

## PROGRAM NARRATIVE: FINAL REPORT

PROJECT IDENTIFICATION: 5 R40MC08719-02-00

Project Title: Leveraging Technology as a Clinician Extender to Screen Culturally Diverse Young Women for Chlamydia During Acute Care: Program Summary

Grant Number: R40MC08719

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### **1. PURPOSE OF PROJECT AND RELATIONSHIP TO SSA TITLE V MATERNAL AND CHILD HEALTH (MCH) PROGRAMS:**

**1.1 Overview:** *Chlamydia trachomatis* (CT) remains epidemic among sexually active young adult females. Despite recommendations for annual screening of sexually active women 25 years and younger, few are being screened. Many young adult women do not regularly attend primary care clinics where preventive care such as CT screening should be done. Access to care is inadequate, with clients having inappropriately long wait times to see primary care physician for acute illnesses, and emergency rooms facing increasing challenges to care for more people

needing non-emergent care. Clinicians are increasingly stressed by the demands of practice, resulting in decreased job satisfaction and reductions in the numbers of new physicians seeking to enter primary care specialties. Quality of care is also suffering under these pressures. Clients receiving care at the “fringes” of primary care (low-income, non-English speaking clients, young uninsured adults) already receive less and lower quality care than majority, commercially insured populations, and are the most at risk of suffering negative consequences including a disproportionate disease burden of untreated CT infections. Young adult females and those from African American and Hispanic racial/ethnic backgrounds have more CT infections than males and their Caucasian female counterparts. In order to address the CT epidemic, it is necessary to interface with young adults where they choose to utilize care, often in acute care settings, and devise new paradigms of health delivery that address the unique needs and risks of this ethnically diverse population while living within reasonable constraints of the current health care system. Health care clinicians lack time and comfort to address CT screening especially during the context of an acute care visit.

Ultimately, this project promotes the healthy development of MCH populations SRI #IV. According to Healthy People 2010, “PID is among the most serious threats to female reproductive capability.” CT infections are among the leading causes of PID.<sup>123</sup> Many women with acute PID experience serious long-term sequelae, most often an ectopic pregnancy or tubal factor infertility.<sup>6, 20, 29</sup> Early detection coupled with appropriate treatment of CT infections in adolescents and young adult women can eliminate widespread infection and prevent major reproductive morbidity and even death.<sup>7, 19, 21</sup> Broad based screening programs for CT infections have been shown to successfully decrease the CT rate and PID in young women by 60%<sup>19</sup>, lower hospitalization rates<sup>124</sup> and to be cost-effective.<sup>8, 9, 25</sup> As such, this proposal supports current

recommendations of Healthy People 2010, the US Preventive Services Task Force and other professional organizations to screen all sexually active young adult females annually for CT to address this important public health problem.

## **1.2 Enhancing the MCHB Mission: Special Focus on the Block Grant Program especially**

**SPRANS initiatives:** Our long range goal is to increase the reproductive health of adolescent and young adult women by empowering them to take preventive health measures with CT screening as a model preventive approach. We are developing and evaluating cutting edge technology (ethically and culturally sensitive and language specific health modules) that can increase the health literacy of our target women especially those in our communities with known disparities in health such as the economically challenged, adolescent and young adult women, women of color and those who are not primary English speakers. In this study we have implemented them in one of the most difficult and complex health settings – acute care (including both community and university-based emergency and urgent care departments). We are poised to have a major MCHB impact for a number of reasons. First, our project and investigators are based at the University of California, San Francisco, Department of Pediatrics in the Division of Adolescent Health which is home to both the LEAH training program and the Public Policy and Education Center for Early Childhood Health. Both Drs. Shafer and Tebb, the Co-Principal Investigators for this study, are faculty who teach, conduct research and train interdisciplinary students in conducting and evaluating community-based health promotion projects that are in line with MCHB’s overall goals and commitment to improving the health and well being of our target populations. Reflecting on MCHB’s Title V Pyramid, our project involves “Direct Service” through its focus on increasing screening for young women at risk for

CT in community based urgent and emergent care clinics. It also involves “outreach” as we are working with the project at a large general city hospital population and are already partnering with a large consortium of community based clinics in California to translate our CT module into practice in their respective settings. Next, we are involving “Infrastructure” on several fronts to ensure institutionalization of our product and system for CT screening. With some supplemental support from the California Family Health Council, the CT screening module was re-programmed to a mobile-health application (app) format as well as a web-based version so it could be more broadly disseminated and utilized by community-based health settings. The prototype has been completed and we are currently integrating clinic customization features (e.g. clinic specific welcome screen, customized testing instructions, etc.) and are incorporating text-to-voice recognition software so that edits to text do not have to go through a new voice-recording process.

Dissemination sites that are interested in this mobile health app include: Phreesia, the nation’s leading patient-registration electronic check-in system. Phreesia represents an excellent partner because of their ability to capitalize on the electronic medical record infrastructure that they have developed and are now working to embed our screening module into the electronic medical record system in a number of Planned Parenthood sites in California, Nevada and Arizona. In addition, this is clearly an example of “applied research” a goal of the Infrastructure component of MCHB’s mission. In addition though the institutionalization of our product into a medical system, evaluation of standards of practice, i.e., annual CT screening for all young women 15-25 years of age, can be easily monitored and then course corrections can be more easily instituted to meet the 100% goal of annual CT screening. We have partnered with University of Pittsburg (Dr. Eleanor Schwarz) who has launched a randomized control trial in

which adult women presenting to urgent care clinics are consented to participate in a research study and are randomized to either her oral contraception module or our CT module. We have shared our product with the California Department of Public Health and anticipate partnering with them to further facilitate CT screening in their community-based outreach efforts. Finally we are prepared to share our findings of our work with MCHB's large community of policy makers, service providers, training programs among others and the larger scientific and service and policy communities to help improve the health and well being of our young populations using new technologies to reach underserved health disparate populations.

## **2. GOALS AND OBJECTIVES:**

The primary goal of this study was to take advantage of a “missed opportunity” for screening at-risk young adult women for CT at a key point of contact with the health care system for this age group – acute care. The objective of this study was to develop an innovative approach to overcome CT screening barriers in acute care settings by utilizing interactive, bilingual computer technology. In order to promote CT screening in the acute care setting, the computer module would need to serve as a “clinician extender” by accomplishing as many steps in the CT screening process such as: assess client risk, provide individually-tailored, culturally-sensitive reproductive and CT health education, help clients make informed medical decisions about CT screening, and provide print-outs to prompt recommended action by the client and clinicians/hospital staff.

This study was funded under the MCHB Strategic Issue #4: to promote the healthy development of MCH populations. It also addresses the Healthy People 2010 objective 25-16,

“to increase the proportion of sexually active females aged 25 years and under who are screened annually for genital CT infections.”<sup>1</sup> The specific aims of this study are as follows:

Aim 1: To develop an effective interactive computer kiosk intervention to educate and prompt young women and their health care professionals to screen women at risk for CT that will be acceptable to both English and Spanish speaking young women, and to health care professionals who care for them in acute care settings.

Aim 2: To develop an effective interactive bilingual (English-Spanish) computer kiosk module that significantly increases CT screening among at-risk English and Spanish-speaking women (18-25 yo) attending acute care clinics for non-reproductive problems.

This type of intervention to improve CT screening addresses a national public health issue for MCHB priority populations. It is particularly significant in that it is potentially translatable to a wide variety of health delivery settings as it is not dependent on staff motivation and skill to assess sexual history in the urgent care setting. It is a cost-effective intervention format because interactive computer technology can be used to accomplish many of the steps necessary for CT screening in parallel while maximizing the time the clinician has with their client. The integration of computer technology applied to a common sensitive problem, as outlined in this proposed research study, may prove to be a powerful tool in improving health care delivery to an increasingly diverse population of young adults especially those most vulnerable for health risks in a world of decreasing resources.

