) outcome evaluation of the initial train-the-trainer workshop, (b) monitoring of the number and types of programs conducted by the trainees between workshops, and (c) assessment of pre- and postworkshop changes on the part of participants in a subset of trainee-facilitated training programs.

Evaluation Measures

Data to assess the outcomes of the train-the-trainer workshops were collected using a confidential structured questionnaire. The questionnaire solicited professional demographic information, HIV knowledge, self-report of attitudes toward PLWH and injection drug users, self-confidence regarding ability to care for PLWH and injection drug users, and self-confidence regarding teaching skills. A quasi-experimental, one-group design was used to assess pre- and posttraining changes in outcomes. Records regarding the number and types of programs conducted by the trainees between workshops were maintained by the trainees and reported quarterly to the program office. Finally, pre- and postworkshop changes on the part of participants in a subset of trainee-facilitated training programs were assessed with a structured questionnaire similar to the one used to assess outcomes of the train-the-trainer workshops.

Analysis

Standard statistical techniques were used to describe frequencies. Pre- and posttraining scores were compared using paired *t*-tests for continuous data and McNemar test for paired categorical proportions.

Results

Train-the-Trainer Program Trainees

A total of 87 nurses received training to become HIV trainers. Over the course of 6 years, the initial cohort of 44 was joined by 20 colleagues in 2007 and by 23 additional nurses in 2011. Table 1 summarizes trainee professional background. This was an experienced cohort; 78 (93%) reported they had worked as a nurse for 3 or more years. In keeping with the goal of including both clinical and administrative leaders, approximately half the trainees were from clinical settings (n = 42, 48%) and half from administrative or educational settings (n = 45, 52%). Experience caring for PLWH and for individuals with a history of injection drug use varied widely.

Train-the-Trainer Workshop Outcomes

At entry to the train-the-trainer program, the mean preworkshop knowledge score was 57 of a possible 100 (median = 60, range = 17–80). Eighty-one trainees completed a postworkshop questionnaire with a mean score of 70 (median = 70, range = 33–93). The increase in knowledge was statistically significant (p = .001).

Table 1. Professional Background and Experience of Trainees ($N = 87$)

	n (%)
Nursing education	
"Secondary nurse" (2 years study post high school)	33 (38)
"College nurse" (3 years study post high school)	18 (23)
"Bachelor nurse" (4 years study post high school or other approved combination of study and work experience)	27 (31)
"Graduate Nurse" An international Master's degree	3 (4)
Assistant Doctor	3 (2)
Laboratory technician	2 (1)
Other	1 (1)
Nursing experience	
<1 year	1 (1)
1–3 years	5 (6)
>3 years	78 (93)
Clinical practice site	
Infectious diseases department	37 (43)
Tuberculosis ward	1 (1)
Delivery room	1 (1)
Emergency room	3 (3)
Other	45 (52)
Mean number of HIV-infected patients seen per month	48 (Median 15; range 1–600)
Mean number of patients with history of injection drug use seen per month	24 (Median 9; range 1–350)

Note: Frequencies do not total 87 in all cases due to inapplicable or missing data.

Trainees were asked to rate their self-confidence to perform specific teaching activities as (a) *not at all confident*, (b) *somewhat confident*, and (c) *very confident*. As seen in Table 2, trainees reported statistically significant improvements in self-reported confidence in their teaching abilities across all key topics. Trainees also reported statistically significant increases in self-confidence regarding their abilities to provide care and counseling to PLWH (Table 3).

Trainee-Led Training Activities

Over the course of the project, the trainees initiated education programs in their local institutions. The programs ranged from brief 1-hour sessions in the clinical area to half- or full-day programs. In total, between 2006 and 2012, the 87 trainees reported conducting 1,151 trainings that reached 67,338 participants throughout Vietnam (these figures are most likely underestimations, as not all trainings were reported.) The majority of the participants in these activities were nurses, but doctors, other health care professionals, patients, and community workers also were included.

The most commonly used teaching methods were discussion, demonstration, and lecture. Trainees also reported asking participants in their programs to give presentations and to participate in small group work. Experiential strategies such as games and role play also were used.

