

## **An Educational Curriculum Informing 5 Student Run Free Clinics in Philadelphia**

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## **An Educational Curriculum Informing Five Student Run Free Clinics in Philadelphia**

**Abstract:** The organization JeffHOPE (Health Opportunities, Prevention, and Education) operates five student run free clinics (SRFCs) in Philadelphia. The organization's goals are threefold: to provide supervised free acute medical care to persons experiencing homelessness, connect patients to the Philadelphia healthcare system, and educate medical students and residents on compassionate and culturally competent care at the intersection between homelessness and healthcare. While many SRFCs around the country have emerged to provide medical care to underserved patients across the United States, something that makes JeffHOPE unique is its educational model. This article describes the development of a longitudinal, interactive educational model implemented by medical students at JeffHOPE. This model has implications beyond informing how medical students operate clinics, giving students tools to provide patient-centered, culturally competent care to vulnerable populations during their training and beyond.

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## **Importance of Curricula for Student-Run Free Clinics**

Student Run Free Clinics (SRFCs) provide a unique environment for medical education in a clinical context. Recent studies have investigated the impact of SRFCs on medical education and clinical skills development.<sup>1-4, 16-17</sup> SRFCs have been described as an ideal learning method for teaching medical students interdisciplinary care, resource allocation, advocacy, and healthcare quality.<sup>1, 5, 6</sup> Volunteering at such clinics as a medical student allows early engagement in patient care and has been shown to assist in preparing future physicians to navigate growing healthcare costs, quality of care, and high rates of uninsurance.<sup>1, 16-18</sup> In addition to these core competencies, medical students may further develop empathy, compassion, and heightened social awareness.<sup>7</sup>

To date, most SRFCs utilize clinical exposure to educate medical students. However, some SRFCs have implemented educational modules and training sessions, which address healthcare subjects that disproportionately affect underserved populations. These have included discrete training sessions on HIV management, the influenza virus, crisis prevention, mental health support, medical Spanish, and health equity.<sup>8-14</sup> One SRFC created 15-minute monthly didactic sessions on chronic disease management as a means of improving encounter time and clinic efficiency.<sup>15</sup> A recent study used a pre-post assessment to demonstrate that students participating in an SRFC experienced improvement in self-reported confidence in domains such as history taking and physical exam.<sup>17</sup>

Rupert et al. argues that SRFCs stand at the intersection between medical education, clinical care, and patient advocacy.<sup>19</sup> By experiencing care of vulnerable populations, SRFCs provide students with opportunities to learn about important public health related topics such as health literacy and Medicaid enrollment.<sup>19</sup> This paper highlights that supplemental education

may augment hands on education that students receive working at SRFCs. While many SRFCs have developed and implemented individual training sessions to improve the care medical students provide to their patient populations, there is limited published literature on a comprehensive or long-term curriculum to provide foundational training in caring for persons experiencing homelessness through student-run clinics. Furthermore, little information exists regarding the development and design process of such a curriculum.

### **Introduction to JeffHOPE**

JeffHOPE (Health Opportunities, Prevention, and Education), is a student organization within Sidney Kimmel Medical College (SKMC) at Thomas Jefferson University that oversees the institution's five SRFCs and serves individuals experiencing homelessness in the Philadelphia community. Students run clinics at two men's shelters, one women's shelter, one family shelter, and one harm reduction drop-in site. The SRFC has three goals: provide supervised free acute medical care to persons experiencing housing insecurity, connect patients to the Philadelphia healthcare system, and educate medical students and residents on compassionate and culturally sensitive care at the intersection between homelessness and healthcare. The educational curriculum consists of year-long, monthly teaching sessions for all clinic members spanning topics that are relevant to the patient populations they treat at their five clinics throughout the city. The curriculum has been developed by student leaders in the organization with guidance from faculty advisors and is periodically modified based on student feedback. This paper aims to describe an educational curriculum informing a large SRFC initiative in Philadelphia, PA.

### **Introduction to the JeffHOPE Curriculum**

JeffHOPE began hosting educational sessions named “Town Halls” as part of a longitudinal curriculum in 2018. By 2020, Town Halls became a monthly commitment and a required component for student volunteers within the organization. Since then, all weekly volunteers, including 1st and 2nd-year medical students termed “committee members” and 3rd and 4th-year medical student clinic “directors”, attend all Town Halls organized by JeffHOPE’s Education Director, a fourth-year medical student. Topics addressed at Town Hall meetings are intended to be relevant to the work done by committee members at their clinics. Volunteer presenters (usually a mix of faculty, students or outside speakers from community partners) conduct a lecture or interactive workshop addressing the desired topic, in-person or virtually. Town Hall topics are chosen by following the algorithm in **Figure 1**.

