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No One Is Immune: A Community Education Partnership Addressing HIV/AIDS and Older Adults

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Abstract

There has been a dramatic increase in the number of new HIV diagnoses among people aged 50 to 64 in the United States, and according to the Centers for Disease Control and Prevention (CDC), in just 7 years (by 2015) 50% of those living with AIDS will be aged 50 or older. To address this public health concern, viable HIV/AIDS prevention and treatment options for individuals over the age of 50 are necessary. This article discusses the No One Is Immune initiative that planned, implemented, and coordinated evidence-based HIV/AIDS prevention and education programs specifically tailored for middle-aged and older adults. Guided by the health belief model, an educational conference entitled “Sexuality, Medication, and HIV/AIDS in Middle and Later Adulthood” was conducted along with research activities that assessed HIV/AIDS knowledge gained using both qualitative and quantitative measures. This project can be replicated by other providers within the aging network.

Keywords

sexual health; older adults; community partnerships; HIV/AIDS; prevention/education; health belief model; senior centers

The dramatic increase in the number of older adults who have been recently diagnosed as HIV seropositive has been widely documented, and the graying of the AIDS epidemic is becoming a global public health concern (Emlet, 2006). Currently, the Centers for Disease Control and Prevention (CDC) reports that 24% of persons living with HIV/AIDS are over the age of 50. It is projected that by 2015, 50% of those living with AIDS will be 50 years of age or older (Effros et al., 2008).

Although people aged 65 and older make up less than 2% of HIV diagnoses, people ages 50 to 64 now account for 13% of new HIV diagnoses in the United States. According to the CDC, individuals over the age of 50 comprise the fastest growing segment of the HIV seropositive group (Nichols et al., 2002). Moreover, the cumulative numbers of AIDS cases reported to the CDC for adults aged 50 and older more than quintupled from 1990 to 2001 (Mack & Ory, 2003) and between 2001 and 2004; the percentage of all HIV cases in the United States for adults aged 50 and older increased from 17% to 23% (CDC, 2004; Gebo, 2006). Furthermore, it has been reported that 35% of people with HIV in New York City are 50 years of age or older, with 70% being over the age of 40 (AIDS Community Research Initiative of America [ACRIA], 2007). The statistical data on the racial/ethnic disparities in HIV/AIDS diagnoses among persons aged 50 and older parallel data among all age groups. Specifically, in 2005 the rates of HIV/AIDS among older African Americans were 12 times higher than for White older persons, and the rates of HIV/AIDS among Hispanic older adults were 5 times as high compared with White older persons (CDC, 2008a). Unless viable HIV/AIDS prevention/education programs and treatment options for older adults are implemented, the health care system will likely become stressed.

The No One Is Immune project is a Bowling Green State University (BGSU) initiative that planned, implemented, and coordinated evidencebased HIV/AIDS prevention education programs for older adults by mobilizing community and university resources. An educational conference entitled “Sexuality, Medication, and HIV/AIDS in Middle and Later Adulthood” represented the collective involvement of community partners from the Area Office on Aging of Northwest Ohio, the Toledo/Lucas County Health Department, and the Wood County Committee on Aging (WCCOA). In addition to the educational components of the conference, research activities were conducted that assessed knowledge gained through participation in the educational conference using both qualitative and quantitative measures. This article discusses the multiple components of this project and provides recommendations for future educational programs on sexuality, medication, and HIV/AIDS and older adults.

Challenges of Planning and Implementing an HIV/AIDS Educational Program for Older Adults

Although rates of HIV among older adults continue to increase, data from the Behavioral Risk Factor Surveillance System Survey revealed that few older Americans considered themselves at risk for HIV. Among adult respondents, aged 55 to 64 years, 81% reported that they were at no risk for HIV and 15.1% reported a low chance of contracting HIV. In contrast, 55.2% of respondents aged 18 to 24 years of age reported no risk for HIV, whereas 34.3% reported a low chance (CDC, 2000).