Basic HIV prevention was the most frequent lecture topic delivered by the trainees, followed by HIV prevention for health care workers and management of occupational exposure to HIV. Nursing care of patients with common symptoms of HIV also was a frequent lecture topic, as was HIV stigma.

Trainee-Led Training Outcomes

In addition to the trainee-initiated activities described above, the trainees served as teachers and facilitators for a series of workshops cosponsored by Harvard Medical School AIDS Initiative Vietnam and Vietnam Nurses Association. These 2-day workshops addressed either basic HIV for nurses with limited experience or advanced HIV for nurses already engaged in clinical care of PLWH, including those working in outpatient clinics delivering ART.

Table 2. Trainee Self-Reported Confidence in Ability to Teach Professional Colleagues

Teaching Skill	Pre Workshop *n* (%)	Post Workshop *n* (%)	*p*-Value
Teach health care workers about prevention of occupational transmission of HIV			
Very/somewhat confident	73 (87)	81 (100)	
Not at all confident	11 (13)	0	.001
Teach nurses about postexposure prophylaxis			
Very/somewhat confident	74 (89))	79 (100)	
Not at all confident	9 (11)	0	.007
Counsel a nurse who has a needle stick injury			
Very/somewhat confident	74 (89)	80 (100)	
Not at all confident	9 (11)	0	.004
Write a lesson plan to teach nurses about HIV medications			
Very/somewhat confident	50 (64)	80 (99)	
Not at all confident	28 (36)	1 (1)	.001
Talk to nurses about caring for a patient who is an injection drug user			
Very/somewhat confident	65 (77)	78 (96)	
Not at all confident	19 (22)	3 (4)	.003
Talk to nurses about drug abuse and drug abuse treatment			
Very/somewhat confident	52 (65)	79 (99)	
Not at all confident	28 (35)	1 (1)	.001
Present accurate information about methadone maintenance to nurses			
Very/somewhat confident	51 (63)	77 (100)	
Not at all confident	30 (37)	0	.001

Note: Cells do not all sum to 87 (100%) due to missing data.

Between 2006 and 2012, there were 40 basic HIV workshops (1,163 participants) and 13 advanced workshops (404 participants). The majority of workshop participants were nurses ($n = 1058$; 66%).

Data to assess the outcomes of the trainee-led workshops were collected with standardized, pre- and postworkshop questionnaires and analyzed using a quasi-experimental, one-group pre- and posttest design. Among the 1,052 participants completing the preworkshop questionnaire for the basic HIV training courses, the mean knowledge score was 77 (range = 15–100) of a possible perfect score of 100. Mean score for the postworkshop respondents ($n = 1,019$) was 87 (range = 15–100). The increase in scores was statistically significant ($p = .001$).

Among the 369 participants completing the preworkshop questionnaire for the advanced HIV training courses, the mean knowledge score was 64 (range = 6–94) of a possible perfect score of 100. Mean score for the postworkshop respondents ($n = 334$) was 77 (range = 50–100). The increase in scores was statistically significant ($p = .001$).

The attitudes of participants in the basic workshops toward PLWH before and after the workshops were assessed using a list of statements with which respondents were asked to agree or disagree. The percentage of nurses who said they would refuse to care for a patient with AIDS declined from 7% ($n = 73$) to 3% ($n = 33$) after the workshop ($p = .001$). Similarly, the percentage of nurses who agreed that people with AIDS deserved their illness fell from 15% ($n = 155$) to 11% ($n = 116$; $p = .002$).

Participants in the basic workshops also were asked to rate their willingness to perform basic nursing care tasks such as taking vital signs, administering intravenous fluids, and bathing a PLWH on a scale of 1 *(least willing*) to 10 (*completely willing*). Mean preworkshop score was 8.8 across all items. Participants' willingness to perform all tasks was higher after the workshop, with a postworkshop mean across all items of 9.3 ($p = .001$).

