Education as a Tool to Reduce Stigma of Nursing Students Towards Patients Living with HIV

James Miller, DHA, RN, FNP-C

University of Mississippi Medical Center

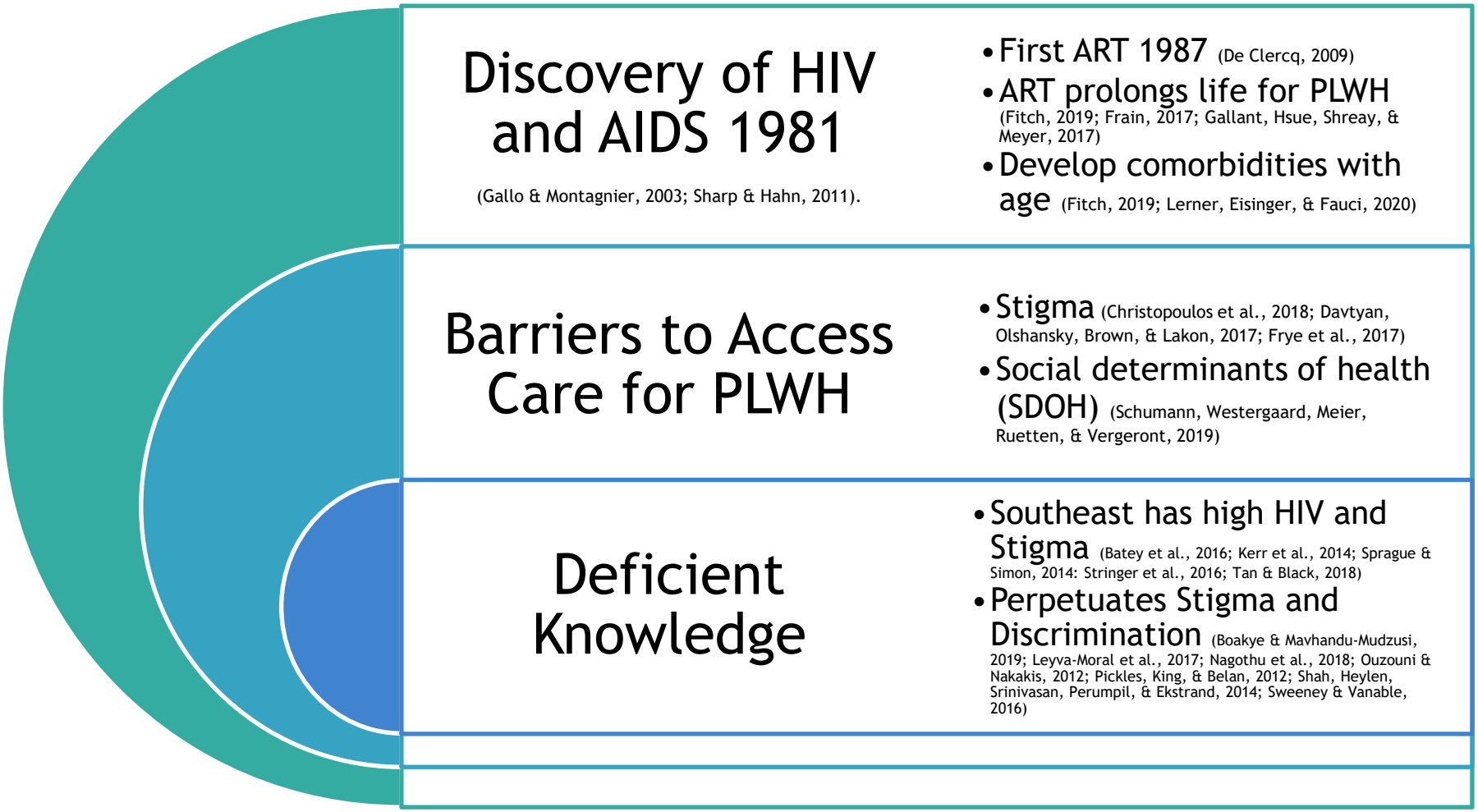
Objectives

- Review the history of HIV as a worldwide pandemic
- Consider how HIV stigma adversely impacts individuals living with HIV
- Discuss how inadequate knowledge perpetuates HIV stigma
- Describe study population and parameters
- Highlight the study outcomes
- Discuss the implementation of study findings

Introduction

- Background and Significance
- Problem
- Purpose of the Educational Intervention
- Questions
- Possible Application of Findings

Background and Significance



Problem

HIV transmission rarely occurs from patient to healthcare provider, but there is still fear of contracting HIV/AIDS. The perceived fear originates from inadequate knowledge and may perpetuate stigma/discrimination (Frain, 2017; Phillips et al., 2018; Pickles et al., 2012).

Many health care providers, including nurses, are not provided educational opportunities to increase knowledge of HIV and practice unbiased care, which may perpetuate stigma or discrimination through inappropriate actions or words (Frain, 2017; Phillips et al., 2018).

Purpose of the Study

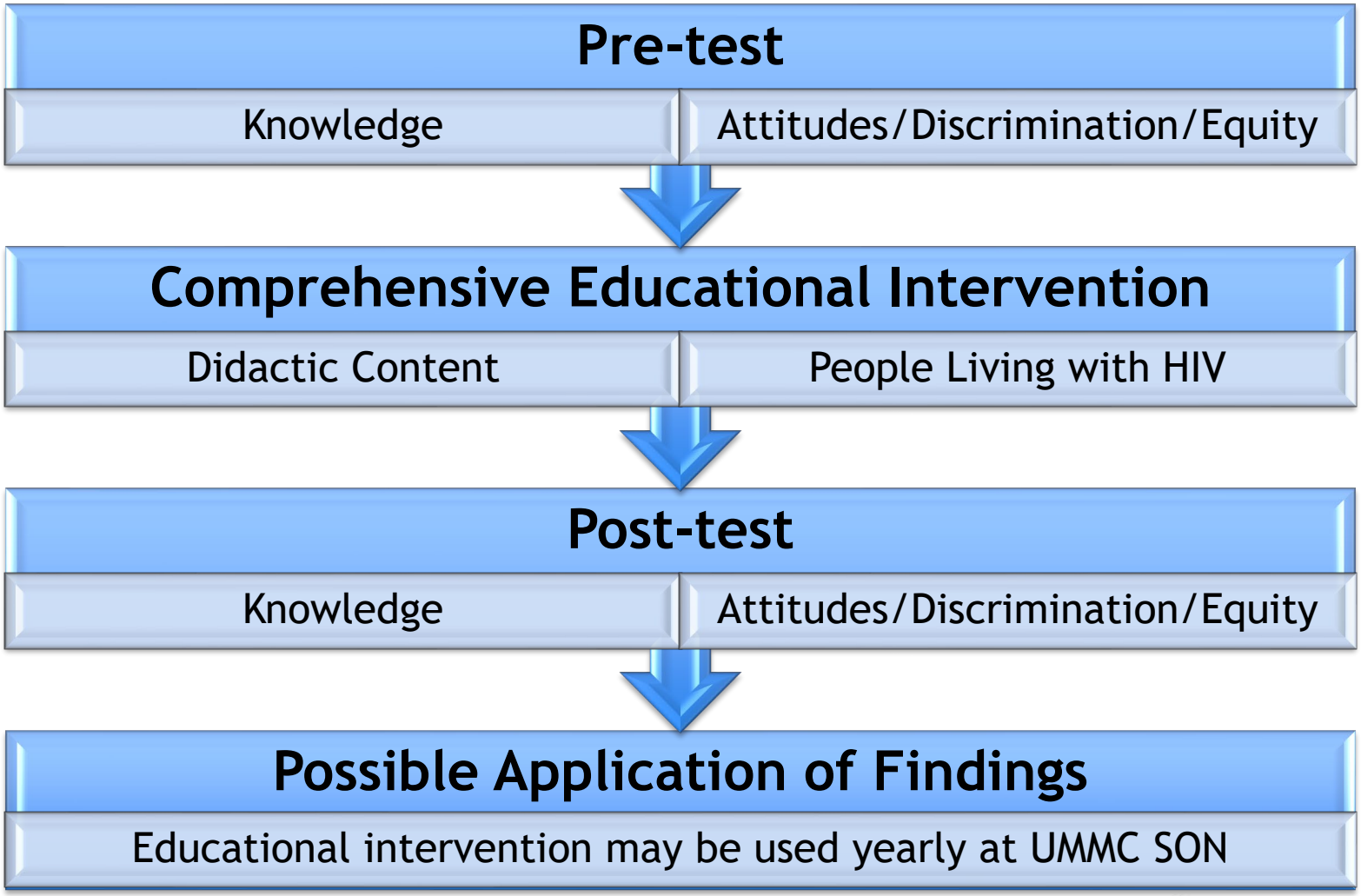
The purpose of this study was to determine if a comprehensive supplemental educational intervention for nursing students, provided by an HIV nurse practitioner and panelists living with HIV, would produce a significant increase in basic HIV transmission knowledge and a significant difference in attitudes, perceived discrimination, and equitable treatment for PLWH.