It is not surprising that many older adults perceive that they are at low risk for HIV because in general older adults have not been targeted as high-risk populations for HIV by public health agencies (Orel, Wright, & Wagner, 2004). Similarly, health care practitioners often adopt this low-risk attitude perpetuating the current trend that fewer older adults are tested for HIV (Gott, Hinchliff, & Galena, 2004). In addition, an objective of public health agencies' education and prevention programs is to target high-risk populations, and this priority may inadvertently divert attention away from other susceptible individuals such as older adults. This is also evident in the CDC's (2006) Revised HIV Testing Recommendations in Healthcare Settings that recommend HIV screening for patients ages 13 to 64 in all health care settings. This recommendation could contribute to fewer HIV tests being offered to individuals 65 years and older. Overlooking any population in HIV/AIDS education and prevention strategies can have tremendous financial implications. Currently, older adults utilize more health care dollars than any other group in the United States, expending three to five times more dollars on health care than those under 65 years of age (CDC, 2003). One can only speculate what the financial ramifications would be if the growing incidence of HIV/AIDS among older adults is not addressed.

Along with the tremendous need for HIV/AIDS testing among all segments of the older adult population, effective behavioral risk reduction strategies must also be actively explored; however, these behavioral risk reduction strategies must be specifically tailored for an older adult population rather than using strategies that were initially developed for other (usually younger) populations. Although it is absolutely necessary to educate the older adult population about the same risk factors for HIV infection and transmission as younger populations, it is also important to consider the unique physiological and sociocultural factors that place older adults at greater risk for HIV infection than a younger population. For example, research on HIV/AIDS and older adults has found that physiological changes that accompany aging (e.g., vaginal dryness, thinning of the vaginal walls, thinning of the epithelial structure of the anal area) can place older adults at higher risk (Moore & Amburgey, 2000; Zablotsky, 1998), and symptoms associated with HIV often mirror symptoms associated with aging (e.g., fatigue, weight loss, dementia) and thus older adults

and/or medical personnel may delay HIV testing (Siegel, Dean, & Schrimshaw, 1999). In addition, using medications to increase sexual performance (Levy-Dweck, 2005), a general lack of condom use (Lindau, Leitsch, Lundbery, & Jerome, 2006), sharing needles when administering drugs and/or insulin (Levy, 1998; Liorente & Malphurs, 2006), and establishing new and multiple sexual partnerships (Ankrom & Greenough, 1997) are specific risk factors for HIV transmission in an older adult population.

Unfortunately, older adults have also been found to be the least knowledgeable about HIV and its transmission (Hillman, 2007) and often fail to recognize the relevancy of HIV/AIDS education and prevention to their lives (Altschuler, Katz, & Tynan, 2004). This can be especially problematic as Baby Boomers enter later life with more liberal attitudes about sexuality but less knowledge about how the virus is transmitted (Henderson et al., 2004). Because there is a general lack of dialogue and communication about sexual health between health care workers and older adults (Gott et al., 2004; Lindau et al., 2006), these findings collectively create the unfortunate circumstance where older adults are at continued risk for infection, know less about the disease and the importance of testing, and are seen by others and themselves as less likely to require education and intervention.

Guiding Theoretical Model

Although we did not set out to test a model or theory, the development of our HIV education program was guided by the health belief model (HBM). The HBM is designed to understand the impact of sociodemographic factors, perceptions of threat (perceived susceptibility and perceived severity), expectations of actions (perceived benefits, perceived barriers, and feelings of self-efficacy), and the impact of cues to action on the likelihood of engaging in health-related behaviors (Rosenstock, Strecher, & Becker, 1994). The combination of these components is designed to understand health-related behavior, behavioral change, and the development of positive health behaviors (Janz & Becker, 1984; Rosenstock, 1974, Rosenstock et al., 1994). The inclusion of sociodemographic factors in the HBM reflects the importance of examining characteristics, such as age, education, gender, and ethnicity, as contexts within which health care decisions are made. Perceptions of threat consist of the individual's assessment of their personal susceptibility to disease and the perceived severity of the condition. The expectations of actions are represented by the individual's assessment of the relationship between the benefits of their action, the barriers to action, and the assessment of their ability to perform the action. Lastly, cues to action serve as initiators of action toward specific health behaviors and can take the form of media messages or personal contacts that trigger the link between beliefs and action (Rosenstock et al., 1994). The current project sought to address the issue of aging and HIV prevention through an application of the general concepts of the HBM. An analysis of the HBM and an HIV prevention education program will be presented after the following description of the components, development, findings, and impact of the No One Is Immune program.