From 2021-2024, issues discussed in JeffHOPE Town Halls included: an introduction to homelessness, housing affordability, post-incarceration effects on health, effects of adverse childhood experiences on health, mental health symptom recognition and referral, screening for sexually transmitted infections, nutrition counseling, motivational interviewing and early management of opioid use disorder, trauma-informed care, and management of urgent gynecologic conditions in the housing insecure populations. JeffHOPE has a separate process for mandatory safety education trainings (e.g. universal precautions and avoiding needlestick injuries), for committee members to complete upon entry into the organization. Each chosen topic is typically covered once yearly, as JeffHOPE welcomes a new cohort of committee members every January. The Town Halls are updated each year with new speakers, updated information, and adjusted topics as necessary, based on student feedback. These annual modifications ensure that Town Halls address the issues affecting our clinic work as our community and patient population evolve.

Our sessions are assessed based on anonymous pre- and post-surveys administered voluntarily via a secure Qualtrics link provided to JeffHOPE committee members and directors immediately before and after each Town Hall meeting. Utilizing predetermined learning objectives, these surveys help assess respondents' self-reported knowledge of the subject before and after the educational activity. They also allow volunteers to provide feedback on the presentation's level of audience engagement, topic relevance and efficacy. Volunteers are asked to provide specific suggestions for improvement. The Town Hall schedule for the 2022-2023 cohort is outlined in the table below (**Table 1**), and the one for the 2023-2024 cohort is summarized in **Table 2**. As part of our quality improvement efforts, preliminary analysis of a convenience sample of Town Hall participants showed that most saw gains in self-assessed knowledge of presented topics, and for many, specific learning objectives. Preliminary results from the 2023-2024 Town Halls are presented in this article. We hope to include longer-term follow up of student knowledge to capture how the curriculum changes over time.

### **Preliminary Results**

From 2023-2024, JeffHOPE hosted a total of eight Town Halls (**Table 2**). Pre- and post-survey data was collected to evaluate student knowledge. For each Town Hall, students were asked to rank their level of agreement with a series of three to four statements based on the learning objectives from the session. They used a Likert scale of *strongly disagree* to *strongly agree*. For example, in the Homelessness and Adverse Childhood Experiences (ACEs) session, question one of the survey was "Before this educational session (Town Hall) I would be able to: Define ACEs and identify common ACEs." We compiled responses from the eight Town Hall surveys from 2023-2024 and completed pre-post statistical analyses (parametric & non-parametric). P values were calculated using two-sided paired sample testing. Our results

demonstrated significant improvement in student knowledge across the eight Town Halls. P values were consistently  $< 0.001$  for increase in scores across questions and Town Hall topics (**Table 3**).

A representative figure for the ACEs Town Hall session is presented to aid in data visualization (**Figure 2**). It is evident that student's reported an increase in knowledge and comfortability with the educational material after participating in the Town Hall session. One potential limitation of this data is that survey questions are designed to evaluate student understanding and are not strict knowledge based questions. Future studies will aim to look at changes in student knowledge over time.

### **Potential Strengths & Limitations of the Longitudinal Curriculum**

The strengths of this educational model lie primarily in its longitudinal nature and adaptability. The curriculum is year-long and coincides with committee members' weekly hours at their clinic. Sessions provide students with continuous education to support the patients they see throughout the year. The adaptability of the curriculum allows medical students to have a say in what they are learning and to tailor their sessions to the most common issues encountered at the clinics. For example, committee members serving at the drop-in clinic in an area of the city with a high prevalence of opioid use disorder developed presentations covering screening for substance use disorder, its complications, and referral to treatment. The weaknesses of the educational model include: limited time in medical student schedules, lower capacity for adapting the curriculum as medical students transition out of the organization, and challenges meeting some educational needs in the face of different populations served at the shelter clinics.