Study Questions

1. Is there a significant increase in the knowledge level of accelerated pre-licensure nursing students regarding HIV transmission and HIV prevention strategies after completion of a comprehensive supplemental educational intervention?

2. Is there a significant difference in accelerated pre-licensure nursing student's attitudes, perception of discrimination, and the health and social equity of PLWH after completion of a comprehensive supplemental educational intervention?

Possible Application of Findings



Literature Review

- Medications/Increased Lifespan
- Barriers to HIV Care/Stigma
- Deficient Knowledge Regarding PLWH
- Nursing Education Regarding PLWH

Increased Lifespan for PLWH

More than 30 medications to treat HIV (HHS, 2020d; Zhan, Pannecouque, De Clercq, & Liu, 2015). More than 20 single tablet regimens (HHS, 2020d).

Consistent medication adherence and clinical care, many patients can expect a near-normal life, but may develop comorbidities (Gallant et al., 2017)

Persons retained in HIV care have better clinical outcomes. Increased viral suppression and reduce morbidity and mortality (Enns, Reilly, Horvath, Baker-James, & Henry, 2019; Schumann et al., 2019).

Inconsistent care and poor compliance of ART causes increased risk of death, elevated virus levels, disease progression, and possible drug resistance (Enns et al., 2019).

Barriers to HIV Care

Deficient Knowledge Regarding PLWH

Deficient knowledge is responsible for stigmatizing behaviors and discrimination of PLWH (Davtyan et al., 2017; Frye et al., 2017; Nagothu et al., 2018; Phillips et al., 2018; Pickles et al., 2012; Sweeney & Vanable, 2016; Varas-Diaz et al., 2016).

Outdated information (Davtyan et al., 2017).

Systematic Review – 19 studies identified

- Five studies included PLWH
- PLWH should be included in higher education (Phillips et al., 2018).

SPACES (stigma-free spaces in medical scenarios)

- Medical students (N=385) randomized in groups of 20
- PLWH should be included in higher education (Varas-Diaz et al., 2016).

Nursing Education Regarding PLWH

United States HIV Nursing Education

- Educational intervention in Missouri (Frain, 2017).
- Quasi-experimental cohort design Cameroon, Honduras, United States (Diesel, Taliaferro, & Ercole, 2017).

International Studies

- Nursing education that promotes acceptance and non-discrimination is vital to help nursing students form positive attitudes toward PLWH (Akansel, Aydin, Ozdemir, and Tore, 2012; Dharmalingam et al., 2015; Kok et al., 2018; Nagothu et al., 2018).

- Studies around the world have identified misconceptions by nurses and pre-licensure nursing students regarding HIV transmission and the care of PLWH (Boakye & Mavhandu-Mudzusi, 2019; Leyva-Moral et al., 2017; Shah et al., 2014; Suominen et al., 2015).

Methodology

- Research Design
- Population/Sample
- Data Collection
- Ethical Considerations

Research Design

Quantitative approach with a quasi-experimental design (Creswell & Creswell, 2018).

Pre-test

- HIV Knowledge Questionnaire (HIV-KQ) (Carey and Schroder, 2002)
- Project Accept Stigma Scale (Genberg et al., 2009)