Discussion

As the global HIV community moves forward with expansion of prevention and treatment around

Table 3. Trainee Self-Reported Confidence to Provide Care and Counsel HIV-Infected Patients

Clinical Skill	Pre Workshop *n* (%)	Post Workshop *n* (%)	*p*-Value
Counsel a patient who has just learned he is HIV positive			
Very/somewhat confident	66 (80)	79 (98)	
Not at all confident	16 (20)	2 (2)	.001
Counsel a patient who injects drugs about prevention of transmission to drug-using friends			
Very/somewhat confident	74 (86)	81 (100)	
Not at all confident	11 (14)	0	.001
Teach patients how to take HIV medications			
Very/somewhat confident	64 (77)	80 (100)	
Not at all confident	19 (23)	0	.001
Teach patients about the side effects of HIV medications			
Very/somewhat confident	66 (79)	80 (100)	
Not at all confident	18 (21)	0	.001
Explain HIV resistance to patients			
Very/somewhat confident	65 (77)	80 (100)	
Not at all confident	19 (23)	0	.001
Talk to a patient about medication adherence			
Very/somewhat confident	60 (74)	80 (99)	
Not at all confident	19 (23)	0	.001
Assess whether a patient is taking HIV medications correctly			
Very/somewhat confident	60 (74)	78 (98)	
Not at all confident	21 (26)	2 (2)	.001
Provide good nursing care to a dying patient			
Very/somewhat confident	69 (83)	79 (98)	
Not at all confident	14 (17)	2 (2)	.001

Note: Cells do not all sum to 87 (100%) due to missing data.

the globe, programs must shift from a crisis orientation and approach to focus on long-term sustainability, including integration of HIV professional training and support into the existing education and service institutions. Local capacity-building to update and maintain HIV competence of health care professionals is key to successful knowledge transfer.

The primary goal of this train-the-trainer initiative was to expand the number of individuals receiving education through creation of a network of self-sustaining trainers. That HIV knowledge increased for the members of the train-the-trainer cohort, although a positive result, is not unexpected. Of equal importance is the increase in the trainees' teaching confidence, reflected in their responses to the pre- and postworkshop survey as well as in their ongoing, self-initiated training activities.

Over 6 years, trainees reached a large (more than 67,000) and varied audience of Vietnamese health care professionals with HIV information. Although the quality of training offered by the train-the-trainer cohort was not monitored and undoubtedly varied, the extent of outreach is impressive. Further, the significant improvements in HIV knowledge and attitudes documented by the evaluation of the Harvard Medical School AIDS Initiative Vietnam/Vietnam Nurses Association co-sponsored trainings confirm the competence and effectiveness of members of the train-the-trainer cohort.

The HIV challenges facing Vietnamese nursing are not unique. Around the world, including in North America, HIV prevention and treatment is moving away from specialized clinical services into community-based primary care settings. To meet the goal of providing treatment to all and to realize the full benefits of treatment as prevention, a broad array of health care professionals must become HIV competent and confident. Our program demonstrates that including a substantial amount of instruction in pedagogical strategies and experiential learning can enhance knowledge transfer,

expand education outreach, and contribute to sustainability of HIV competence among nurses.

Key Considerations

- A train-the-trainer approach to HIV education for nurses should include information and exercises designed to improve the teaching confidence of the trainees.
- Including local nurse leaders in an HIV train-the-trainer program enhances the ability of trainees to initiate local training programs.
- Additional research is needed to evaluate the strengths and weaknesses of training programs led by members of a train-the-trainer cohort.

Disclosures

All authors report no real or perceived vested interests that relate to this article that could be construed as a conflict of interest.

Acknowledgments

The work reported in this paper was funded in part by the United States Centers for Disease Control and Prevention, Contract #5U2GPS001177-05.