### 3. METHODOLOGY

To accomplish our goals, this study was conducted in two phases. **In Phase 1**, we conducted formative research (focus groups & individual interviews) with the English and Spanish speaking clients and with other key stakeholders (group meetings and surveys) including clinicians and staff serving these women. The focus groups were facilitated by a female member of our research team, experienced in conducting focus groups around sexual health issues as well as issues specific to kiosk development. The facilitator welcomed participants, established rapport, reviewed human use consent materials, asked questions of interest to the study and participants and encouraged all participants to share their ideas. Spanish focus groups will be conducted in Spanish. An independent observer (trained research assistant) served as a time keeper and took notes on verbal and nonverbal cues, body language and group dynamics. This formative work was the basis of the module development. The kiosk module was developed using Macromedia Authorware software. It informed both the content of the messaging as well as the aesthetic qualities of the module. Specifically, we conducted group and individual interviews with a heterogenous sample of 21 young women (18-25 years of age) recruited from three settings that serve low-income, racially/ethnically diverse populations in San Francisco, California. Approximately half of the interviews were conducted with Spanish-speakers, primarily young women who were 1<sup>st</sup> generation Latina immigrants, with very limited contact and access to primary care health services. The interviews lasted approximately one hour. Information gathered was then used to develop the alpha module which was tested with the target audience of young multiethnic women aged 18-25 years of age who were attending acute care clinics. We also assessed acceptability from health care clinicians, and clinic staff. Pilot testing with the target audience occurred through an interative process of trial, revision, Spanish- translation,

trial, and revision. These interviews and iterative testing process had several implications on the module development. The intervention would need to be free-standing, designed with an audiovisual, touchscreen format to allow the messages and information to overcome potential language and literacy barriers common to written materials and many clinicians. We found a wide-range of knowledge about sexually transmitted infections and CT in particular, but despite this range in knowledge, there was a need to provide some basic facts about CT for all users. In addition, we developed an interactive and tailored educational approach to accommodate differences in the clients' knowledge base and "readiness" to be screened. We developed three different video segments, based loosely on the stages of change model<sup>191</sup>, to meet different educational needs of the users. The five stages of change that have been conceptualized for changing a variety of health behaviors are: precontemplation, contemplation, preparation, action, and maintenance. For our intervention, a young woman could choose to view the video that they most relate to: 1) Precontemplation - a young women who has no intention to change behavior in the foreseeable future (does not know about CT and/or is unaware of their risk; 2) Contemplation is the stage in which people are aware that a problem exists and are seriously thinking about overcoming it but have not yet made a commitment to take action. This video would be for a young women who had some information, was interested in getting tested, but wanted to learn more; and 3) Preparation - Individuals in this stage are intending to take action but have unsuccessfully taken action in the past year. This would be for a young women who acknowledges her risk, has decided to get tested, but has not yet done so. To meet the needs of clients who do not want or need the educational messages or are time constrained, we offered an option to skip educational messages and proceed directly to CT testing. The goal of each of these three stages was to "fast-track" at-risk women to take action (the 4<sup>th</sup> stage) by requesting a test

on the day of their acute care visit. The fifth stage, maintenance was beyond the scope of this particular intervention; however, women were informed about the importance of annual CT screening and more frequently if they change partners or test positive for CT.

Per input from intended users, we developed three video segments that corresponded to the stages of change previously discussed followed by individually tailored educational messages that correspond with each of the video segments. The messages are tailored to the video that the individual's self-selected based on their readiness to be tested. In addition, the iterative testing of the alpha modules resulted in a shortened module duration and a simplification of the information that was presented (to accommodate less educated and lower comprehension). We also changed the narration to reflect a younger voice, included a clinician to validate the recommendation, and used culturally diversified images of women and health professionals so that the module appearance was more representative of diverse racial/ethnic groups. Once the module was finalized, we began implementation at the participating clinical sites.

**In Phase 2**, we customized the module to meet the needs of individual clinics (e.g., customized welcome/greeting; CT testing instructions; and local resources). The result was the development of a Spanish-English bilingual, interactive and culturally sensitive computer kiosk program to serve as a "clinician extender" to educate clients about CT, assesses clients risk for CT and CT screening eligibility, and facilitates client self-care. This kiosk system also prompts the client and medical staff if there is a need to obtain a urine sample for CT testing. We implemented the CT screening module at the following settings: (1) Screening and Acute Care Setting (UCSF); (2) Highland Hospital Emergency Department (a community-based hospital in inner-city Oakland, CA); (3) San Francisco General Hospital Acute Care Department (an inner-

city community-based hospital in San Francisco). The data presented in this final report are based on implementation efforts at these three locations. In addition, we have conducted trainings and have begun dissemination and implementation at additional locations (that are described in Section 7, dissemination activities, of this report). This study received approval from the Committee on Human Research at the University of California, San Francisco and at all participating clinic site institutions.

#### 4. EVALUATION:

We evaluated the effectiveness of the computer kiosk module at three university and community-based acute care clinics in Northern California. Participants were a convenience sample of young women 18-24 years of age who presented to acute care. *Procedures:* In-service seminars were held with all clinicians, nurses and support staff prior to the start of the intervention. Attendees received a brief overview of the goals of the project, a demonstration of how the kiosk modules work, and their role in the CT screening and research process. A physician and nurse at each participating clinic were identified as local “champions” for the project. Clinic staff and research assistants referred eligible women to the computer module which was located in a semi-private or private area adjacent to the triage and/or registration desk. *Eligibility criteria:* All women between the ages of 18 –25 year old being seen for an urgent care visit were eligible to participate and should be referred to the kiosk after being seen by the urgent care triage nurse. *Exclusion criteria:* Clients with moderate and major trauma or illness requiring immediate medical intervention, as assessed by triage nurse as part of routine protocol, will be excluded from participation. In addition, participation was restricted to English and Spanish speakers. Younger adolescents < 18 years are excluded in this study as they are seen in

completely distinct pediatric departments at the participating clinics. Participants will be informed that participation is voluntary and that if they choose not to participate there will be no impact on their clinical care. Consent was obtained on the computer and women who agreed to participate continued with the module. Clients who agree to participate were then be asked a series of questions including: basic demographic information (e.g., age, race/ethnicity, gender, use of health care) and a few basic questions related to CT screening and risk including their sexual history and sexual risk behaviors. Once they completed the questions, they were directed to select a video of their choice and based on their readiness to be tested for CT. Clients who had sexual intercourse in the past year and were not tested for CT or tested positive for CT were informed that they should and could be tested at their visit. The computer informed the client about CT and CT risk, provided instructions and a print-out on how to give a urine sample, how to obtain test results and what to do in the event the test is positive.

The kiosk was a free-standing, ATM-style unit, designed with an audiovisual, touchscreen format to allow the messages and information to overcome potential language and literacy barriers. The module took 5-10 minutes to complete and upon completion of the module participants were asked to complete a brief computer- delivered survey to assess their acceptability of this computer module. On a 4pt Likert type rating scale (strongly agree, agree, disagree, strongly disagree) participants were asked to select the extent to which they agreed or disagreed with five statements about the module (easy to use, trust the information from it, learned something new, were comfortable using it and would recommend it to friends). Standard information requested from all clients will include client age, gender, race/ethnicity, whether or not they had a primary care provider, language spoken, education; insurance status; sexual risk, CT history, primary reason for the visit, whether or not they requested a CT test, etc. Kiosk users

were validated with clinic records to verify eligibility. We also extracted laboratory data to identify which clients who used the kiosk received a CT test and testing results. Data was reported back to the investigator as anonymous data with no client identifiers.