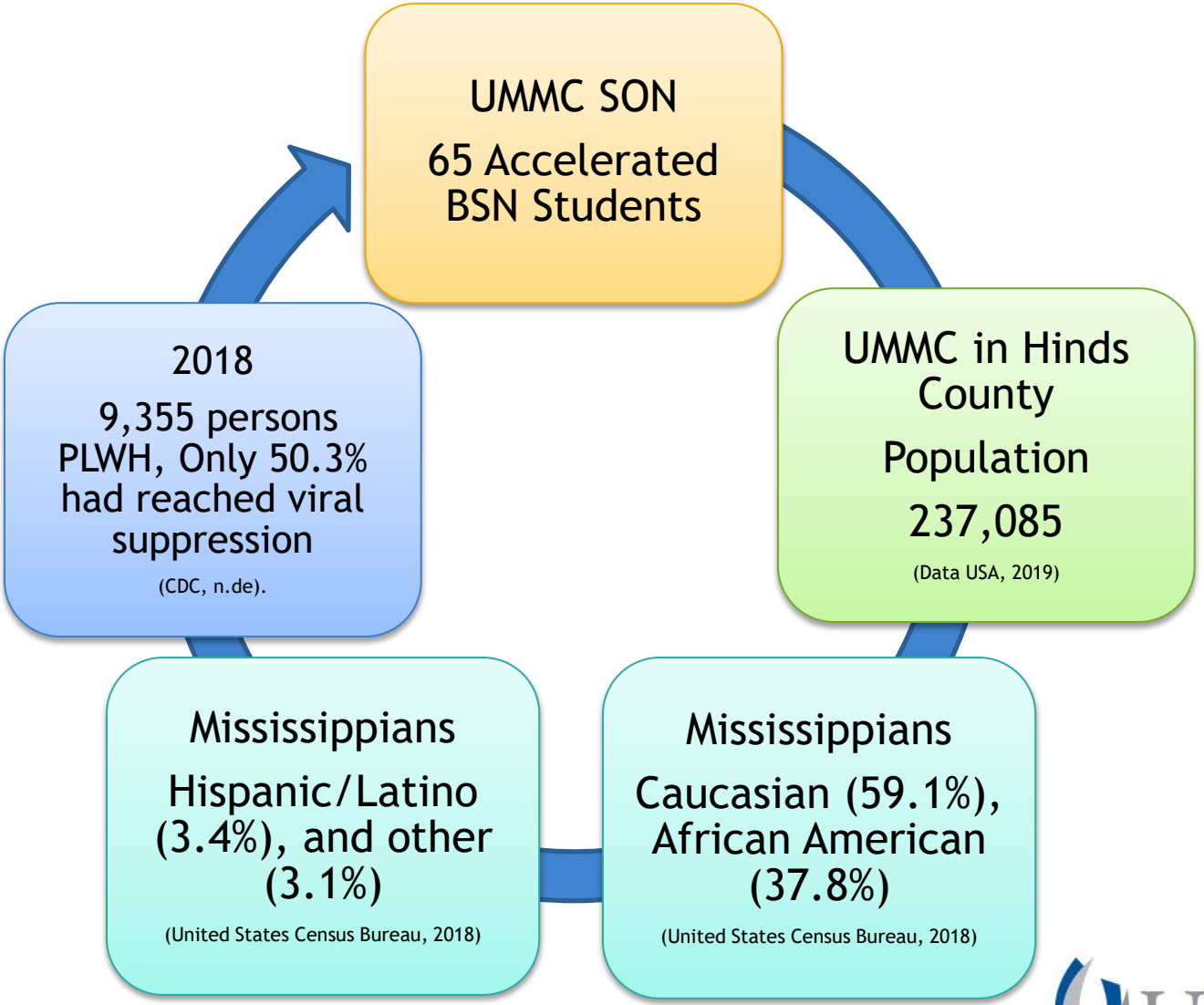
Educational Intervention

- Malcolm Knowles/Adult Learning Theory (Chan, 2010; Spies, Seale, & Botma, 2015).
- Investigator – HIV Nurse Practitioner & PLWH as guest panelists

Post-test

- HIV Knowledge Questionnaire (HIV-KQ) (Carey and Schroder, 2002)
- Project Accept Stigma Scale (Genberg et al., 2009)

Population and Sample



Data Collection Instrument

HIV- KQ-18			
For each statement, please circle "True" (T), "False" (F), or "I don't know" (DK). If you do not know, please do not guess; instead, please circle "DK."			
	True	False	I don't know
1. Coughing and sneezing DO NOT spread HIV.	T	F	DK
2. A person can get HIV by sharing a glass of water with someone who has HIV.	T	F	DK
3. Pulling out the penis before a man climaxes/cums keeps a women from getting HIV during sex.	T	F	DK
4. A women can get HIV if she has anal sex with a man.	T	F	DK
5. Showering, or washing one's genitals/private parts, after sex keeps a person from getting HIV.	T	F	DK
6. All pregnant women with HIV will have babies born with AIDS.	T	F	DK
7. People who have been infected with HIV quickly show serious signs of being infected.	T	F	DK
8. There is a vaccine that can stop adults from getting HIV.	T	F	DK
9. People are likely to get HIV by deep kissing, putting			

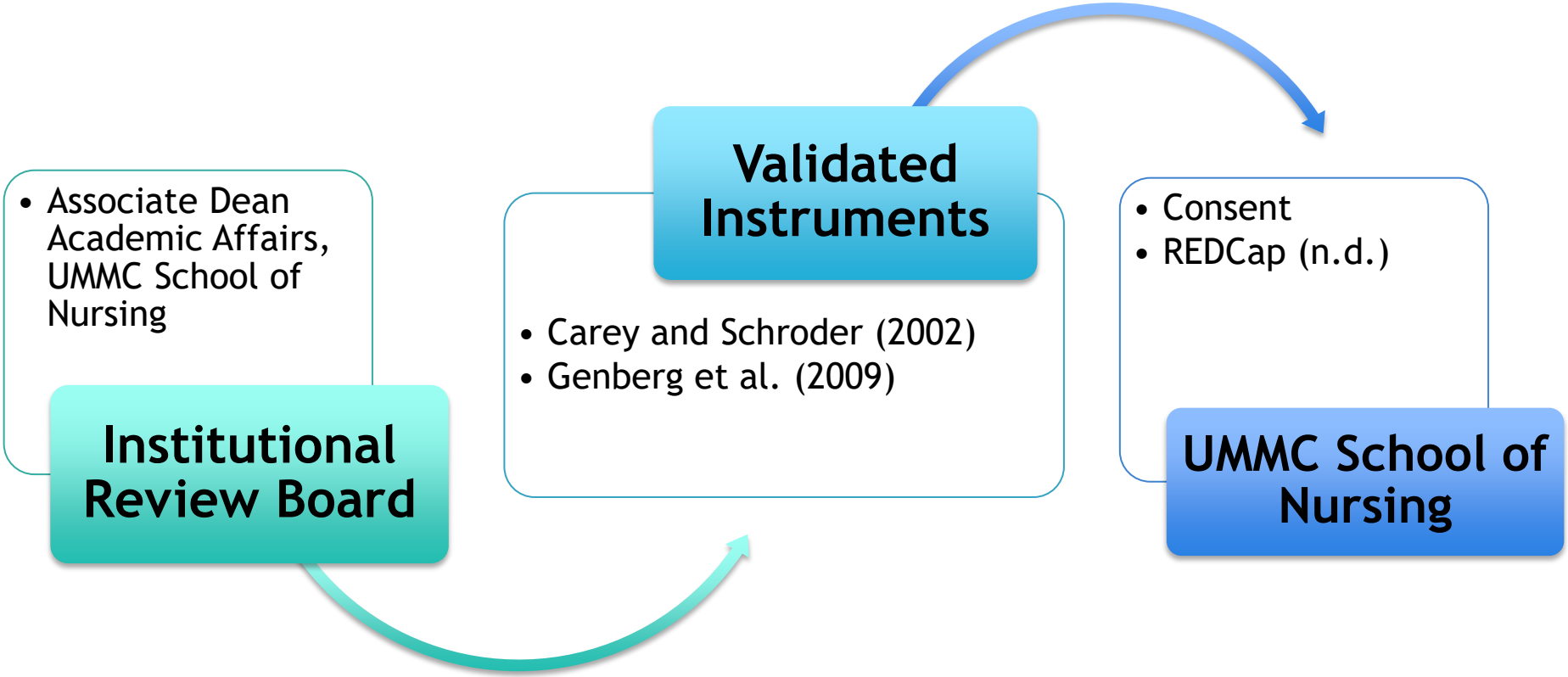
(Carey and Schroder, 2002)

Data Collection Instrument

Stigma Scale	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Negative attitudes					
1. Families of people living with HIV/AIDS should be ashamed.	1	2	3	4	5
2. People living with HIV/AIDS should be ashamed.	1	2	3	4	5
3. People who have HIV/AIDS are cursed.	1	2	3	4	5
4. People who have AIDS are disgusting.	1	2	3	4	5
5. People living with HIV/AIDS deserve to be punished.	1	2	3	4	5
6. It is reasonable for an					

(Genberg et al., 2009)