Informed by these strengths and limitations, as well as by our lived experience with the Town Hall format, we have developed 5 recommendations for clinics looking to adopt an educational curriculum for their SRFCs:

1. Mandatory educational sessions for medical students participating consistently in clinics help ensure that students develop strong foundational knowledge about how to support the populations they serve.
2. Including consistent faculty oversight and student feedback through surveys or other measures can ensure the curriculum is designed to fit student needs.
3. Utilize an in-person format for most of the educational sessions, with a virtual format reserved for when anticipated attendance is low, such as during student exam weeks. Recording all sessions allows students to review content post presentation and an opportunity for students who were absent to view the content.
4. Store all materials and information used for each educational session in a central location that can be easily accessed and shared among directors at the SFRCs. These student leaders must be responsible for updating the information as needed.
5. Engage faculty advisors, area subject matter experts, and students throughout the SRFC organization in the development of the curriculum. At JeffHOPE, committee members from different clinics made valuable contributions to some of the educational sessions. This bolsters not only the quality of the education, but also the capacity of the curriculum to address a more diverse range of topics.

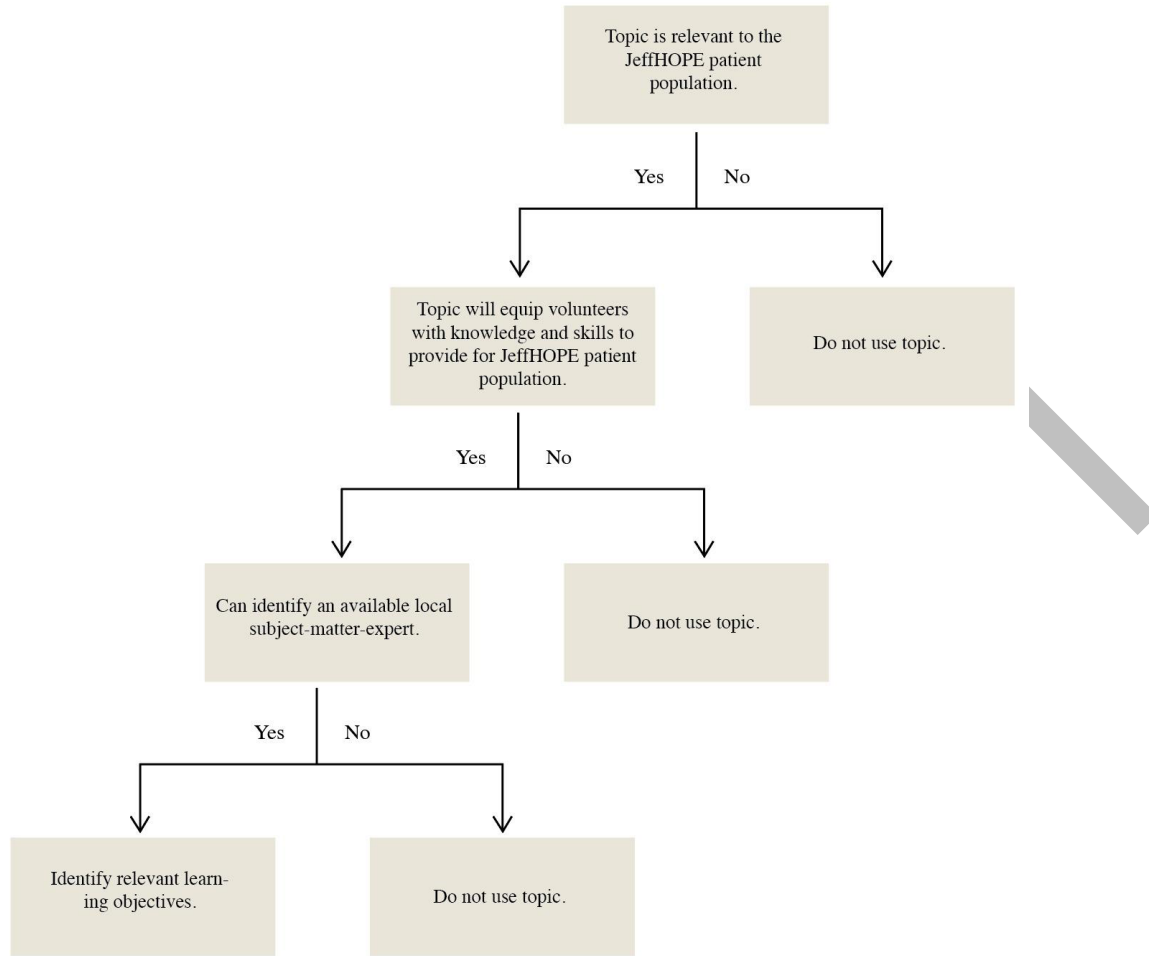
## **Conclusions**

A longitudinal, adaptable public health-focused curriculum for preclinical and clinical medical students involved in student-run free clinics has served our organization well. Informal