## **5. RESULTS/OUTCOMES (POSITIVE & NEGATIVE):**

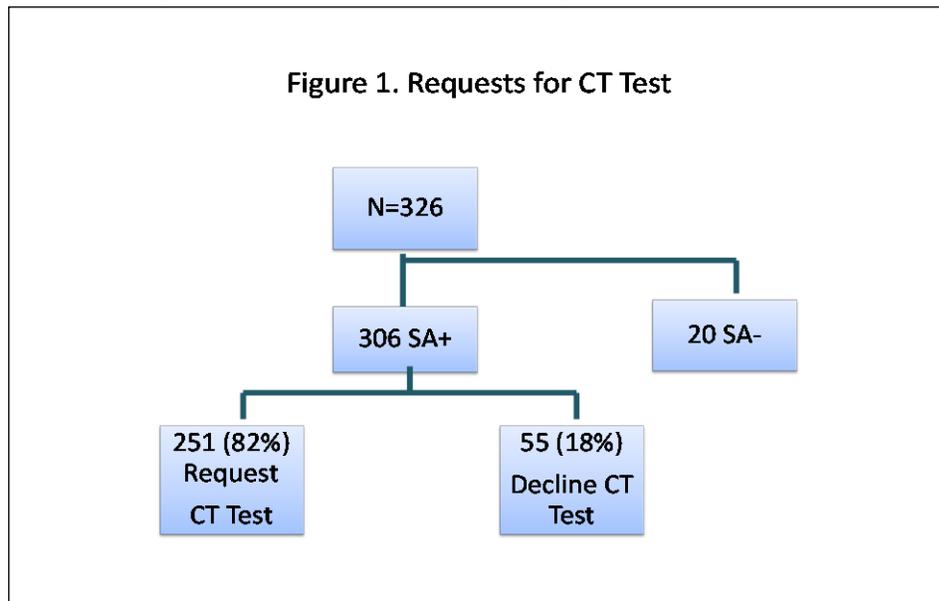
**Phase 1 Findings:** We conducted focus groups and interviews with 21 young adult women age 18-25 years. Approximately half of the interviews were conducted with Spanish-speakers, primarily young women who were 1<sup>st</sup> generation Latina immigrants, with very limited contact and access to primary care health services. The remaining participants were Caucasian, African American, Native American and multi-ethnic. We found that there was a wide range of wide range of STI knowledge and identified several barriers to getting tested for CT including but not limited to: fear/embarrassment of testing positive for CT, the cost of the test, never having had a provider talk with them about STIs and the need for CT testing. In addition to barriers these women also were asked to report factors that would motivate them to be tested. This included: the need to protect their own health; prevent transmission to their partner, and to protect their future fertility and health of their newborn. Participants also gave recommendations on how the information should be delivered. They suggested a mix of messages coming from clinicians/doctors to validate/legitimize the information as well as young women “models” that they can relate to. The information should include some basic facts as well as short video clips/ “Novellas” that tell the story of young women’s experiences.

**Phase 2 Findings:** Approximately 80% of women will agree to use the module upon referral. A total of 346 women (18-25 years of age) consented to use the computer module. Of these, 326

completed the module. The mean age of participants was 22.3 years. It was a diverse sample with the following racially/ethnic breakdowns: Latino = 84, Asian=19, African American=98; Caucasian=48, Native American=7, Multi-ethnic/other =60, did not report=30. In addition, 35 of the participants selected Spanish as the language to complete the module. There was a wide range of educational backgrounds with 129 participants who attended some college, 118 attended (11-13 years of schooling), 34 attended (0-10 years of school). Though we did not ask about income, 102 participants reported not having any health insurance.

Of the 326 women who completed the module, 306 were eligible for CT testing (sexually active and not tested in the past 12 months). Of the 306 eligible to be tested, 82% (n=251)

requested a test (see 1). Women the following reasons for refusing a on the day of visit: tested

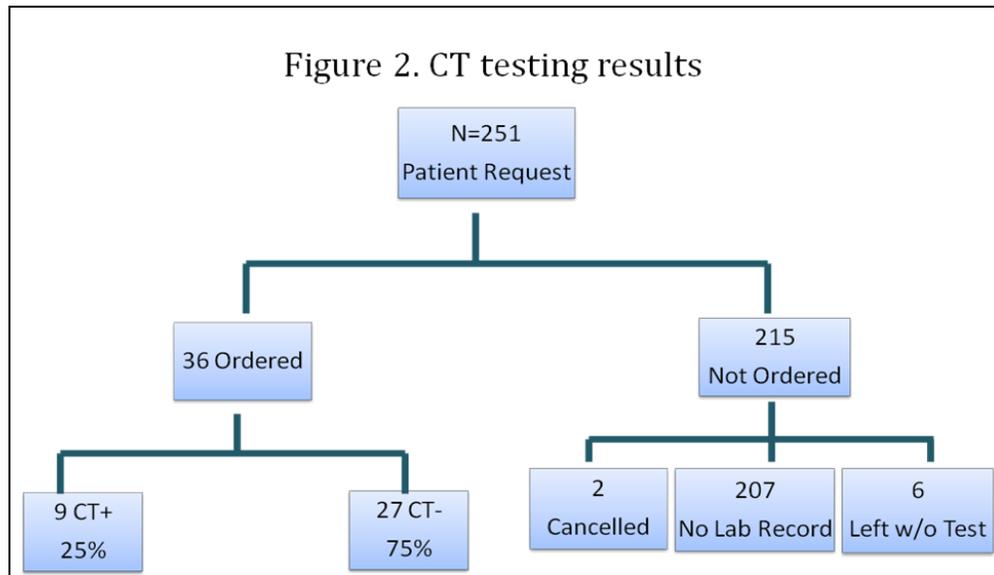


CT figure gave test their

recently (n=16, 29%); not enough time (n=15, 27%); did not feel they were at risk for CT (n=15, 27%), concerned about their privacy (n=1, 2%); would like more information (n=1, 2%) and other reasons not specified (n=1, 2%).

Of the 251 women who requested to be tested, laboratory records showed that only 36 tests (14.3%) were ordered by clinicians and one in four were positive (see figure 2). There were no

significant differences between women who were tested for CT compared to those who were not tested on any of the demographic variables that we were able to measure.



There were significant barriers integrating the kiosk intervention into the routine clinical practice of acute care settings. Clinicians and staff reported that the primary role of acute care practice is to diagnose and treat primary complaints and not provide preventive care services, even one such a simple as screening for CT. This is evident in the fact that we observed clinicians cancelling orders for CT tests when the client presented no symptoms. We intervened when this problem was identified during routine clinic observation, however, laboratory records do not show canceled orders, and so it is likely that this problem is under-reported in our data. In addition, receptionists and triage nurses found it difficult to routinely refer eligible patients to the kiosk despite reminders, champions and a variety of incentives that we introduced. Lastly, we observed that in one of our acute care sites, a new systems intervention to minimize wait times was

introduced which reduced the opportunity to engage patients and have them use the kiosk while they waited to see a clinician.

Participants of the kiosk module reported high acceptability ratings on all evaluation categories (see table 1). Specifically greater than 93% of participants reported either agreeing or strongly agreeing with statements that the computer was easy to use, trusted the information provided; were comfortable using it; and would recommend it to friends. A smaller but still large proportion (nearly 80%) reported agreeing or strongly agreeing with the statement that they learned something new. There were no significant differences in kiosk acceptability ratings by race/ethnicity or any of the other background characteristics we measured.

**Table 1: Chlamydia Screening Kiosk Acceptability**

	Agree/strongly agree N (column % )	Disagree/strongly disagree N (column % )
Easy to use	263 (97.4%)	7 (2.6%)
Trust information	261 (97.0%)	8 (3.0%)
Learned something new	213 (79.5%)	55 (20.5%)
Comfortable using	253 (95.1%)	13 (4.9%)
Recommend to friends	248 (93.2%)	18 (6.8%)

6. **PUBLICATIONS/PRODUCTS:** There are a variety of products that have resulted from this project to date including: peer reviewed published abstracts, manuscripts that have been submitted for peer review or that are in preparation; the computer kiosk module itself which is in the process of being licensed so that it can be distributed and utilized by a much wider audience; and a training presentation to guide future dissemination and implementation efforts. These

products are outlined below and the copy of the products can be found in the corresponding appendices.