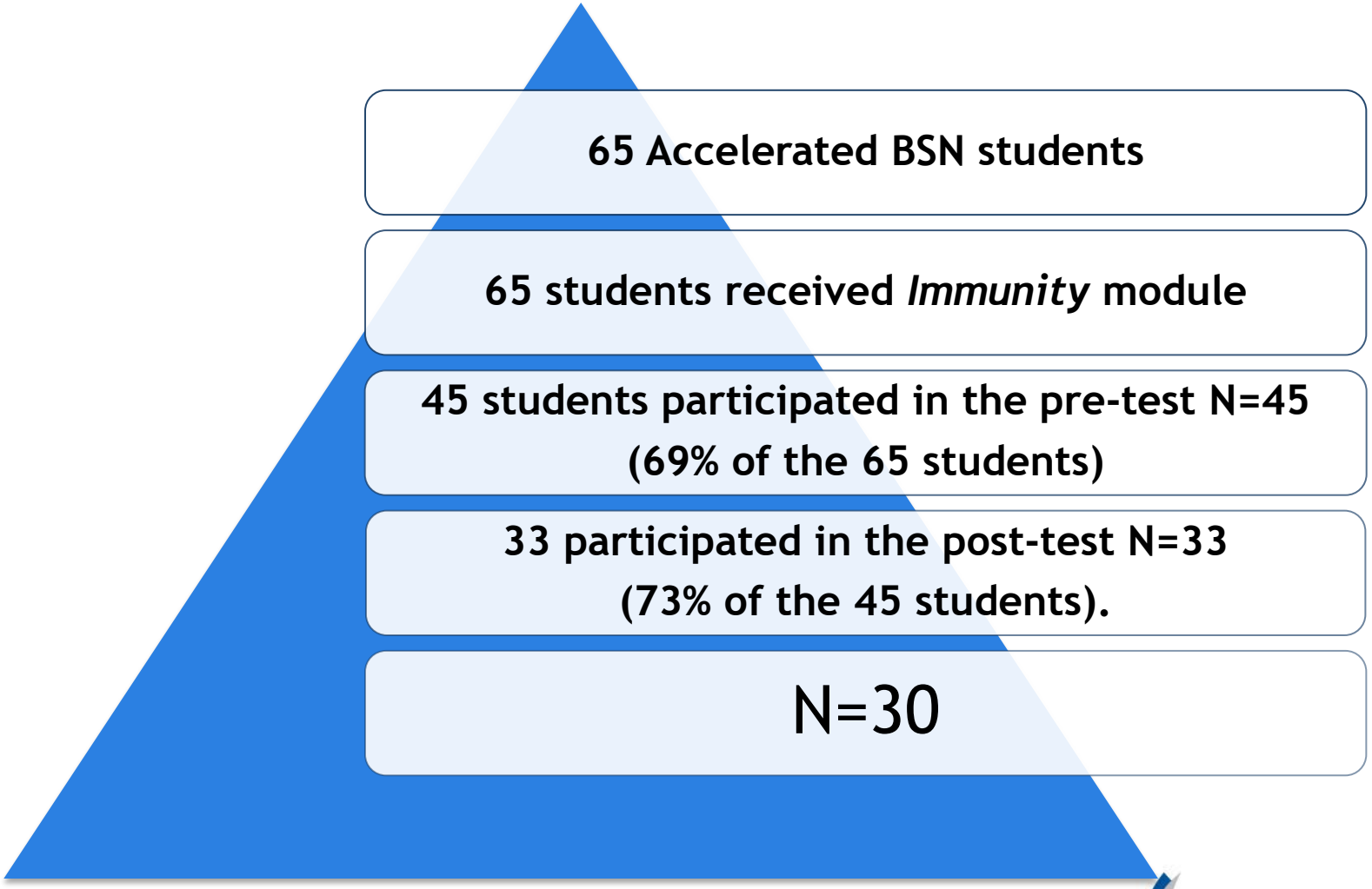
Ethical Considerations



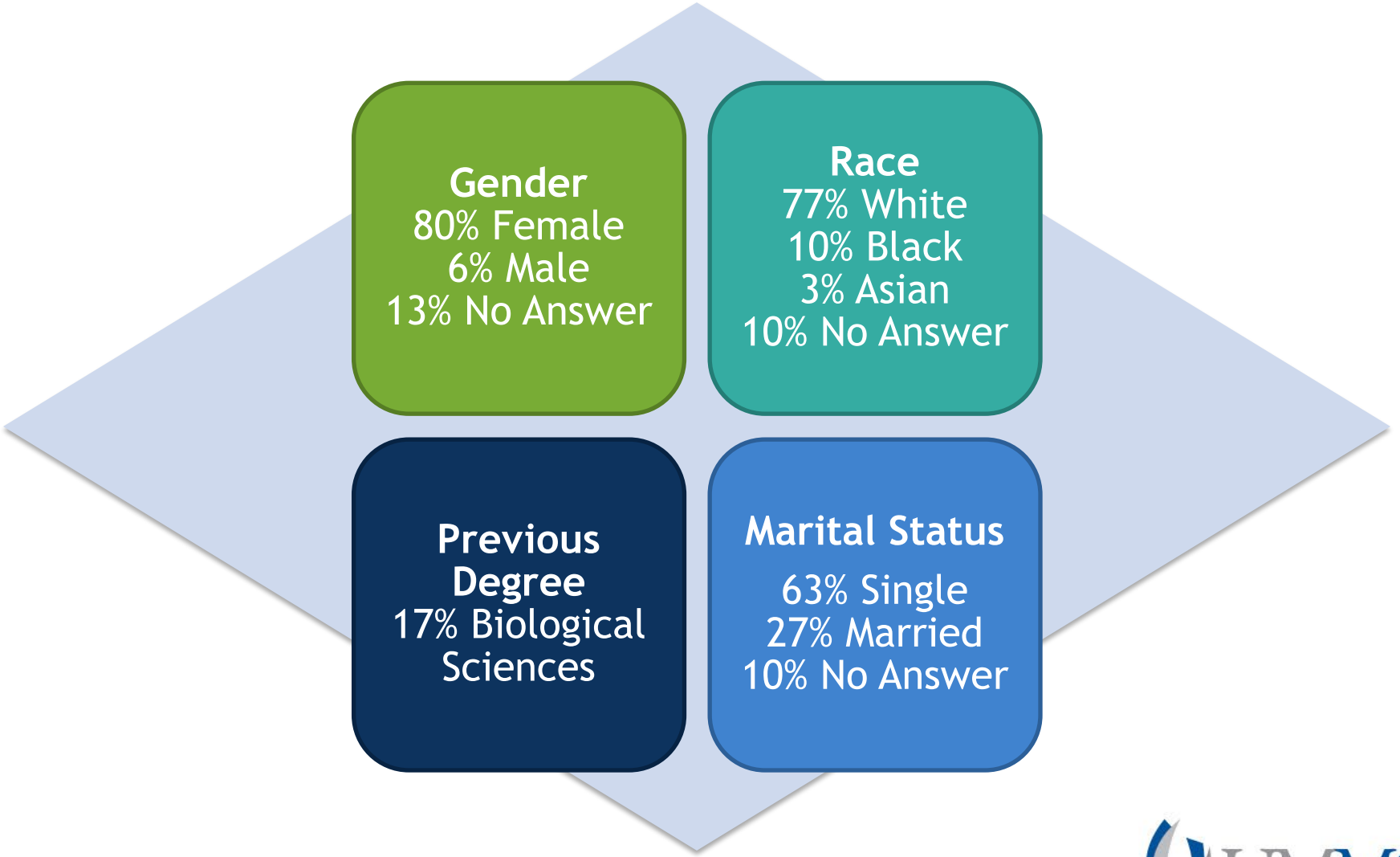
Solution

- Description of Participants
- Educational Intervention
- Data Analysis
- Findings
- Solution/Product