feedback as well as survey data from participants shows gains for most in medical knowledge and in levels of engagement for our students. Such a curriculum has the potential to increase the competencies needed to help link patients from vulnerable populations to local resources and follow up sources for clinical care. Future work is necessary to identify the most effective methods of communicating information about important topics to students and to evaluate the efficacy of these sessions in achieving measurable changes in students' competencies in the clinical setting.

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**Figure 1: Algorithm for Selecting Town Hall Topics**



**Table 1: Town Hall Topics 2022-2023**

Town Hall Topics 2022-2023	Learning Objectives Tested
<b>Homelessness and Adverse Childhood Experiences (ACEs)</b>	<ul style="list-style-type: none"> <li>Define ACEs and identify common ACEs</li> <li>Discuss approaches to helping patients who have been affected by toxic stress</li> <li>Describe the approach to reporting suspected child abuse</li> </ul>
<b>Housing Insecurity in Philadelphia</b>	<ul style="list-style-type: none"> <li>Define the main challenges facing housing-insecure individuals in Philadelphia.</li> <li>Outline the role of the Department of Homeless Services in Philadelphia</li> </ul>

	<ul style="list-style-type: none"> <li>Identify key stakeholders in the process of obtaining housing</li> </ul>
<b>Recognition of acute care conditions</b> in the housing-insecure population	<ul style="list-style-type: none"> <li>Recognize sexually transmitted infections in clinical practice</li> <li>Recognize pregnancy complications, urgent obstetric conditions, and gynecologic emergencies—and refer to hospital care</li> <li>Recognize and refer different types of skin lesions in the housing-insecure population.</li> <li>Assess elevated blood pressure</li> <li>Differentiate hypertensive urgency from hypertensive emergency and their management</li> <li>Recognize Diabetic Ketoacidosis (DKA)/Hyperosmolar hyperglycemic state (HHS) and refer for emergency services</li> </ul>
<b>Nutrition</b> in the housing-insecure population	<ul style="list-style-type: none"> <li>Demonstrate awareness of nutrition needs and available resources for patients experiencing homelessness in the Philadelphia area</li> </ul>
<b>LGBTQ+</b> care in the housing-insecure population	<ul style="list-style-type: none"> <li>Recognize social determinants of health (SDOH) disparities that impact the LGBTQ+ community</li> <li>List principles of basic LGBTQ+ care and available care settings in the community</li> <li>Describe what proportion of the LGBTQ+ population experiences homelessness</li> <li>Discuss the important intersections between gender identity and housing instability.</li> <li>List community resources to improve housing insecurity in the LGBTQ+ population.</li> </ul>
<b>Medication for Opioid Use Disorder</b> and Housing Insecurity	<ul style="list-style-type: none"> <li>List the signs/symptoms of a patient with opioid intoxication/withdrawal.</li> <li>Compare and contrast the three FDA-approved medications for opioid use disorder.</li> </ul>
<b>A conversation on homelessness</b>	<ul style="list-style-type: none"> <li>Demonstrate awareness of the principles of palliative care for the homeless</li> <li>Advocate for vulnerable populations who may need palliative care consultation and/or referral to community-based resource</li> <li>List strategies to maintain resilience when working with vulnerable populations</li> </ul>
<b>End of year review Town Hall</b>	<ul style="list-style-type: none"> <li>No specific learning objectives but requested general feedback on the curriculum</li> </ul>