### **Published Abstracts and Manuscripts**

2010 Tebb KP, Gonzales R, Rosenthal E, Shafer MA. Acceptability and Feasibility of an Interactive Computer Assisted Intervention to Increase Screening During Acute Care Visits. *Journal of Adolescent Health*; 46(2):S79

2010 [Tebb K](#), Gonzales R, Hernandez L, Frazee B, Labuguen R, [Khanjari-Navab B](#), Shafer MA. Computer Technology to Activate Patients to Request Chlamydia Screening in Acute Care Settings. *Journal of Adolescent Health* 48(2):S58

2011 Tebb K, Shafer M, Chang F, Rosenthal E, Gonzales R. Acceptability and Opportunity for Chlamydia Screening in Acute Care. *The Open Public Health Journal*. May; 4: 6-9.

2011 EB Schwarz, Parisi SM, Tebb K, Grossman D, Mehrotra A, Gonzales R. Computer-assisted provision of hormonal contraception in urgent care settings. *Contraception*. 84(3):323.

### **In Preparation Peer Reviewed Articles**

1. What do Young Adult Women Want? Qualitative Findings On The Development of a computer-based Intervention to Increase Chlamydia Screening During Urgent Care.
2. Implementing Computer-Based Interventions to Facilitate Chlamydia Screening In Acute Care Settings: Qualitative Findings
3. Computer Kiosk Preventive Services in Emergency Care Settings: A Process Evaluation

## **Computer Module Screen Shots (See Appendix 1)**

Appendix 1.1. Chlamydia Screening Module

Appendix 1.2. Phressia/Planned Parenthood Module

Appendix 1.3. CFHC Module – IPad Health App

## **Clinician Trainings (See Appendix 2)**

Appendix 2 Clinician Training (SFGH example)

## **DISSEMINATION/UTILIZATION OF RESULTS:**

The following is a list of dissemination activities:

- Kaiser Permanente Northern California
- Society for Adolescent Health and Medicine
- California State Department of Public Health
- California Family Health Council
- Planned Parenthood
- University of Pittsburg
- Peer Review Publications

We have already begun and will continue to disseminate our research findings through traditional peer-reviewed journal publications as well as presentations at local, state, regional and national conferences. We will also leverage our existing network of adolescent health partnerships at the local, state and national levels to promote the dissemination of this intervention including: Planned Parenthood, the CA State and National CT Coalition, MCHB (Nationally, CA and in Solano County); Centers for Disease Control and Prevention; and CA

State and local Departments of Public Health. In addition, we will support access to the computer module and training resources through on-line portals to major health organizations who support adolescent reproductive health services – the current module is programmed in Authorware which is not web-based compatible. With recent funding from the California Family Health Council, we will be able to convert the module to a web-based format. For example, Dr. Shafer is past-president of the Society for Adolescent Health Medicine (SAHM), which is in the process of developing a Continuing Medical Education Module to support access to reproductive health services. Dr. Tebb is member of the SAHM reproductive health subcommittee. Dr. Gonzales is the liaison with National Committee on Quality Assurance (NCQA) who provides quarterly discussion forums; newsletters, etc., to support HEDIS implementation issues including the annual CT screening quality performance measure. We are also able to conduct educational and outreach efforts through the American Academy of Pediatrics (AAP) and the Kaiser Permanente (KP) network with the guidance of our long term research partner, Dr. Charles Wibbelsman of (KP).

We have conducted substantial additional dissemination activities that leverage the initial MCHB/HRAS investment. This includes a formal partnership with Phreesia and Planned Parenthood in California and Nevada – a new clinical venue in different regions with different patient populations. In addition, we have given several presentations to further disseminate our project and study findings. Detailed descriptions of these activities follow:

- **Phreesia-Planned Parenthood Implementation.** As mentioned previously, one of the main barriers was having patients routed directly to the computer kiosk while they waited to see a clinician. To address this barrier, we have developed a partnership with Phreesia – a company

that has developed a computerized patient check-in system. Clinicians and clinics using this system require all patients to register via the Phreesia system. With this system infrastructure in place, they have agreed to integrate our chlamydia screening module into this system so that patients aged 18-25 will automatically be routed to the module and invited to participate once they have completed their computerized check-in process. Phreesia is a leader in patient check-in, with a network of thousands of clinicians nationwide. The company is headquartered in New York with operational support across the United States and in Ontario, Canada. Phreesia makes it easy for clinicians to collect critical patient information, automatically verify eligibility and benefits, and collect patient payments at the point-of-care. In brief, the patient arrives for the visit and begins an electronic intake interview with Phreesia, Phreesia automatically verifies insurance eligibility and benefits based in patient-entered information. Patient is then prompted for any co-pay and balance and it has a feature that allows the patient to swipe their credit or debit card. The patient information is then stored securely on the system's portal.

They have agreed to pilot test the Phreesia system with the CT screening module integrated at two Planned Parenthood locations that currently have very poor CT screening rates: Family First in California and Fifth in Nevada. Phreesia has already created our colleague's urinary tract module on their platform, and after Technology Transfer and Licensing Agreements are reached (in process), they will proceed with Chlamydia module implementation. This is anticipated to start in January 2011. Phreesia has also expressed a great deal of interest in expanding to other regions across the nation. See Appendix 3.2 for the screen shots that have been developed for this module. The screen shots are simpler in nature and will not include the video segments because the Phreesia system does not allow for this capability. This change will also allow us to examine the extent to which these changes add value to the visit and improve

performance on the CT screening rates in an efficient manner. Given the potential for Phreesia computerized check-in systems to provide a convenient platform for this module, plus the client support for implementing the system in each clinic, we have chosen to use this system for module delivery instead of the stand alone kiosks that we use in our acute care study.

In addition to the above activities, we have delivered several formal presentations at regional, state and national/international venues such as the Society for Adolescent Health and Medicine and the International Society for Sexually Transmitted Disease Research.

### **Formal Presentations**

- “The Journey to Improve Chlamydial Screening in Teens”. California State Department of Public Health. Richmond, CA. 8/08
- “Delivering Preventive Services in Urgent Care: Acceptability, Feasibility & Quality Improvement Outcomes.” Department of Pediatrics, Division of Adolescent Medicine, Research Seminar 9/08
- “Delivering Preventive Services in Urgent Care: Using IT to Improve Access and Quality” California Department of Public Health. Richmond, CA 1/09
- “Quality Improvement Efforts in Delivering Preventive Services: Methods and Outcomes”. Quality Improvement Special Interest Group, Society for Adolescent Medicine, Annual Conference. Los Angeles, CA 3/09 “Prevention In Urgent Care: Using IT to Improve Access & Quality”. Kaiser Permanente Adolescent Medicine Specialists, Northern California. Walnut Creek, CA. 4/09 “Prevention In Urgent Care: Using IT to Improve Access & Quality”. California Health Care Foundation, Practice Innovations Roundtable. Oakland, CA. 10/09

- This study was presented in 2011 at the Society for Adolescent Health and Medicine conference in Seattle, Washington which has both a national and international audiences. The focus of the 2011 conference is on preventive health services.