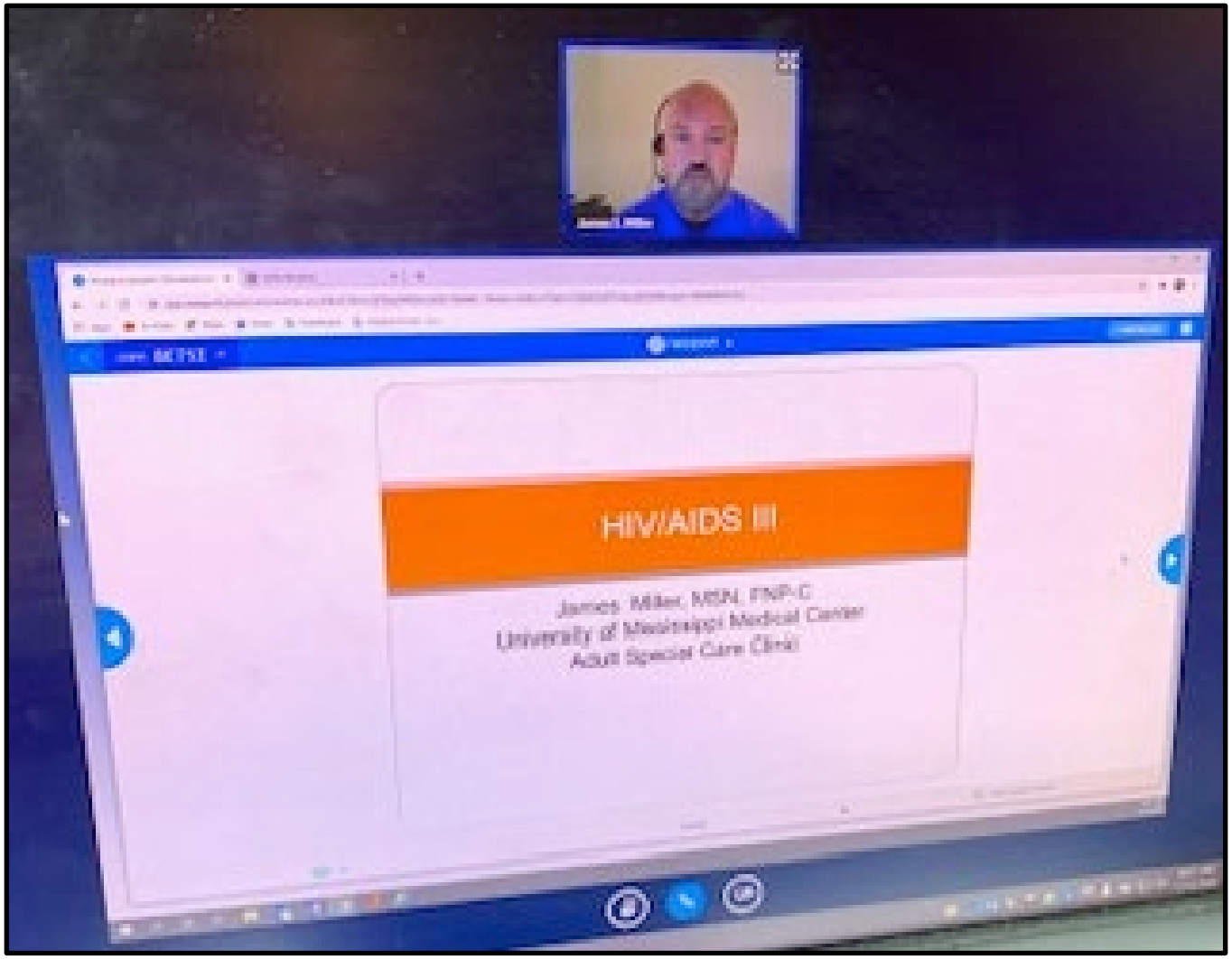
Description of Participants



Demographics

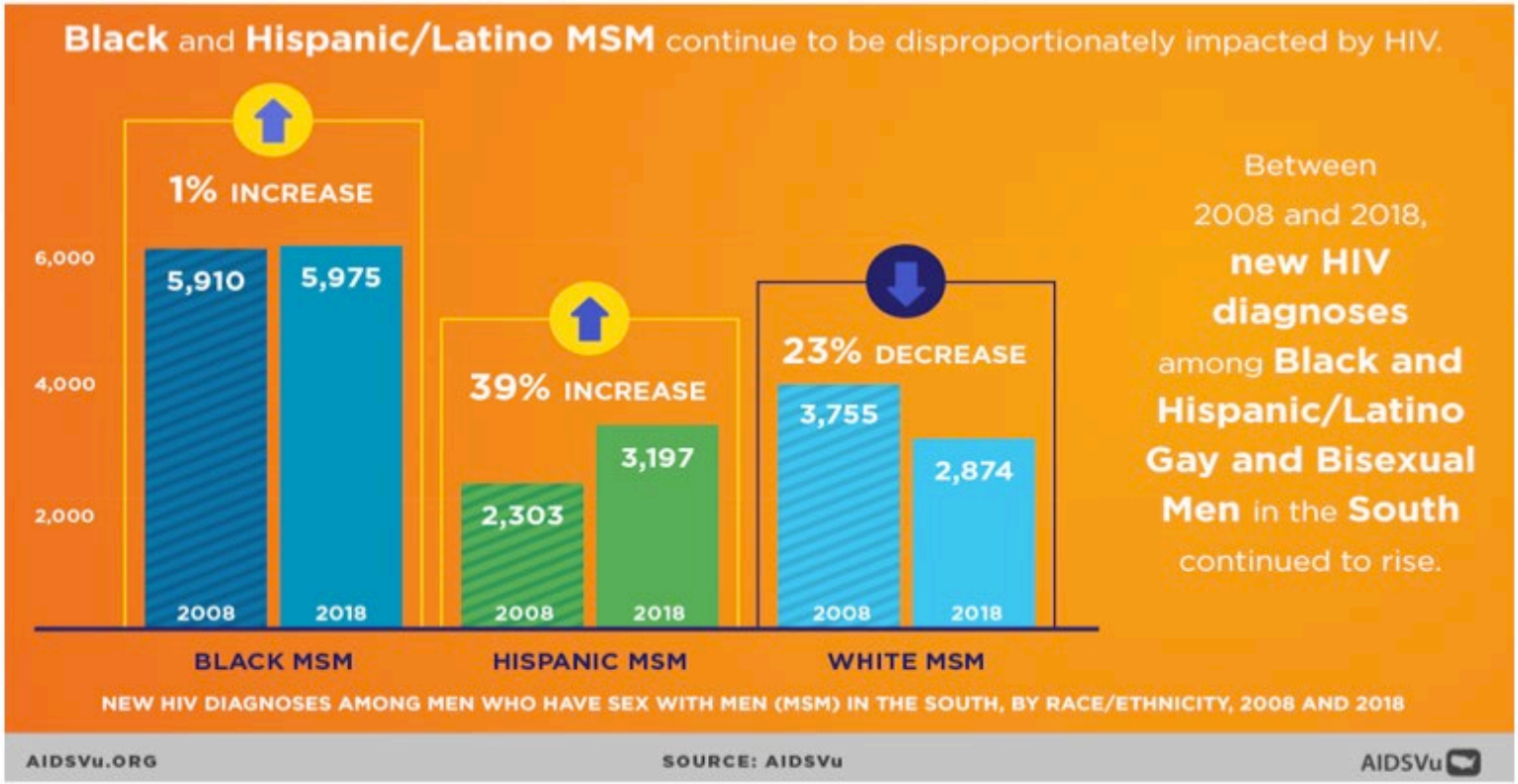


Educational Intervention



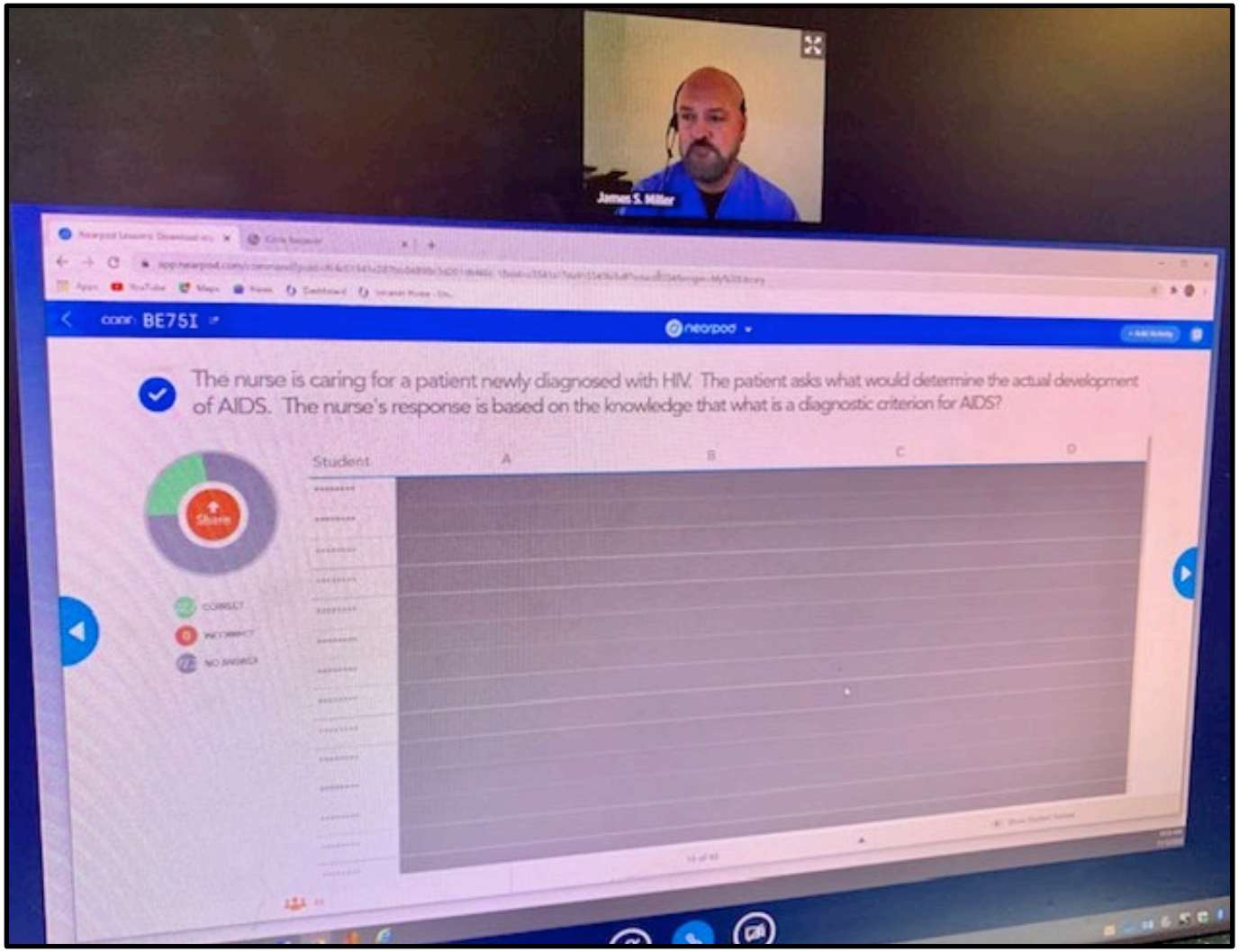
Educational Intervention

HIV in Southeast



(Center for AIDS Research at Emory University, n.d.)

Educational Intervention



Educational Intervention

Case Study

Ms Jones has been HIV positive for 27 years and has never taken medication. When asked why she says, "I have seen too many people get on HIV medication, get sick, and die." She says that she feels fine and she is not interested in taking medication. Last viral load was 389,492 and last CD4 was 52. She has no known opportunistic infections.

Why is she at risk for OI?

When should she start taking ART?

Is her partner at a higher risk for contracting HIV?

Educational Intervention

https://www.youtube.com/watch?v=NZ9vg-RXZUM&t=13s

(Centers for Disease Control and Prevention, 2013)

Data Analysis

Questions from the instrument created by Carey and Schroder (2002) were designed to investigate three distinct domains.

1. HIV transmission
2. HIV prevention
3. Signs and symptoms of acute HIV infection

Test questions were counted correct if the accurate response was chosen, while questions that were answered incorrectly or “I don’t know” were marked as incorrect.

Overall, knowledge level related to the 18 questions, each question equaling one-point value

Data Analysis – Total Instrument Score

Total Instrument Score	Pre-test Mean	Post-test Mean	Mean Difference	*P*-value