**Table 2: Town Hall Topics 2023-2024**

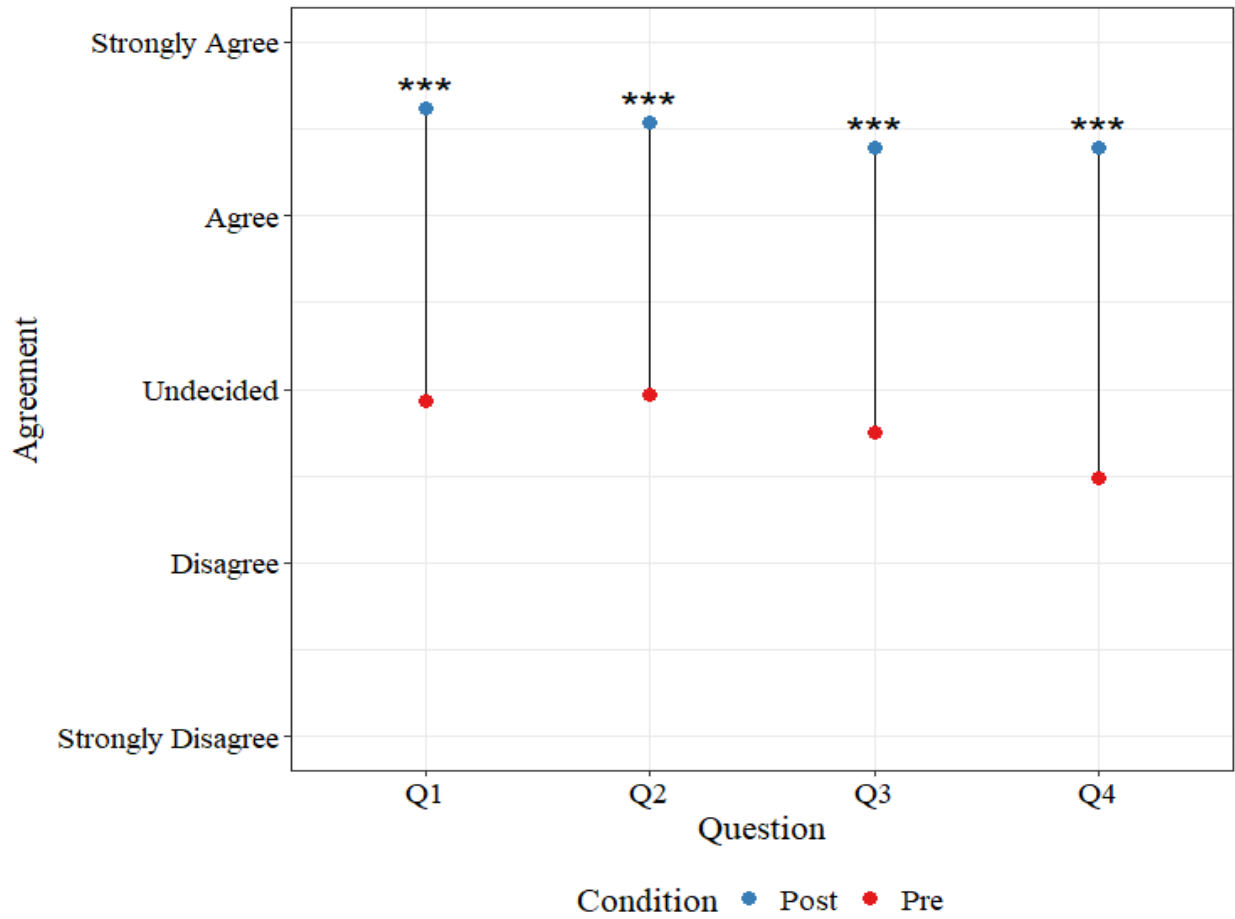
<b>Town Hall Topics 2023-2024</b>	<b>Learning Objectives Tested</b>
<b>Homelessness and Adverse Childhood Experiences (ACEs)</b>	<ul style="list-style-type: none"> <li>• Define ACEs and identify common ACEs</li> <li>• Explain the basic pathophysiology of toxic stress in the developing child</li> <li>• Explain and list “counter ACEs”</li> <li>• Describe approaches to helping patients who have been affected by toxic stress</li> <li>• Define mandated reporting and types of child abuse/maltreatment</li> <li>• Understand the process for reporting suspect child abuse</li> </ul>
<b>JeffDET - Medical Debt Elimination Taskforce</b>	<ul style="list-style-type: none"> <li>• Understand the purpose of financial assistance at non-profit hospitals</li> <li>• Recognize the intersection of housing insecurity, disability, and medical debt</li> <li>• Describe the financial assistance program at Jefferson Health and referral patients who appear to have need.</li> <li>• Learn and apply the JeffDET screening workflow with attention to solutions for anticipated barriers</li> </ul>
<b>Racism and the War on Drugs</b>	<ul style="list-style-type: none"> <li>• Demonstrate the difference between conceptualizing disparities in terms of race vs racism</li> <li>• Examine the pivotal points in US drug policy and the relationship to systemic racism</li> <li>• Recognize the impact of targeted alcohol and tobacco advertising in Black neighborhoods</li> <li>• Evaluate the data on Philadelphia’s substance use crisis</li> <li>• Discuss individual and collective opportunities to work in solidarity with marginalized groups to advance racial justice in addiction medicine.</li> </ul>
<b>Wound Care for Patients who use Intravenous Xylazine</b>	<ul style="list-style-type: none"> <li>• Describe the scope and unique aspects of Philadelphia's Opioid Epidemic</li> <li>• Identify and describe treatment algorithms for Xylazine Related Wounds</li> <li>• Refer patients and providers to established resources for treatment</li> <li>• Participate in educated discussion and advocacy in the realm of Opioid Abuse</li> </ul>
<b>Ethics of Student-Run Free Clinics (SRFCs)</b>	<ul style="list-style-type: none"> <li>• Describe ethical tensions of SRFCs</li> <li>• Review qualitative evidence of how patients, students, and volunteers experience ethical tensions of SRFCs</li> <li>• Brainstorm how SRFCs can address ethical challenges</li> <li>• Reflect on my own experiences with shelter-based care and debrief with trusted colleagues or teachers.</li> </ul>