## 7. FUTURE PLANS/FOLLOWUP:

**7.1** California Health Care Foundation (CFHC) Supported the UCSF Practice Innovations Network. With core funding from the California Health Care Foundation, the CHCF-UCSF Practice Innovations Network (PIN) was created to support the development, implementation and evaluation of computer-assisted health care solutions. The goal of this network is to revolutionize how we promote healthy behaviors and how we deliver health care services in acute care settings—particularly those serving resource-limited and diverse patient populations. The Practice Innovations Network is directed by Ralph Gonzales, MD, MSPH, Professor of Medicine; Epidemiology and Biostatistics at UCSF. Co-directors include Mary Ann Shafer, MD, Professor of Pediatrics, Kathleen Tebb, PhD, Assistant Professor of Pediatrics, and John Stein, MD, Associate Professor of Emergency Medicine. The current practices in the network are UCSF Moffitt-Long emergency department, UCSF Screening and Acute Care Clinic, UCSF-San Francisco General Hospital emergency department, UCSF-Fresno emergency department, Alameda County (Highland) emergency department and Planned Parenthood (San Francisco clinic). Each practice has at least 1 computer kiosk on site, and some also have wireless touch-screen tablets and laptops for use in the various clinical trials when relevant. The PIN provides staff support as well as stipends for practice implementation sites. In addition, key consultants supported as part of the network include a user interface expert from Kaiser Permanente who provides advice on form factor and placement of kiosks, a software programmer, a Spanish-

language consultant for translations and cultural/health literacy guidance and a data analyst. In 2010 the PIN identified a partner to help conduct a business case analysis, outlining potential paths to adoption of computer-assisted health care solutions beyond the network sites. This will allow us to identify factors that are necessary to support the adoptions of such computer-based applications.

**7.2 California Family Health Council and UCSF IT** -- (\$10,000) to support re-programming efforts to make this a web-based module so that it can be more readily disseminated and implemented across their clinical network. Specifically, the program will be revised and UCSF School of Medicine's Dean's Office Information Services Unit will port the existing Chlamydia Screening tool from a kiosk to iOS and the web. The alpha version will be developed by December 30, 2010. This is an exciting venture as they will develop the platform to enable the chlamydia screening module so that it is compatible for mobile technologies including: IPAD, Tablet PCs; Mobile Phones (e.g. J2ME, I-Phone, ANDROID). They will also aim to allow for certain screenshots to be readily customized for individual clinics (e.g. customized welcome page with clinic name/picture; cost of test; sample collection instructions). To more readily integrate customizations, we will work to incorporate text-to-audio format for voice-over that corresponds with screen shots. They will also develop secure/confidential data collection, transfer and storage system so that we can capture clinic-specific data on UCSF server.

**7.3. Mount Zion Fund** (\$30,000). This funding will support the expansion of the module to be applicable for younger adolescents (15-17 years old) adolescent girls. The title of this study is: "Health-E Teen Girls: Using Interactive Technology to Promote Reproductive Health". This 1

year study aims to address high rates of CT and pregnancy among teens with African American and Hispanic females having the highest rates of CT and unplanned pregnancy. Few teenagers utilize preventive services where reproductive health care is traditionally offered. When teens do access such services, they are rarely offered both contraceptive and STI/HIV services. This study will modify our prior program developed for young adult women so that it is applicable to teenagers. This newer “teen-friendly” version will provide additional customized primary, secondary and tertiary preventive educational messages based on an individual’s health risk assessment and will facilitate CT screening and contraceptive services for at-risk, ethnically diverse teens between 15-18 years old – the population not covered in our original MCHB/HRSA grant. Similar to our prior approach, we will begin with formative research (focus groups and interviews) to inform module development. Once developed it will be implemented and evaluated at one high school with an on-site school-based health clinic. Teen girls will be randomized to the reproductive health module or a control module (nutrition/fitness education) to gather preliminary data on the effectiveness of improving CT screening and delivering contraceptive services.

**7.4 Additional Federal Grant Proposals:** The goal of the Mt Zion pilot study in conjunction with findings from our current MCHB/HRSA study will provide the structure for a for funding to evaluate the effectiveness of a larger proposal aimed at addressing primary reproductive health needs for both the adolescent and young adult populations, especially hard to reach, economically disadvantaged and racially/ethnically diverse populations in a variety of clinic and community-based settings.

8. TYPE/AMOUNT OF SUPPORT AND RESOURCES NEEDED TO REPLICATE: With the development of the mobile health app, minimal programming support would be needed to maintain software updates. Staff support to facilitate the translation and implementation in other clinical settings is necessary to replicate this study. Depending on the size and scope of the replication study, support is roughly estimated at 20% principal investigator support, 20% administrative support, 10% programming support, travel, hardware as needed and other project related supplies.

#### ANNOTATION

Chlamydia trachomatis (CT) continues to be a major public health problem especially among sexually active adolescent and young adult females. Annual CT screening is recommended; yet, screening rates remain unacceptably low. The goal of this study was to develop and evaluate an interactive individually tailored computer kiosk module to educate young women about chlamydia and facilitate screening in acute care settings. We conducted focus groups and individual interviews to inform the development of the module and implemented the module in three acute care settings. A total of 326 women between 18-25 years of age (mean age 21) completed the module, 306 were identified as sexually active and in need of a CT test, of these, 82% requested to be tested. Concerns about cost of the test were the primary reason women declined to be tested on the day of their visit (followed by not having enough time and could not urinate). Fifty participants were Latina women in need of a test with approximately half requesting to be tested the day of their visit (there were no significant differences in willingness to participate by race/ethnicity). Client acceptability data show that the CT module is highly

acceptable among a diverse population including low-income, Spanish-speakers, African Americans, and among those without a high school diploma or equivalency. Among the racially/ethnically diverse participants who completed the module, 94% or more agreed that the computer module was easy to use, they trusted the information it provided, would recommend it to friends, were comfortable using it during urgent care and learned something new from it. We have developed chlamydia screening training for clinicians and have a several mobile health applications to facilitate chlamydia screening (kiosk-based, Ipad and web-based formats).

KEY WORDS Key words are the terms under which your project will be listed in the subject index of the Abstracts Book. Select the most significant terms which describe the project, including health professions involved, population groups served and major issues addressed by the project.

Sexually transmitted diseases

Computer assisted instruction

Access to health care

Hispanic Americans

Infertility

Young women

PROJECT IDENTIFICATION: 5 R40MC08719-02-00

Project Title: Leveraging Technology as a Clinician Extender to Screen Culturally Diverse

Young Women for Chlamydia During Acute Care: Program Summary

Grant Number: R40MC08719

Project Director: Mary-Ann Shafer, MD

Grantee Organization: University of California, San Francisco

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Phone Number: 415-476-2184

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Home Page:

Project Period: 9/1/2007-8/31/2011

Total Amount of Grant Awarded: \$859,036

**ABSTRACT**

- 1. PURPOSE OF PROJECT:** The goal of this study was to develop and evaluate an interactive (English-Spanish) computer kiosk intervention to educate and prompt young women and their health care professionals to screen women at risk for CT in acute care settings.
- 2. GOALS AND OBJECTIVES:** The primary goal of this study was to take advantage of a “missed opportunity” for screening at-risk young adult women for CT at a key point of contact with the health care system for this age group – acute care. The objective of this study was to develop an interactive, bilingual computer health module to educate young women about CT and facilitate CT screening in acute care settings. In order to promote

CT screening in the acute care setting, the computer module would need to serve as a “clinician extender” by accomplishing as many steps in the CT screening process such as: assess client risk, provide individually-tailored, culturally-sensitive reproductive and CT health education, help clients make informed medical decisions about CT screening, and provide print-outs to prompt recommended action by the client and clinicians/hospital staff.

**3. METHODOLOGY:** This was a study conducted in two phases. Phase 1 began with conducting formative research focus groups and interviews of young adult women to develop the content and format of the computer module. Once the module was developed, we began Phase 2. Phase 2 included the programming of a Spanish-English bilingual, interactive and culturally sensitive computer kiosk program to serve as a “clinician extender” to educate clients about CT, assesses clients risk for CT and CT screening eligibility. Once the client completed the educational portion of the module, they then were asked a series of satisfaction questions. This kiosk system then prompts the client and medical staff if there is a need to obtain a urine sample for CT testing. Data was gathered directly on the kiosk and clinic records were examined to determine whether or not a chlamydia test was ordered. We implemented the CT screening module at the following settings: (1) Screening and Acute Care Setting (UCSF); (2) Highland Hospital Emergency Department (a community-based hospital in inner-city Oakland, CA); (3) San Francisco General Hospital Acute Care Department (an inner-city community-based hospital in San Francisco).