Calculations	13.83	17.37	3.54	Less than 0.001

Resulting *p*-value shows a highly significant improvement in student's knowledge. $0.001 \leq 0.05$

Overall knowledge significantly improved.

(Carey and Schroder, 2002)

Data Analysis – Stratified Groups

Basic knowledge related to **"HIV Transmission"**

Transmission Questions	Pre-test Mean	Post-test Mean	Mean Difference	*P*-value
Calculations	22.8	29.1	6.3	0.01

Basic knowledge related to HIV Transmission showed significant improvement with $0.01 \leq 0.05$

Basic **transmission knowledge** improved.

(Carey and Schroder, 2002)

Data Analysis – Stratified Groups

Basic knowledge related to **"HIV Transmission"**

Sample Questions - Transmission
Coughing and sneezing DO NOT spread HIV. T=22, F= 4, IDK=4
A person can get HIV by sharing a glass of water with someone who has HIV. T=3, F=23, IDK=4
Pulling out the penis before a man climaxes keeps a women from getting HIV during sex. F=29, IDK=1
People are likely to get HIV by deep kissing, putting their tongue in their partner's mouth, if the partner has HIV. T=8, F=17, IDK=5
A person can get HIV by sitting in a hot tub or a swimming pool with a person who has HIV. T=2, F=17, IDK=11

(Carey and Schroder, 2002)

Data Analysis – Stratified Groups

Basic knowledge related to **"HIV Prevention"**

Prevention Questions	Pre-test Mean	Post-test Mean	Mean Difference	*P*-value
Calculations	23.14	28.57	5.43	0.05

Basic knowledge related to HIV Prevention showed significant improvement with $0.05 \leq 0.05$

Overall basic **prevention knowledge** improved.