Essential Components of the No One Is Immune Project

To address the rising incidence of sexually transmitted infections (STIs) and HIV/AIDS in the older adult population, an effective education and prevention program was developed and implemented. Although there are educational curricula (Altschuler et al., 2004) and programs available that address HIV/AIDS for individuals aged 50 and older (e.g., ACRIA, National Association on HIV Over Fifty, Seniors With HIV Intervention Program), these programs have primarily focused on the topic of HIV/AIDS with limited reach to the general older adult population. It was apparent that an educational program that addressed HIV/AIDS with content on sexuality, sexual health, and medication was needed to appeal to a larger segment of the older adult population. The emphasis on collectively including these

three topics in an HIV/AIDS education program for older adults was based on a previously identified obstacle to educating older adults about HIV/AIDS, namely the “lack of perceived relevance” (Altschuler et al., 2004, p. 125). Likewise, Altschuler et al. (2004) recommended designing and evaluating the effectiveness of HIV/AIDS education programs for older adults as “part of a health series” as opposed to a “stand-alone program.” The No One Is Immune project was specifically designed to educate older adults about HIV/AIDS within the context of sexuality and sexual health, as well as to emphasize the relevancy of this knowledge.

The initial and most important component of this educational program was the establishment of the planning committee. Members of the planning committee included faculty and students from the Gerontology Program at BGSU, staff from the HIV/AIDS Education Program at BGSU, staff and volunteers from the WCCOA, and staff and volunteers from the Toledo/Lucas County Health Department. From this initial planning committee, additional agencies/organizations became involved in this project, and they included the Area Office on Aging of Northwest Ohio, the Ameri-Corp Program, the University of Toledo, and the Perrysburg Senior Center.

Grant applications were submitted to the Bowling Green Community Foundation and the BGSU's Partnership Through Community Action Support Program to solicit funding to support the costs of conducting the educational workshop on sexuality, medication, and HIV/AIDS. Awards totaling US\$3,000 were received. With this limited funding, it was instrumental that in-kind resources were secured. In-kind contributions included space, speaker fees, HIV testing, and door prizes. Grant funding was used to provide refreshments during registration and lunch. In addition, funding was used to provide the information packet that each attendee received that contained (a) conference agenda, (b) pre- and posttest questionnaires that assessed HIV/AIDS knowledge, (c) explanatory letters concerning the research component of the conference, (d) conference evaluation form, (e) information sheets on HIV/AIDS and sexuality, and (f) complete listing of references and resources. Lastly, funding was used for related printing and mailing costs for flyers and brochures that advertised the conference. These materials were distributed throughout Wood County, Ohio.

The title of the education and prevention workshop held at a multipurpose senior center was “Sexuality, Medication, and HIV/AIDS in Middle and Later Adulthood.” This senior center is located within a suburban area of Wood County. The Perrysburg Senior Center was strategically chosen due to its close proximity (e.g., within 10 miles) to a major urban city (i.e., Toledo) and its location on a public transportation route. The day-long workshop included three sessions: sexuality in middle and later adulthood, HIV/AIDS and other STIs, and medication and sexuality. It is important to note that the sequencing of the sessions was a key consideration in the planning and implementation of the workshop. Through a previously conducted survey of senior center participants' interests (completed by staff of the WCCOA), it was known that workshops on sexuality and the impact of medication on sexual responsiveness would be well attended. The authors also knew from the low attendance at a previous workshop ($n = 10$) that focused solely on HIV/AIDS in later adulthood that the stigma related to attending a workshop on HIV/AIDS would be reduced for the participants if the workshop focused on sexuality in later adulthood. The planning committee strategically placed the presentation on HIV/AIDS and other STIs between the other two topics and prior to the noon lunch break. Therefore, it was the hypothesis of the members of the planning committee that attendance at the HIV/AIDS session would be enhanced if the stigma of attending a stand-alone HIV/AIDS educational program was removed. In addition, the committee members believed that any session that occurred prior to the lunch break would be the best attended due to the popularity of the congregate meal program.