**4. EVALUATION:** The final module was implemented at three acute care clinics. Feasibility and acceptability of the computer kiosk intervention was evaluated by surveys

of kiosk participants and clinic providers and staff. The module successfully activated young women in need of CT testing to request a test from their clinician.

5. **RESULTS:** Among those who participated in the module, 82% requested to be tested on the day of their acute care visit. In addition, they reported very high satisfaction with the module. Greater than 93% of participants reported either agreeing or strongly agreeing with statements that the computer was easy to use, trusted the information provided; were comfortable using it; and would recommend it to friends. A smaller but still large proportion (nearly 80%) reported agreeing or strongly agreeing with the statement that they learned something new. Among those who were tested for CT there was 25% infection rate (9/36) suggesting that preventive screening in the acute care setting is warranted and acceptable to young women.
- **DISSEMINATION:** We have begun and will continue to disseminate our research findings through traditional peer-reviewed journal publications as well as presentations at local, state, regional and national conferences. We will also leverage our existing network of adolescent health partnerships at the local, state and national levels to promote the dissemination of this intervention including: Kaiser Permanente Northern California; Society for Adolescent Health and Medicine; California State Department of Public Health; California Family Health Council; University of Pittsburg; Planned Parenthood; National CT Coalition, MCHB (Nationally, CA and in Solano County); and the Centers for Disease Control and Prevention.
6. **FUTURE PLANS AND FOLLOW-UP:** Future plans are to apply for additional funding to support further translation, dissemination and evaluation activities. In addition, this module was designed for young adult women, however, chlamydia screening for

adolescent girls is unacceptably low and this intervention should be modified to address the unique needs of this younger population.

## **APPENDIX**

### **Table of Contents**

#### **Appendix 1: Module Screen Shots**

- 1.1. Chlamydia Screening Module
- 1.2. Phressia/Planned Parenthood Module
- 1.3. CFHC Module – iPad Health App

#### **Appendix 2: Clinician Training**

## APPENDIX 1.1 Chlamydia Screening Module Screen Shots

<p><b>Welcome!</b> <b>¡Bienvenido!</b></p> <p>Select your language Seleccione su idioma</p> <p><b>English</b>      <b>Español</b></p>		<p><b>Welcome to the Kiosk @ Highland</b></p> <ul style="list-style-type: none"> <li>» This kiosk is for <i>all</i> women, 18-25 years old.</li> <li>» The kiosk is part of a research study. Participation is voluntary and will not affect the care you request today.</li> <li>» You will still see a doctor.</li> </ul> <p>You will learn about:</p> <ul style="list-style-type: none"> <li>» Chlamydia, a common STD among women.</li> <li>» How to get tested</li> <li>» How to protect yourself and</li> <li>» How to get treated, if you are infected.</li> </ul>  <p><b>Continue &gt;&gt;</b></p>
<p><b>About the Kiosk</b></p> <p>You can help us learn about:</p> <ul style="list-style-type: none"> <li>» Your opinions on chlamydia information and testing in urgent care.</li> <li>» Your opinions about HIV screening in urgent care.</li> <li>» Your opinions about this computer kiosk.</li> </ul> <p>» Information you provide on the kiosk is confidential. » This kiosk program takes 5-10 minutes.</p> <p><b>Continue &gt;&gt;</b></p> <p><b>&lt;&lt; Back</b>    <b>Repeat Audio</b>    <b>Exit Program</b></p>		<p>Please enter your LAST NAME and FIRST INITIAL using the keypad letters. Touch the Continue button when you have finished entering your name.</p> <p>Q W E R T Y U I O P backspace</p> <p>- A S D F G H J K L <b>Continue</b></p> <p>Shift Z X C V B N M .</p> <p>Space</p> <p><input type="text"/></p> <p><b>&lt;&lt; Back</b>    <b>Repeat Audio</b>    <b>Exit Program</b></p>
<p><b>What is Chlamydia?</b></p> <ul style="list-style-type: none"> <li>» Chlamydia is a STD caused by bacteria</li> <li>» Common among young adult women, 18-25.</li> <li>» If <u>untreated</u>, chlamydia can cause serious reproductive problems.</li> <li>» Transmitted by vaginal, anal and oral sex.</li> <li>» Also transmitted from mother to baby during birth.</li> </ul> <p><b>Continue &gt;&gt;</b></p> <p><b>&lt;&lt; Back</b>    <b>Repeat Audio</b>    <b>Exit Program</b></p>		<p><b>Did you know...</b></p> <ul style="list-style-type: none"> <li>» Chlamydia often has no symptoms.</li> <li>» Getting tested is easy! Just pee in a cup.</li> <li>» It can be easily treated with antibiotics.</li> <li>» Health professionals recommend annual screening.</li> <li>» Your visit, test, and results are always confidential.</li> </ul> <p><b>Continue &gt;&gt;</b>      <b>Test Now</b></p> <p><b>&lt;&lt; Back</b>    <b>Repeat Audio</b>    <b>Exit Program</b></p> 

## What would you like to do now?



Get Tested for Chlamydia

Watch Video

<< Back
Repeat Audio
Exit Program

## Video Menu

Pick a video to the right

Nicole's Story



...I've never heard of Chlamydia, and have no idea if I want to get tested...

Angela's Story



...I heard my friend got chlamydia. I've been thinking about getting tested...

Alex's Story



...I went with my friend who got tested. It was so easy - I want to get it done now, but I still have some questions...

<< Back
Repeat Audio
Exit Program



### First, please tell us a little about yourself

Your answers are confidential and will not even be shared with your doctor.

How old are you?

18

19

20

21

22

23

24

25

Other

<< Back
Repeat Audio
Exit Program



### What is your race/ethnicity?

Touch all that apply

African American/Black

American Indian/ Native American

Asian American

Caucasian/ White

Latina/Hispanic American

Other

Continue >>

<< Back
Repeat Audio
Exit Program



### Have you ever had sex (vaginal intercourse)?

Yes

No

<< Back
Repeat Audio
Exit Program



### Have you had a chlamydia test in the last 12 months?

Yes

No

Not Sure

<< Back
Repeat Audio
Exit Program



If you would not want to be tested today, please tell us why.  
Touch all answers that apply:

Not enough time	Don't think I'm at risk
Worried about cost	Tested recently
Can't pee right now	Feel fine
Worried about my privacy	Other

<< Back   Repeat Audio   Continue >>   Exit Program



**Testing Instructions** – These will be printed for you when you finish.

When you are finished with this computer kiosk...

- » Show the print out to a nurse who is caring for you, and tell the nurse you want to be tested for chlamydia.
- » The nurse will give you a cup to pee into and direct you to a bathroom.
- » Only the first part of your pee needs to go into the cup. No cleaning necessary.
- » Return the cup to your nurse.

Your results will be ready in just a couple days – results are always confidential.  
The clinic will call you if you test positive for chlamydia.

<< Back   Repeat Audio   Continue >>   Exit Program



**What If I Test Positive?**

- » Your test results are confidential.
- » Chlamydia can be easily treated with antibiotics.
- » It will be important for your sexual partners to get treated too.

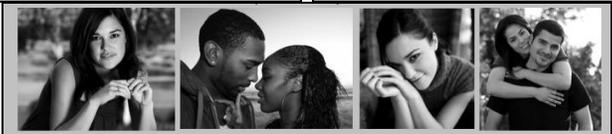
<< Back   Repeat Audio   Continue >>   Exit Program

**Reducing Your Risk of STDs**

- » Abstinence
- » Monogamous sex partners
- » Latex Condoms
- » Get tested with each new sex partner

Continue >>

<< Back   Repeat Audio   Exit Program

**Thank you for visiting this computer kiosk!**

Pick up your printout in the slot below the screen.