(Carey and Schroder, 2002)

Data Analysis – Stratified Groups

Basic knowledge related to **"HIV Prevention"**

Sample Questions - Prevention
Showering, or washing one's genitals/private parts, after sex keeps a person from getting HIV. F=27, IDK=3
There is a vaccine that can stop adults from getting HIV. T=2, F=21, IDK=7
Having sex with more than one partner can increase a person's chance of being infected with HIV. T=30
There is a female condom that can help decrease a women's chance of getting HIV. T=20, F=1, IDK=9
A person will NOT get HIV is she or he is taking antibiotics. F=25, T=5

(Carey and Schroder, 2002)

Data Analysis – Stratified Groups

Basic knowledge related to **"Signs and Symptoms"**

Signs & Symptoms Question	False	I Don't Know
Calculations	25 (83.3%)	5 (17%)

Sample Questions – Signs & Symptoms
People who have been infected with HIV quickly show serious signs of being infected.

(Carey and Schroder, 2002)

Data Analysis

The instrument developed by Genberg et al. (2009) are stratified into groups that measure:

1. Attitude
2. Perceived discrimination
3. Health and social equity for PLWH

Responses to statements were based on a five-item Likert scale, using the following values: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, 5 = Strongly Agree.

Of the 18 questions on the instrument, four questions showed statistical differences in the pre and post-test scores, suggesting an improvement in students' level of compassion toward PLWH.

Data Analysis – Stratified Groups

Questions related to "Attitudes"

Attitude Questions	Pre-test Mean	Post-test Mean	Mean Difference	*P*-value
People living with HIV/AIDS should be ashamed.	1.31	1.10	0.21	0.012 0.012≤0.05

Pre - 7 "disagreed" - 21 "strongly disagreed" - 1 "neither agree nor disagree"

Post – 3 "disagreed" - 27 "strongly disagreed"

The post-test data suggests that students felt more compassion towards PLWH after the comprehensive educational intervention.

(Genberg et al., 2009)

Data Analysis – Stratified Groups

Questions related to "Attitudes"

Attitude Questions	Pre-test Mean	Post-test Mean	Mean Difference	*P*-value
People who have AIDS are disgusting.	1.28	1.10	0.18	0.023 0.023≤0.05

Pre - 6 "disagreed" - 22 "strongly disagreed" - 1 "neither agree nor disagree" – 1 "no answer"

Post – 3 "disagreed" - 27 "strongly disagreed"

The post-test data suggests that students felt more compassion towards PLWH after the comprehensive educational intervention.

(Genberg et al., 2009)

Data Analysis – Stratified Groups

Questions related to "Perceived Discrimination"

Attitude Questions	Pre-test Mean	Post-test Mean	Mean Difference	*P*-value
People living with HIV/AIDS in this community face physical abuse	3.55	3.93	0.38	0.009 0.009≤0.05

Pre - 3 "strongly agree" - 14 "neither agree nor disagree" – 11 "agree"

Post – 8 "strongly agree" - 9 "neither agree nor disagree" – 11 "agree"

Results illustrated a possible lack of social awareness that exists regarding discrimination toward PLWH

(Genberg et al., 2009)

Data Analysis – Stratified Groups

Questions related to "Perceived Discrimination"

Attitude Questions	Pre-test Mean	Post-test Mean	Mean Difference	*P*-value
People living with HIV/AIDS in this community face neglect from their family	3.76	4.17	0.41	0.02 0.02≤0.05

Pre - 5 "strongly agree" - 7 "neither agree nor disagree" –

15 "agree"

Post – 10 "strongly agree" – 3 "neither agree nor disagree" –

16 "agree"

Results illustrated a possible lack of social awareness that exists regarding discrimination toward PLWH

(Genberg et al., 2009)

Data Analysis – Stratified Groups

Questions related to “Health and Social Equity”

No statistical difference found

Sample Questions - Health and Social Equity
People with AIDS should be treated similarly by health professionals as people with other illnesses.
People with HIV should be allowed to fully participate in social events in this community.
A person with AIDS should be allowed to work with other people.
People who have HIV/AIDS should be treated the same as everyone else.

(Genberg et al., 2009)

Student Comments

Student Comments
I really enjoyed this module and think there should be more opportunities like this and more education on this type of material. Thank you for this and thank you for sharing.
Thank you so much for teaching us and giving me a new perspective on people living with HIV and AIDS.
This was great! My only suggestion is doing this earlier in the program. Many students are burnt out and would probably pay deeper attention if it were sooner in the year.
This was great! My only suggestion is doing this earlier in the program. Many students are burnt out and would probably pay deeper attention if it were sooner in the year.
I enjoyed learning more about HIV/AIDS. There is a huge stigma around HIV/AIDS and these two days have helped me recognize my previous bias and I am grateful for the opportunity to learn from Mr. Miller and hear from people who are and have been living with HIV for years. I am thankful for all of the knowledge that I gained over this week. Thank you!
Instructor was very enthusiastic about the subject matter, which was contagious. Enjoyed the honest communication with HIV survivors. Before it started, I wanted to feel sorry for them. I am old enough to remember all the stigma attached to HIV/AIDS... so I may have a different perspective than the younger members of the class. Their open and honest communication helped me to understand that they do not want my pity... just my respect."
Thank you for setting up the panel with the individuals living with HIV. It can be very easy to dehumanize diseases when learning about them. It was extremely helpful to hear their thoughts and feelings, and I will definitely take what I learned from them and this module into my practice.

Discussion

Misconceptions regarding HIV transmission and incorrect HIV information cause stigma and discrimination toward people living with HIV (PLWH), and these findings suggest that robust educational curriculum, with the inclusion of HIV-related stigma reduction content, might potentially decrease stigma by healthcare professionals (Kok et al., 2018; Pickles et al., 2012; Suominen et al., 2015).

Although this study focused on accelerated pre-licensure nursing students, the content and format may be beneficial for other medical disciplines to enhance inter-professional education (IPE) opportunities locally.

Literature review of other healthcare providers revealed deficiencies in other programs (Geter, Herron, and Sutton, 2018; Parish and Santella, 2018; Rathbun, Durham, Farmer, Zuckerman, and Badowski, 2020)

Discussion

The first step in reducing health inequities, and fostering trust between providers and their patients is the inclusion of all people in health education (Josiah Macy Jr. Foundation, 2020).

Therefore, inclusion of HIV-related educational opportunities, with PLWH as part of the program, such as the one presented in this presentation may help to advance knowledge of health professionals, while decreasing stigma and discrimination for PLWH.

Implementation Plan

“H is for Human” Instructor's Guide: Includes learning objectives, case studies, audiovisual links, and all didactic content that was created by the investigator to assist health care programs at UMMC to augment basic knowledge of HIV transmission, prevention strategies, and bias and discrimination against PLWH and LGBTQ persons.

Invitation from School of Nursing: The UMMC SON has invited the investigator to teach the Immunity Module in the fall semester 2021 and fall semester 2022.

Implementation Plan

Invitation from Mississippi AIDS Educational Training Center:
To present data findings on multiple Wednesday Webinars.

Online Development for Co-curricular Catalog at UMMC:
Academic Affairs is planning to develop a list of self-paced independent learning opportunities for students in all schools at UMMC. Students who participate in co-curricular learning have the opportunity to advance their knowledge about topics that may not be included in their formal curriculum.

IPE: Inter-professional Education development for students currently enrolled at colleges through co-curricular courses.