Participants who attended the workshop were asked to complete a 45-item HIV/AIDS Knowledge Questionnaire (Carey, Morrison-Beedy, & Johnson, 1997) before and after the six-hour educational program. Approval of this specific research component was obtained from BGSU's Human Subjects Review Board two months prior to the workshop. Participants were provided with both a written and verbal explanation of the study's purpose, procedures, possible risks, discomforts, and benefits. Participants received assurance of anonymity and confidentiality prior to the distribution of the questionnaire. In addition to the knowledge questionnaire, all participants were given the opportunity to write questions on index cards (provided) so that they could ask questions in an anonymous (less-threatening) manner.

Speakers at the workshop included faculty from BGSU, faculty from the Center for Successful Aging (University of Toledo [UT] Health Science Campus), faculty from UT's Pharmacy Program, and a nurse practitioner/ educator from the Ryan White Program. The choice of presenters was based not only on the speakers' level of expertise but also due to the fact that research has shown that older adults prefer receiving information about HIV/AIDS/sexuality from health practitioners and/or experts within the aging network of providers (Altschuler et al., 2004). Most importantly, a poignant story about living with HIV/AIDS was shared by an individual over the age of 50 who is living with this disease. Throughout the day, staff from the Toledo-Lucas County Health Department provided free, confidential HIV testing (oral).

A key theme that was repeatedly stressed throughout the presentation was the importance of being tested for HIV. In consideration of the tremendous desire that older adults have to be mentors and advisors for the younger generation, every speaker emphasized the importance of being a living example for their grandchildren. This entailed being knowledgeable about HIV/AIDS and knowing one's HIV status. Therefore, the speakers encouraged workshop participants to be tested so that they could share with the younger generation information about how nonevasive, simple, and yet important it is to be screened for HIV. Likewise, the older adult living with HIV/AIDS highly encouraged attendees to be "tested for their grandchildren." We believe that the message "being a living example" and intergenerational communication about sexuality and HIV supports participants' desire for generativity and was partially responsible for the high rate of testing.

Findings

A total of 36 individuals preregistered for the workshop. In addition to these 36 registered participants, there were 53 additional older adults who attended the majority of the educational components of the conference and participated in the noon lunch program. Table 1 provides demographic information on both the registered workshop participants and the total meal participants.

The participants who preregistered for the workshop were more diverse than the general older adult population in Wood County, Ohio. Wood County is located in the northwest portion of Ohio and is somewhat rural with 32.3% of the population in the year 2000 living in rural areas. The 60+ population represents 14.4% of the total population in Wood County, but less than 3% of individuals aged 60+ are racial or ethnic minorities. Among the preregistered participants, more than 13% were racial or ethnic minorities, and 22.2% lived in urban areas. In terms of educational attainment, more than 30% of the preregistered participants did not complete high school, whereas in the general older adult population in Wood County, 22.5% of the 60+ population did not receive a high school diploma. Preregistered participants were also more likely to be widowed/divorced/separated or never married in comparison to the general 60+ population in Wood County. Approximately, 43%

of the male preregistrants and 55% of female preregistrants were not married at the time of the workshop, whereas in the general 60+ population of Wood County, approximately 80% of men and 51% of women are married.

Collectively, there were 89 older adults who attended the workshop and received the prepared packet of information that included the HIV/AIDS Knowledge Questionnaire. Unfortunately, only 11 participants completed both the pre- and postquestionnaires. Explanations for this low rate of completion were provided by comments received from the participants, namely “it had too many questions” and “it took too much time.” Future workshops will use the brief 25 question HIV/AIDS Knowledge Questionnaire developed by Rose (1995, 1996).

The 11 participants who completed the pre- and postquestionnaires varied tremendously in their knowledge of HIV/AIDS prior to the workshop. For example, 3 individuals responded correctly to 93% of the items, and 2 participants responded correctly to less than 15% of the items. Items from the HIV/AIDS Knowledge Questionnaire that showed the most improvement (% correct pre- to post-) included the following: (a) HIV can be spread by mosquitoes (48 to 98), (b) HIV is killed by bleach (68 to 83), (c) HIV and AIDS are the same thing (56 to 90), (d) you cannot get HIV when getting a tattoo (25 to 78), (e) women are always tested for HIV during their pap spears (12 to 100), and (f) a natural skin condom works better against HIV than does a latex condom (15 to 86).