Please touch on the "finished" button to close your session.

**Finished**

<< Back   Repeat Audio

# *Phreesia*

## **Chlamydia Module**

Check-in Progress  63% Exit    100%

**Welcome! On the following computer screens you will learn about the symptoms, the prevention, and the test for chlamydia.**

- This program is for all women, 15-25 years old.
- Participation is voluntary and will not affect the care you request today.
- You will still see a staff member.

If you would like to participate in this program, tap the "**Continue**" button on the bottom of the screen. If not, hit the "Exit" button at the top of the screen.

 Skip  Continue 

Check-in Progress  31%

Exit 

  100%

## What is chlamydia?

- Chlamydia is a sexually transmitted disease caused by bacteria.
- It is common among young women, 15-25.
- If untreated, chlamydia can cause serious reproductive problems.
- Chlamydia is spread by vaginal, anal and oral sex.
- Chlamydia is also transmitted from mother to baby during birth.



Back

Skip



Continue



Check-in Progress  69% Exit    100%

## Did you know...

- Chlamydia often has no symptoms.
- Getting tested is easy! Just pee in a cup.
- It can be easily treated with antibiotics.
- Health professionals recommend annual screening.
- Your visit, test, and results are private.

Check-in Progress  34%

Exit 

  100%

## Ways to reduce your risk of getting a sexually transmitted disease.

- Abstinence
- Have sex with someone who only has sex with you
- Use latex condoms
- Get tested before you have sex with someone new



Back

Skip



Continue



Check-in Progress  36% Exit    100%

## Are you at risk?

Now that you have learned a little about chlamydia, the questions on the next few screens will help determine if you are at risk or not.

Please tap "**Continue**" and answer the following questions.

Check-in Progress  23% Exit    0%

**Have you ever had sex (vaginal intercourse?)**

Yes  No

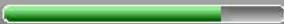
  

Check-in Progress  24% Exit    0%

**Have you had a chlamydia test in the last 12 months?**

Yes  No  Not sure

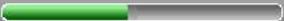
  

Check-in Progress  78% Exit    100%

**Did your test show that you had chlamydia?**

Yes  No  Not sure

Check-in Progress:  45% Exit    100%

**Have you been treated for chlamydia in the last 12 months?**

Yes  No  Not sure

Check-in Progress  45% Exit    100%

Have you had sex with someone new since your last chlamydia test?

Yes  No  Not sure

Check-in Progress  46% Exit    100%

**In the last 30 days, have you had any of the following symptoms? (Select all that apply.)**

	Yes	No	Not sure
1. Pain in lower belly or "private" area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Pain during sex	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Vaginal discharge that is different or itching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Check-in Progress  49% Exit    100%

## Getting Tested

**Based on your answers to the previous questions, you should have a chlamydia test.**

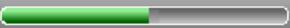
  

Check-in Progress  27% Exit    0%

**Do you want to get tested for chlamydia today?**

Yes  No  Not sure

Check-in Progress  52% Exit    100%

### What if I test positive?

- Chlamydia can be easily treated with antibiotics.
- It will be important that the people you have had sex with get treated too.

 Back

Skip 

Continue 

Check-in Progress  56% Exit    100%

**Based on your answers, you don't need to be tested for chlamydia today.**

**Keep taking good care of yourself!**

**...and remember to get tested every 12 months and before you have sex with someone new**

 Back

Skip 

Continue 

# Appendix 1.3 CFHC Module iPad App

**Welcome!**  
**¡Bienvenido!**

Select your language  
Selecione su idioma

English      Español



**WELCOME**

**What is Health-E You?**

- » A new computer health program for teens and young adult women.
- » It is part of a research study at the University of California, San Francisco.
- » Your answers are confidential and private.
- » Participation is optional and voluntary.
- » It takes about 5 – 10 minutes.

Continue >>

<< Back    Repeat Audio    Exit Program



**What will you learn about?**

- » Chlamydia, a common sexually transmitted disease (STD) among young women.
- » How to protect yourself from Chlamydia.
- » How to get tested for Chlamydia and how to get treated if you are infected.
- » There are some short videos of young women talking about their Chlamydia testing experience

Continue >>

<< Back    Repeat Audio    Exit Program



Please enter your last name and first initial to participate and touch the "Next" button.

Next >>

<< Back    Repeat Audio    Exit Program



## Appendix 1.3 CFHC Module iPad App



### What do I need to know about Chlamydia?

- » Chlamydia is a sexually transmitted disease (STD) caused by bacteria.
- » It is very common in women under 25.
- » You can get it by having vaginal, anal or oral sex with someone who has it.
- » If untreated, it can cause serious health problems.

**TOUCH HERE:** if you want to know about what health problems Chlamydia can cause.

<< Back   Repeat Audio   **Continue >>**   Exit Program



### Did you know...

- » Most people with Chlamydia do not have any signs or symptoms.
- » Getting tested is the only way to find out if you have it.
- » It can be easily treated with antibiotics.
- » Your visit, test, and results are always private.

<< Back   Repeat Audio   **Continue >>**   Exit Program



### How can you reduce your STD risk?

- » Get tested before you have sex with someone new.
- » **Have sex with someone who will only have sex with you.**
- » Use condoms every time you have sex so you do not get Chlamydia and other STDs.

<< Back   Repeat Audio   **Continue >>**   Exit Program



### Are you at risk?

- » **Now that you learned a little about Chlamydia, the next few screens will help determine if you should be tested.**
- » How old are you?
- » Chose one of the following answers

(age drop down)

<< Back   Repeat Audio   **Continue >>**   Exit Program

# Appendix 1.3 CFHC Module iPad App



Have you ever had sex of any kind (vaginal, oral, anal)?

Yes No

<< Back Repeat Audio Exit Program



Did you use a condom the last time you had sex (vaginal intercourse)?

Choose one of the following answers

Yes No Not Sure

<< Back Repeat Audio Exit Program



Have you had a chlamydia test in the last 12 months?

Choose one of the following answers

Yes No Not Sure

<< Back Repeat Audio Exit Program



If you had a chlamydia test in the past 12 months, have you had a new sex partner in the past 12 months?

Choose one of the following answers

Yes No Not Sure

<< Back Repeat Audio Exit Program

# Appendix 1.3 CFHC Module iPad App



Was the chlamydia test positive?

Choose one of the following answers

**Yes**      **No**      **Not Sure**

<< Back      Repeat Audio      Exit Program



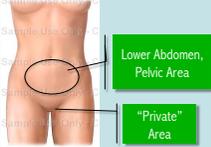
In the last 30 days, have you had **any** of the following symptoms:  
Choose one of the following answers.

**Pain in Lower Abdomen, Pelvic or "Private" Area**

**Pain During Sex**

**Vaginal Discharge or Itching**

**No Symptoms**



<< Back      Repeat Audio      **Continue >>**      Exit Program

Based on your answers to the previous questions, you are due for a chlamydia test. What would you like to do now?

Choose one of the following answers

**Get Tested for Chlamydia**      **Learn more. Watch Video**



<< Back      Repeat Audio      Exit Program



It is very important that you tell your doctor about your symptoms. To make sure all of your answers are private, your information is not shared with your doctor.

<< Back      Repeat Audio      **Continue >>**      Exit Program

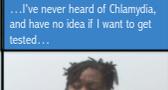
# Appendix 1.3 CFHC Module iPad App

**Video Menu**

Choose one of the following videos

**Nicole's Story** → 

...I've never heard of Chlamydia, and have no idea if I want to get tested...

**Angela's Story** → 

...I heard my friend got chlamydia. I've been thinking about getting tested...

**Alex's Story** → 

...I went with my friend who got tested. It was so easy – I want to get it done now, but I still have some questions...

<< Back   Repeat Audio   Exit Program



**Are there things that get in the way of getting tested for chlamydia?**  
Feeling fine? Embarrassed? Nervous? Have questions?