Limitations

- *Height of COVID pandemic with all classes held virtually.*

May have had better participation if held in live environment

- *Final response after data clean-up was N=30 of 65 potential participants.*
- *Instrument by Genberg et al. (2009) included questions that were originally written for underdeveloped countries and not for students seeking a degree as a health professional.*

This likely caused a positive shift in results regarding attitudes, discrimination, and equity of PLWH.

Conclusion

Is there a significant increase in the knowledge level of accelerated pre-licensure nursing students regarding HIV transmission and HIV prevention strategies after completion of a comprehensive supplemental educational intervention?

Yes, Students showed a significant increase in knowledge related to HIV transmission and prevention.

Conclusion

Is there a significant difference in accelerated pre-licensure nursing student's attitudes, perception of discrimination, and the health and social equity of PLWH after completion of a comprehensive supplemental educational intervention?

Four questions regarding attitudes and discrimination revealed a significant difference, which suggests that overall students' level of empathy for PLWH increased.

Questions

University of Mississippi Medical Center

Contact:
James Miller
jsmiller@umc.edu

UMMC

Educational Intervention to Reduce Stigma of Nursing Students Toward People Living with HIV

James Miller, MSN, RN; Elizabeth Franklin, PhD
Doctor of Health Administration
University of Mississippi Medical Center School of Health Related Professions

BACKGROUND

- Since the discovery of human immunodeficiency virus (HIV) in 1981, more than 74 million people worldwide have been infected, and 32 million have died from acquired immunodeficiency syndrome (AIDS)-related illnesses (Markel, 2020).
- With advances in antiretroviral therapy (ART), people living with HIV (PLWH) are living longer than before (Fitch, 2019; Gallant et al., 2017) and have a higher risk of developing heart disease, kidney disease, liver disease, osteopenia, osteoporosis, and cancers that are not related to their HIV/AIDS diagnosis (Fitch, 2019; Lerner et al., 2020).
- Stigma is defined as a characteristic or element that is viewed negatively by the public (Holzemer et al., 2009). Additionally, stigma associated with HIV and AIDS remains a barrier to health care and may cause poor health outcomes due to the avoidance of clinical care (Christopoulos et al., 2018).
- People living with HIV who are not engaged in routine clinical care and have sustained elevated levels of virus create a nationwide health concern that places uninfected sexual partners at a higher risk of HIV infection. It is estimated that greater than 60% of new infections stem from those patients who have been lost-to-care and are not taking ART (Colasanti, Stahl, Farber, Del Rio, & Armstrong, 2017).

Problem

- HIV transmission rarely occurs from patient to healthcare provider, but there may be fear of contracting HIV/AIDS. The perceived fear might originate from inadequate knowledge and may perpetuate stigma/discrimination.
- Many health care providers, including nurses, may not be provided educational opportunities to increase knowledge of HIV and practice unbiased care, which could perpetuate stigma or discrimination through inappropriate actions or words.

PURPOSE

To determine if a comprehensive supplemental educational intervention for accelerated pre-licensure nursing students, provided by an HIV nurse practitioner with panelists living with HIV, produces a significant increase in basic HIV transmission/prevention knowledge and a significant difference in attitudes, perceived discrimination, and equitable treatment for PLWH.

METHODS

Pre-test

Knowledge | Attitudes/Discrimination/Equity

↓

Comprehensive Educational Intervention

Didactic Content | People Living with HIV

↓

Post-test

Knowledge | Attitudes/Discrimination/Equity

Figure 1. The investigation used a pre-test for baseline measurements of nursing student's prior HIV transmission knowledge, HIV prevention strategies, attitudes, perceived discrimination, and beliefs regarding health and social equity for PLWH. An educational intervention was implemented during the investigation to provide the students with a comprehensive supplemental HIV/AIDS educational intervention by an HIV nurse practitioner and interaction with PLWH. The same assessment was used as the post-test to determine any significant difference from baseline pre-test scores.

EDUCATIONAL INTERVENTION

Figure 2. This photo was taken during the comprehensive educational intervention. The photo shows the instructor (far left) and patient volunteer panelists. Students submitted questions prior to the session and the instructor facilitated the panel discussion by asking questions anonymously.

RESULTS

Eighteen questions measured HIV knowledge and each counted one point. The mean pre-test and post-test was 13.83 and 17.37, respectively. The mean difference was 3.54. The resulting *p*-value from a paired *t*-test was less than 0.001, which shows a highly significant improvement. Additionally, student responses on four questions regarding attitudes, discrimination, and health and social equity resulted in a significant difference, which suggested that students' level of empathy for PLWH increased.

Total Instrument Score	Pre-test Mean	Post-test Mean	Mean Difference	*P*-value
Calculations	13.83	17.37	3.54	Less than 0.001

Figure 3. These calculations illustrate a significant increase in knowledge related HIV transmission and HIV prevention after the comprehensive educational intervention and interaction with patients living with HIV. The level of significance was set at ≤0.05, which is commonly used.

CONCLUSION

1. Is there a significant increase in the knowledge level of accelerated pre-licensure nursing students regarding HIV transmission and HIV prevention strategies after completion of a comprehensive supplemental educational intervention?

Yes. Students realized a significant increase on knowledge related to HIV transmission and prevention.

2. Is there a significant difference in accelerated pre-licensure nursing student's attitudes, perceived discrimination, and the health and social equity of PLWH after completion of a comprehensive supplemental educational intervention?

Four questions regarding attitudes, discrimination, and health and social equity revealed a significant difference, which suggests that overall students' level of empathy for PLWH increased.

IMPLEMENTATION

- ***"H is for Human" Instructor's Guide:*** Includes learning objectives, case studies, audiovisual links, and all didactic content that was created by the investigator to assist health care programs at UMMC to augment basic knowledge of HIV transmission, prevention strategies, and bias and discrimination against PLWH and LGBTQ persons.
- **Invitation from School of Nursing:** The UMMC SON has invited the investigator to teach the Immunity Module in the fall semester 2021.
- **Invitation from Mississippi AIDS Educational Training Center:** To present data findings on June 30, 2021 in Webinar. Potential opportunity to teach in HIV 101 course for nurses, nurse practitioners, and social workers in fall of 2021.
- **Online Development for Co-curricular Catalog at UMMC:** Academic Affairs is planning to develop a list of self-paced independent learning opportunities for students in all schools at UMMC. Students who participate in co-curricular learning have the opportunity to advance their knowledge about topics that may not be included in their formal curriculum.
- **IPE:** Interprofessional Education development for students currently enrolled at UMMC through co-curricular courses.

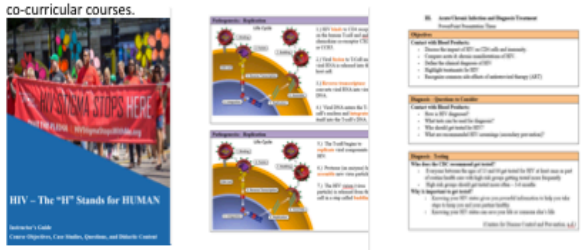


Figure 4. Shows the cover and sample information included in the Instructor's Guide, which aims to provide the educational format and all content to make the course easily reproducible for any audience of health professionals.

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CONTACT: James Miller: 601-984-2009 or Elizabeth Franklin: 601-984-6416

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