In addition to the pre- and postintervention HIV/AIDS Knowledge Questionnaire, participants were given the opportunity to submit confidential questions for the speakers to address. A total of 17 questions were submitted that varied in length from 5 words (e.g., How does aging affect sex?) to 30 (e.g., Over the years, blood pressure medication has reduced my sex drive. I have heard that new blood pressure medication did not affect the sex drive as much. Is this true?). An examination of the 17 questions revealed two common themes: (a) a request for information and (b) a request for strategies. In connection to the first theme, participants generally desired information related to the impact of aging on sexuality, the effect of prescription medication on sexual expression, and the impact of health conditions on sexuality. Within the second theme, participants requested specific strategies related to sexual health. The most frequently requested strategy was how to discuss sex and safe sex with their physicians and/or spouse/partner.

Impact of the Project

Despite the low number of participants who completed both pre- and postquestionnaires, we believe that the workshop had an impact on individual members of the community as well as the community at large. The workshop increased knowledge of HIV/AIDS among older adults as evident in the changes observed in pre- and posttests of HIV/AIDS-related knowledge. In addition, the availability of free HIV testing provided workshop attendees with the opportunity to assess their HIV status as well as receive pertinent information on prevention.

Most importantly, 25% of the 36 registered participants received HIV test results that day. This observed rate of voluntary testing can be compared to the overall rate of 11.7% of persons over the age of 65 in the United States who had ever been tested for HIV (CDC, 2008b). Unfortunately, there is a lack of research noting the connection between HIV/AIDS prevention education programs (for all age groups) and rate of HIV testing, so additional comparisons cannot be made. However, rate of HIV testing should be viewed as an outcome variable along with the traditional outcome variables (e.g., condom use, rates of STIs).

The workshop was well covered by both local media (e.g., newspaper) and the Associated Press. The coverage of sexuality in middle and later adulthood and the need for HIV/AIDS prevention efforts have had an impact on informing the public of this important public health issue. Those in attendance have also spread the word about the workshop, and this in turn has led to the codirectors being asked to repeat the workshop sessions at other senior centers throughout Northwest Ohio. Perhaps the best testimony to the impact of our project's activities comes from unsolicited e-mail/letters that we received (and continue to receive) from workshop participants, community HIV/AIDS disease intervention specialists, and from members of the community at large. For example, a 76-year-old male workshop participant wrote,

We attended the Sexuality and Aging Conference held in October 2007, and had approached it with a certain amount of apprehension. The source of our uneasiness was no doubt the same as some of the other attendees; our age group grew up in a time when frank discussion of these matters rarely happened, and when it did it was not normally in mixed company. We found that our concerns were unwarranted; the discussions in the workshop were very straightforward and handled very professionally by the presenters. The information presented needs to be disseminated as widely as possible across all segments of the senior population.

Another testimony to the success of this workshop comes from the following excerpt from a letter written by the County Health Department's Disease Intervention Specialist:

I was very impressed with the workshop content and the high quality speakers. It was clear to me that the workshop had quite an impact on those who attended. Audience members asked insightful questions and seemed fully engaged. Their comfort level with the topic directly reflects the accepting and nonjudgmental environment that was created. I also noticed that many took free brochures and literature from the information table. In my estimation, many were hungry for accurate sexual health information. Just as important, those I spoke with indicated that they would be sharing information with their friends and family, including grandchildren. In summary, the Sexuality in Middle and Later Adulthood workshop made a difference in the lives of those who attended. I am hoping that this important information will be provided at other senior centers.