References

Agins, B. D., Bacon, O., & Balano, K. (2011). *Guide for HIV/AIDS clinical care* (p. 611). Retrieved from http://aidsetc.org/pdf/p07-cg/CM_Jan2011.pdf

Bhengu, B. R., Ncama, B. P., McInerney, P., Wantland, D. J., Nicholas, P. K., Corless, I. B., … Ros, A. V. (2011). Symptoms experienced by HIV-infected individuals on antiretroviral therapy in KwaZulu-Natal, South Africa. *Applied Nursing Research*, *24*(1), 1-9. http://dx.doi.org/10.1016/j.apnr.2009.01.001

Burgess, J., Chalecka, I., Orlowska, J., Ortowska, E., Zielinska, W., & Williams, A. (1995). HIV/AIDS education for nurses in Poland. *Journal of the Association of Nurses in AIDS Care*, *6*(4), 37-42. http://dx.doi.org/10.1016/S1055-3290(95)80007-7

Centers for Disease Control and Prevention. (2011). Surveillance of occupationally acquired HIV/AIDS in healthcare personnel, as of December 2010. Retrieved from http://www.cdc.gov/HAI/organisms/hiv/Surveillance-Occupationally-Acquired-HIV-AIDS.html

Crow, G., & Thuc, L. B. (2011). Leading an international nursing partnership: The Vietnam nurse project. *Nursing Administration Quarterly*, *35*(3), 204-211. doi:10.1097/NAQ.0b013e3181ff38aa

Eliason, M. (1993). AIDS related stigma and homophobia and implications for nursing education. *Nurse Educator*, *18*(6), 27-30.

Hughes, A. (2004). Symptom management in HIV-infected patients. *Journal of the Association of Nurses in AIDS Care*, *15*, 7S-13S. http://dx.doi.org/10.1177/1055329004269477

Institute of Medicine. (2010). *The future of nursing: Leading change, advancing health*. Washington, DC: Institute of Medicine. Retrieved from http://www.iom.edu/Reports/2010/The-future-of-nursing-leading-change-advancing-health.aspx

Jones, P. S., O'Toole, M. T., Hoa, N., Chau, T. T., & Muc, P. D. (2000). Empowerment of nursing as a socially significant profession in Vietnam. *Journal of Nursing Scholarship*, *32*(3), 317-321. http://dx.doi.org/10.1111/j.1547-5069.2000.00317.x

Kohi, T. W., Portillo, C. J., Safe, J., Okonsky, J., Nilsson, A. C., & Holzemer, W. L. (2010). The Tanzania HIV/AIDS Nursing Education (THANE) preservice curriculum. *Journal of the Association of Nurses in AIDS Care*, *21*(2), 92-98. http://dx.doi.org/10.1016/j.jana.2009.06.006

Li, L., Lin, C., Wu, Z., Guan, J., Jia, M., & Yan, Z. (2011). HIV-related avoidance and universal precaution in medical settngs: Oportunities to intervene. *Health Service Research*, *46*(2), 617-631. http://dx.doi.org/10.1111/j.1475-6773.2010.01195.x

Li, L., Lin, C., Wu, Z., Wu, S., Rotheram-Borus, M., Detels, R., & Jia, M. (2007). Stigmatization and shame: Consequences of caring for HIV/AIDS patients in China. *AIDS Care*, *19*(2), 258-263. http://dx.doi.org/10.1080/09540120600828473

Messersmith, L. J., Semrau, K., Hammett, T. M., Phong, N. T., Tung, N. D., Nguyen, H., … An, H. T. (2012). 'Many people know the law, but also many people violate it': Discrimination experienced by people living with HIV/AIDS in Vietnam – Results of a national study. *Global Public Health* http://dx.doi.org/10.1080/17441692.2012.721893 An International Journal for Research, Policy and Practice. 2012 Sep 13 [Epub ahead of print].

Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education Quarterly*, *32*, 3-24. http://dx.doi.org/10.1177/074171368103200101

Mezirow, J. (1985). Concept and action in adult education. *Adult Education Quarterly*, *35*, 142-151. http://dx.doi.org/10.1177/0001848185035003003

National Committee for AIDS, Drugs, and Prostitution Prevention and Control. (2012). *Vietnam AIDS response: Progress*

report 2012. Retrieved from http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/ce_VN_Narrative_Report.pdf

Needle, R., & Zhao, L. (2010). *HIV prevention among injection drug users: Strengthening U.S. support for core interventions.* Retrieved from http://dspace.cigilibrary.org/jspui/bitstream/123456789/28220/1/HIV%20prevention%20among%20injection%20drug%20users.pdf?1

Nguyen, V. T., & Scannapieco, M. (2008). Drug abuse in Vietnam: A critical review of the literature and implications for future research. *Addiction*, *103*(4), 535-543. http://dx.doi.org/10.1111/j.1360-0443.2007.02122.x

Nyblade, L., Stangl, A., Weiss, E., & Ashburn, K. (2009). Combating HIV stigma in health care settings: What works? *Journal of the International AIDS Society*, *12*(15) http://dx.doi.org/10.1186/1758-2652-12-15

Pham, H. N., Protsiv, M., Larsson, M., Ho, H. T., Vries, D. H., & Thorson, A. (2012). Stigma, an important source of dissatisfaction of health workers in HIV response in Vietnam: A qualitative study. *BMC Health Services Research*, *12*(1), 474. http://dx.doi.org/10.1186/1472-6963-12-474

Phillips, R., Benoit, C., Hallgrimsdottir, H., & Vallance, K. (2012). Courtesy stigma: A hidden health concern among front-line service providers to sex workers. *Sociology of Health & Illness*, *34*(5), 681-696. http://dx.doi.org/10.1111/j.1467-9566.2011.01410.x

Relf, M. V., Mekwa, J., Chasokela, C., Nhlengethwa, W., Letsie, E., Mtengezo, J., … Hopson, D. P. (2011). Essential nursing competencies related to HIV/AIDS: Executive summary. *Journal of the Association of Nurses in AIDS Care*, *22*(1), S9-S16. http://dx.doi.org/10.1016/j.jana.2010.11.006

Schietinger, H., McCarthy, P., Gillen, M., & Hammrich, H. (1988). A strategy for educating health care providers about AIDS: The California Nurses Association's AIDS Train the Trainer Program. *Nursing Clinics of North America*, *23*(4), 779-787.

Shawn, E. R., Campbell, L., Mnguni, M. B., Defilippi, K. M., & Williams, A. B. (2005). The spectrum of symptoms among rural South Africans with HIV infection. *Journal of the Association of Nurses in AIDS Care*, *16*(6), 12-23. http://dx.doi.org/10.1016/j.jana.2005.09.002

Soto, T. A., Bell, J., & Pillen, M. B. (2004). Literature on integrated HIV care: A review. *AIDS Care*, *16*(Suppl 1), S43-S55. http://dx.doi.org/10.1080/09540120412331315295

Thi, M. D. A., Vinh, D. T. N., Brickley, D. B., Colby, D. J., Sohn, A. H., Trung, N. Q., … Mandel, J. S. (2008). A qualitative study of stigma and discrimination against people living with HIV in Ho Chi Minh City, Vietnam. *AIDS & Behavior*, *12*, S63-S70. http://dx.doi.org/10.1007/s10461-008-9374-4

Vietnam Administration of AIDS Control. (2009). *Vietnam HIV/AIDS estimates and projections 2007-2012*. Hanoi: Ministry of Health. Retrieved from http://www.ilo.org/wcmsp5/groups/public/–ed_protect/–protrav/–ilo_aids/documents/legaldocument/wcms_174609.pdf

Vietnam Nurses Association. (2009). *Regulations of Vietnam Nurses Association (Ammendment)*. Hanoi, Vietnam. Vietnam Nurses Association Retrieved from http://hoidieuduong.org.vn/en/vna/event/detail/120

Vitiello, M., & Willard, S. (2010). Stating the obvious – nurses: Critical link to women and children affected by HIV/AIDS: A response to the revised WHO HIV treatment guidelines. *AIDS*, *24*, 1967-1972. http://dx.doi.org/10.1097/QAD.0b013e32833b8be5

Williams, A. B., & Ropka, M. (1998). *HIV nursing and symptom management*. Sudbury, MA: Jones and Bartlett.