<p><b>Suicidal Ideation, Homicidal Ideation, and De-Escalation</b></p>	<ul style="list-style-type: none"> <li>• Practice active listening and empathic support of patients experiencing emotional distress.</li> <li>• Describe the concepts of risk assessment of patients with behavioral health symptoms</li> <li>• Recognize different clinical presentations of suicidal ideation and promptly engage physician preceptor in additional evaluation.</li> <li>• Demonstrate knowledge of how to use 988 hotline and engage the local emergency psychiatry system.</li> <li>• Appreciate behaviors related to countertransference and skills in patient de-escalation.</li> </ul>
<p><b>Housing Insecurity and the LGBTQ+ Community</b></p>	<ul style="list-style-type: none"> <li>• Describe the social determinants of health impacting the LGBTQ+ community</li> <li>• List contributors to disproportionate housing insecurity impacting the LGBTQ+ community</li> <li>• Demonstrate awareness of the unique social needs of LGBTQ+ elders</li> <li>• Outline potential solutions addressing housing insecurity for LGBTQ+ individuals</li> </ul>
<p><b>Introduction to the Health Resume</b></p>	<ul style="list-style-type: none"> <li>• Understand the role of a health resume in improving patient-provider communication</li> <li>• Identify relevant information to be included in a health resume for patients experiencing homelessness or patients with substance use disorders</li> <li>• Practice having conversations with the goal of composing a clear and concise health resume with a patient</li> </ul>

**Table 3: Preliminary Results from 2023-2024**

<b>Town Hall Topic</b>	<b>Sample Size</b>	<b>Paired Question</b>	<b>P value</b>
Homelessness and Adverse Childhood Experiences (ACEs)	61	Pair 1	<0.001
		Pair 2	<0.001
		Pair 3	<0.001
		Pair 4	<0.001
Suicidal Ideation, Homicidal Ideation, and De-Escalation	41	Pair 1	<0.001
		Pair 2	<0.001
		Pair 3	<0.001
		Pair 4	<0.001
Ethics of Student-Run Free Clinics (SRFCs)	35	Pair 1	<0.001
		Pair 2	<0.001
		Pair 3	<0.001
		Pair 4	<0.001
Introduction to the Health Resume	44	Pair 1	<0.001
		Pair 2	<0.001
		Pair 3	<0.001
JeffDET - Medical Debt Elimination Taskforce	59	Pair 1	<0.001
		Pair 2	<0.001
		Pair 3	<0.001
		Pair 4	<0.001
Housing Insecurity and the LGBTQ+ Community	41	Pair 1	<0.001
		Pair 2	<0.001
		Pair 3	<0.001
		Pair 4	<0.001
Racism and the War on Drugs	35	Pair 1	<0.001
		Pair 2	<0.001
		Pair 3	<0.001
		Pair 4	<0.001
Wound Care for Patients who use Intravenous Xylazine	46	Pair 1	<0.001
		Pair 2	<0.001
		Pair 3	<0.001
		Pair 4	<0.001

**Figure 2: ACEs Town Hall Survey Knowledge**



\*\*\*indicates statistical significance



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