Lastly, the following is an excerpt from an unsolicited e-mail that was received from an older adult who was not able to attend the workshop, but she wanted to extend her sentiments about the importance of the topic and she provided her permission to use this statement:

I read with interest an article in our local paper regarding AIDS in the elderly Bravo to you for your work and glad to hear someone is talking about the high risk of sexual activity as you age. I grew up thinking the only fear in being sexually active was not to get pregnant. After a divorce, I became sexually active with the men I dated. Within a year of dating, I was sent to the hospital with genital herpes and Chlamydia. . . . I was ill, embarrassed and could not believe that in my mid fifty's I would get an STD. My embarrassment keeps me silent. I am glad you are not silent. Thank you.

Collectively, these unsolicited comments have reinforced the necessity of conducting HIV/AIDS prevention/education workshops for older adults. The comments, along with an awareness of the lessons learned, will assist service providers in developing additional workshops.

The No One Is Immune Program and the Health Belief Model

The goal of the No One Is Immune project was to create an effective partnership to plan and implement an educational program addressing issues of sexuality, sexual health, and HIV awareness and prevention. The health behaviors that we wanted to encourage included increasing knowledge about HIV, promoting HIV testing, generating both community and intergenerational dialogue about HIV, viewing sexuality as healthy across the lifespan, and understanding the potential impact of medications on sexuality. Guided by the constructs in the HBM, we included components in the No One Is Immune project that would educate and encourage adoption of healthy sexual behaviors. Although we did not formally test the HBM, it is instructive to examine the components of the model with respect to the educational program.

A major component of the HBM that related to our education program was the perceptions of threat and expectations of action. As research has indicated, older adults do not perceive themselves to be at risk for HIV. Therefore, the concept of perceived susceptibility played an important role in our program. We needed to incorporate program components that would educate older adults in such a way as to make HIV personally relevant. To address the issue of both perceived susceptibility and perceived severity, the program included a firsthand account from an older adult who is HIV seropositive, who made a powerful statement about the personal relevance and impact of HIV. The expectations of action were addressed in an interrelated way. The components of the program addressing sexuality, HIV, and medications were designed to educate participants about aspects of sexuality and sexual health across the life course. As such, the program underscored the idea of sexual health and the importance of knowledge and the benefits of action.

An additional component of the HBM that is theorized to influence the likelihood of action is the influence of cues to action. Within the educational program, the emphasis on personal risk reduction and HIV testing serves as a cue to current and future action. The availability of on-site, free, and confidential HIV testing further reduces potential barriers to testing and served as a cue for immediate action for participants. The last cue to action was the intergenerational message for participants to be a living example. The purpose of this message was not only to motivate testing for older adults but to also serve as a personal and familial cue to action for HIV testing and risk reduction for younger family members. In this way, the cues to action were designed to motivate action for older participants at the program, to initiate conversations between participants and their peers, and to initiate conversations regarding sexual risk taking and prevention of HIV between older and younger family members.

Lessons Learned: Strategies for Aging Service Providers

Aging service providers (senior centers, nursing homes, assisted living communities, nutrition sites) can enhance or hinder HIV education and prevention programs. Based on the health belief model, there are key strategies for aging service providers that would enhance HIV/AIDS prevention programs. First, aging service providers should make available educational programs that address sexuality, medication and HIV/AIDS and HIV prevention. These programs should be presented within the context of sexuality and sexual health, and the information on HIV/AIDS needs to cover the basics regarding transmission, risk factors, and so on. These educational programs specifically need to include discussion on pharmaceutical drugs and their impact on sexuality. This would also include a discussion of the potential interaction of erectile dysfunction drugs with current medication(s). It is also highly recommended that participants attending the workshops have the opportunity to ask questions about HIV/AIDS and sexual health in an anonymous manner.

The second important strategy to consider is the means by which the information is provided. Educational programs should include older adults as peer educators, and the content of the programs should include an intergenerational emphasis (e.g., “be a living example”) that builds on the participants’ desire for generativity. This is especially important to encourage attendees to participate in the free HIV testing.

Lastly, all workshops should include an assessment tool such as the HIV/AIDS Knowledge Questionnaire. The questionnaire used should be cognizant of differences in educational level. In addition, at the end of the workshop, participants should receive an answer key to the Knowledge Questionnaire.

Conclusions

Despite the increasing number of older adults who are being diagnosed with HIV/AIDS, older adults, health care providers, and society at large continue to view this population as being risk free. Current HIV/AIDS prevention strategies and programs are rarely targeted to those individuals over the age of 50. Likewise, prevention strategies and programs are not tailored for this population. The most often cited reason for this omission is that society in general tends to view older adults as being at low risk for sexually transmitted diseases, whereas any sexually active person at any age can be at risk for sexually transmitted diseases.

The current cohort of older adults was raised during an era in which sexual behavior was not openly discussed. This group of older adults is also probably the last group that will have experienced their adolescence during a unique period of time in which sexual activity could not potentially lead to death. This group was sexually active after the discovery of penicillin in 1928 and prior to the first diagnosed case of HIV in 1981. The present cohort of older adults is also the least knowledgeable about transmission of HIV (Henderson et al., 2004; Hillman, 2007; Mack & Bland, 1999).

Although the current cohort of older adults may have been raised during an era in which sexual behavior was not openly discussed, future cohorts of older adults will not only discuss sexuality more freely but will also probably be more likely to take risks. To date, Baby Boomers (those born between 1946 and 1964) are the most highly educated cohort group, but this does not mean that they are better educated about sexuality and/or sexual activities that may place them at risk for STIs.

Prevention and education have historically been the most effective ways to reduce the incidence of HIV/AIDS. Numerous breakthroughs have occurred in the treatment of HIV, but until a cure is found, prevention and education will continue to be the most effective strategy in combating HIV/AIDS. Education interventions must be targeted to and tailored for older adults (Goodroad, 2003; Orel, Spence, & Steele, 2005). Likewise, effective HIV/AIDS education programs must systematically address the challenges inherent with planning/implementing educational programs for middle aged and older adults. In addition to the key strategies previously discussed, Table 2 illustrates challenges that educators face and the suggested necessary program components to address these challenges.

In addition to the lessons learned and suggested HIV/AIDS prevention education program components, there are two additional recommendations for future research and/or modifications to the current educational program. First, because there has not been documented research on the relationship between the rate of being tested for HIV and participation in an HIV/AIDS prevention education program, this research should be conducted across all age groups. As stated earlier, 25% of the participants who attended this educational program were tested for HIV. Although the staff from the Toledo/Lucas County

Health Department who provided the free testing expressed astonishment with this high rate of participation, concrete comparisons cannot be made. Second, it is imperative that follow-up surveys to program participants be included in future No One Is Immune workshops. It is important to assess whether the information provided at the workshop is retained and/or whether strategies provided were implemented. Examples of questions that would be posed in the follow-up survey include the following: (a) Did you talk to your grandchildren about HIV/AIDS after this conference?, if yes, what did you discuss? (b) Did you talk with your peers about HIV/AIDS and/or sexual health issues after this conference? (c) Did you talk to your physician about sexual health? and (d) Have you gotten tested for HIV since attending the conference?

Although the lessons learned, suggested HIV/AIDS prevention education program components, and recommendations for modifications to the current educational program were offered, it is also important to identify the limitations of this research as well as what could have improved this program. This prevention education program took place in a nonmetropolitan area. Therefore, the suggestions related to the replication of this program may not be generalizable to metropolitan populations. Moreover, an overwhelming majority of participants were heterosexual, with living children and grandchildren. Because one of the strengths of our program was our “be a living example” emphasis, this focus may not be appropriate for older adults who do not have children or grandchildren. The major limitation is the low number of attendees who completed both the pre- and post-HIV/AIDS Knowledge Questionnaires. Clearly, future prevention programs must take into consideration the additional time that attendees need to complete the questionnaires as well as their overwhelming desire to answer correctly. Shorter versions of the questionnaire must be used, with a posttest debriefing at the end of the educational program where the correct answers would be distributed.

In spite of these limitations, the recommendations for future educational programs on sexuality, medication, and HIV/AIDS and older adults provide crucial information for the development of effective prevention programs. The older adult population is increasing dramatically. Due to the increasing incidence and prevalence of HIV among older adults and the lack of prevention education, treatment options, and so on, tailored educational programs that address knowledge and HIV testing must be developed and implemented before we see a boom of HIV in this already medically challenged population.

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Table 1**No One Is Immune Project Participants**

Demographic Variables	Registered Participants (n = 36)	Total Participants (n = 89)	Wood County 60+ Population^a in 2000 (n = 17,463)
Age			
50-59	2	2	14.4% of population of Wood County is aged 60 or older. Median age = 33
60-64	5	5	
65-69	5	7	
70-74	7	16	
75-79	11	43	
80-84	4	9	
85-89	2	4	
90+	0	3	
Range	53-87	53-93	
Mean	72	75	
Gender			
Male	16 (44.5%)	30 (34%)	42.1%
Female	20 (55.5%)	59 (66%)	57.9%
Marital status (men)			
Married	9 (56.3%)	19 (63.4%)	80.8%
Widowed/divorced	6 (37.5%)	10 (33.3%)	17.3%
Never married	1 (6.2%)	1 (3.3%)	1.9%
Marital status (women)			
Married	9 (45%)	36 (61%)	51.4%
Widowed/divorced	11 (55%)	21 (35.6%)	44.6%
Never married		2 (3.4%)	4.0%
Race			
White	31 (86.3%)	84 (94.4%)	97.5%
Black non-Hispanic	1 (2.7%)	1 (1.1%)	.3%
Hispanic	4 (11%)	4 (4.5%)	1.3%
Other	0 (0.0%)	0 (0.0%)	.9%
Residential region			
Urban	8 (22.2%)	8 (8.9%)	0.0%
Suburban	16 (44.5%)	33 (37.1%)	67.7%
Rural	12 (33.3%)	48 (54%)	32.3%
Educational level			
Graduate degree	2 (5.5%)	2 (2.2%)	8.6%
Bachelor degree	6 (16.6%)	6 (6.7%)	11.1%
Some college	2 (5.6%)	2 (2.2%)	20.3%
High school graduate	15 (41.7%)	47 (53%)	37.5%
Less than high school diploma	11 (30.6%)	32 (35.9%)	22.5%
Socioeconomic status			

Demographic Variables	Registered Participants (<i>n</i> = 36)	Total Participants (<i>n</i> = 89)	Wood County 60+ Population ^a in 2000 (<i>n</i> = 17,463)
Upper	4 (11.1%)	4 (4.5%)	NA
Middle	17 (47.2%)	33 (37.1%)	NA
Low	8 (22.2%)	41 (46.1%)	NA
Poor	7 (19.5)	11 (12.3%)	10.1%

Note: NA = not available.

^aMehdizadeh, Roman, Wellin, Ritchey, Ciferri, and Kunkel (2004).

Table 2**Addressing Challenges of Planning/Implementing HIV/AIDS Education Programs for Older Adults**

Challenges for HIV Prevention Educators	Program Components That Addressed These Challenges
Older adults do not perceive that they are at risk	Presentation from an older adult who is living with HIV/AIDS
Older adults are the least knowledgeable about HIV transmission	HIV knowledge pre-/posttests administered to assess changes, and participants were given the opportunity to ask their questions anonymously
Older adults do not recognize the relevancy of HIV/AIDS education and prevention programs	"Be a living example" campaign to emphasize personal and relational relevancy
Health care practitioners rarely complete comprehensive sexual health histories with older adults	Speakers provided practical suggestions for attendees on how they could approach this topic with health care professionals
HIV testing recommendations do not include individuals over the age of 64	Confidential, free HIV testing was provided by county Health Department
Existing HIV/AIDS education/prevention programs are not specifically tailored for an older adult population	Content that was specifically tailored for an older adult population (e.g., biological and physiological changes associated with age, effects of medications on sexual expression) was provided
Proliferation of ED medication without appropriate information about HIV/AIDS/STIs	Pharmacist addressed pharmaceutical drugs and their impact on sexuality as well as the potential interaction/side effects of ED medication
Older adults less likely to engage in HIV prevention behaviors (i.e., using condoms, not sharing needles)	Nurse discussed the benefits of using condoms and discussed HIV risks of sharing needles
Older adults may be the primary caregiver for individuals with HIV/AIDS	Presenters discussed issues of importance for caregivers of individuals with HIV/AIDS

Note: ED = erectile dysfunction; STI = sexually transmitted infections.