- » Not everyone who is infected has symptoms.
- » You can have chlamydia for a long time and not know it.
- » Chlamydia can cause long term problems – like infertility.
- » Testing is simple and chlamydia is very easy to treat.
- » Your visit, test, and results are always private.

**For your peace of mind – Get tested today!**

<< Back   Repeat Audio   Continue >>   Exit Program



**Thinking about getting tested? Great!**  
Getting tested for chlamydia is the best way to know if you are infected.

- » Not everyone who is infected has symptoms.
- » You or your partner can have chlamydia for a long time and not know it.
- » Testing is simple and chlamydia is very easy to treat.

**Get tested today – and at least once a year for your health and the health of your partner!**

<< Back   Repeat Audio   Continue >>   Exit Program



**Even if you are not worried, you could be infected with chlamydia.**

- » Not everyone who is infected has symptoms.
- » You or your partner can have chlamydia for a long time and not know.
- » Chlamydia can cause long term problems – like infertility.
- » Testing is simple and chlamydia is very easy to treat.

**Now that you know about the chlamydia test, think about how easy it is – Get tested today!**

<< Back   Repeat Audio   Continue >>   Exit Program

# Appendix 1.3 CFHC Module iPad App



**You can get tested for chlamydia today.**

Choose one of the following answers

Yes, I would like to have a chlamydia test today

No, I do not want a chlamydia test today

<< Back Repeat Audio Exit Program



If you do not want to be tested today, please tell us why so that we can continue to improve care.

Touch all answers that apply:

Not enough time Don't think I'm at risk

Worried about cost Tested recently

Can't pee right now Feel fine

Worried about my privacy Other

<< Back Repeat Audio Continue >> Exit Program



**What is the cost to you?**

The cost of the chlamydia test is covered for 15-25 year old women by most health insurance (Anthem, Aetna, MediCal, Healthy San Francisco and Family PACT) if you have any questions about insurance coverage, please contact your health plan to be sure.

Private Insurance Medi-Cal (Medicaid)

Family Pact Self-pay/Don't Know

<< Back Repeat Audio Continue >> Exit Program



**If you are self-pay...**

- » Ask about Medi-Cal eligibility to see if your visit and test today can be paid for.
- » If you are self-pay and get tested here today, you will receive a bill for \$\_\_\_\_\_.

<< Back Repeat Audio Continue >> Exit Program

## Appendix 1.3 CFHC Module iPad App



### Would you still like to be tested?

Choose one of the following answers

**I would like to have a chlamydia test today**

**No, I do not want a chlamydia test today**

<< Back   Repeat Audio   Exit Program



### Testing Instructions – These will be printed for you when you finish. When you are finished with this program.

- » Please ask the nurse for a urine cup.
- » Go to the nearest bathroom.
- » Pee in the cup for a couple of seconds (15-20 cc marked with a line on the cup) then finish peeing in the toilet.
- » Put the lid tightly on the cup and back into the bag.
- » Take the bag to the lab window located on the first floor, just to the left of the front/main entrance.
- » Your results are confidential.
- » The clinic nurse will call you in a couple of days only if your test is positive

[Slide To Be Customized by Site](#)

<< Back   Repeat Audio   **Continue >>**   Exit Program



### What If I Test Positive?

- » Your test results are private.
- » Chlamydia can be easily treated. Take all the medicine your doctor gives you.
- » Make sure ALL your sex partners (from the past 2 months) get medicine for Chlamydia as soon as possible
- » Do not have sex until 7 DAYS AFTER you and your sex partner(s) finish the medicine.
- » Many people who get Chlamydia get it again. Get tested again in 3 months.

<< Back   Repeat Audio   **Continue >>**   Exit Program



### You are almost done!

We would like to ask you a few more questions about your background and experience with this computer program.

Touch the button below to continue.

<< Back   Repeat Audio   **Continue >>**   Exit Program

# Appendix 1.3 CFHC Module iPad App



What is your race/ethnicity?  
Touch all that apply

African American/Black    American Indian/ Native American    Asian American

Caucasian/ White    Latina/Hispanic American    Other

Continue >>

<< Back    Repeat Audio    Exit Program



Do you have a regular doctor, such as a family doctor, nurse practitioner, or OB/GYN that you see at least once a year?

» Choose one of the following answers.  
» This question is mandatory.

Yes    No    Don't Know

<< Back    Repeat Audio    Continue >>    Exit Program



What is the reason for your visit today?

Choose one of the following answers:

GYN/Reproductive Health    Other Urgent Care

School Recommended    Other Reason/ Not Applicable

Continue >>

<< Back    Repeat Audio    Exit Program



**Tell us your opinion of the following statements**

"I found this program easy to use."

Choose one of the following answers

Strongly Agree    Agree    Disagree    Strongly Disagree

<< Back    Repeat Audio    Continue >>    Exit Program

## Appendix 1.3 CFHC Module iPad App



"I trust the information in this program."

Choose one of the following answers

**Strongly Agree** **Agree** **Disagree** **Strongly Disagree**

<< Back Repeat Audio **Continue >>** Exit Program



"I learned something new from this program."

Choose one of the following answers

**Strongly Agree** **Agree** **Disagree** **Strongly Disagree**

<< Back Repeat Audio **Continue >>** Exit Program



"I would recommend a program like this to someone I know to get checked for chlamydia."

Choose one of the following answers

**Strongly Agree** **Agree** **Disagree** **Strongly Disagree**

<< Back Repeat Audio **Continue >>** Exit Program



"I felt comfortable answering questions on a computer like this one."

Choose one of the following answers

**Strongly Agree** **Agree** **Disagree** **Strongly Disagree**

<< Back Repeat Audio **Continue >>** Exit Program

## Appendix 1.3 CFHC Module iPad App



"The educational videos helped me decide to get tested."

Choose one of the following answers

**Strongly Agree** **Agree** **Disagree** **Strongly Disagree**

<< Back Repeat Audio **Continue >>** Exit Program



**Thank you for visiting the Health-E You system!**

Your answers indicate you may not need to be tested today.

Keep taking good care of yourself! And remember to get tested every 12 months and before you have sex with someone new.

If you have any questions or would like to be tested anyway, talk to your provider.

<< Back Repeat Audio **Finished** Exit Program



**Health problems Chlamydia can cause.**

- » It may be impossible to get pregnant or have babies later on.
- » You may pass Chlamydia to people you have sex with.
- » You can pass it to your baby during birth.
- » You may feel pain in your lower belly during sex for months or even years.
- » It can cause you to have a pregnancy that grows outside your uterus, which can cause death.
- » You may get other diseases more easily, like HIV.

<< Back Repeat Audio Exit Program

# Chlamydia Kiosk Project San Francisco General Hospital

*Investigators:* Mary-Ann Shafer, MD  
Kathleen Tebb, PhD  
Ralph Gonzales, MD

*Project Coordinator:* Chelsea Nelson

*Funding:* MCHB

*SFGH: 6/11/09*

# Objectives

- Provide overview of study
- View module
- Discuss implementation at SFGH

# Barriers to CT Screening

## *Young adult women:*

- Under utilize preventive health care
- Have high rates of uninsurance
- Have high rates of asymptomatic CT

# Barriers to CT Screening

*Young adult women:*

- Under utilize preventive health care
- Have high rates of uninsurance
- Have high rates of asymptomatic CT

***Therefore need to***

***“Do Today’s Work Today”***

# Study Overview

Setting: SFGH, HIGHLAND, SACC

Phase 1 Development: Spanish & English Module

Phase 2: Evaluate impact on CT screening

- Assess women's attitudes about HIV screening
- Assess clinic staff/provider attitudes about computer kiosk module

# Welcome to the Kiosk @ SFGH

- » This kiosk is for *all* women, 18-25 years old.
- » The kiosk is part of a research study. Participation is voluntary and will not effect the care you request today.
- » You will still see a doctor or nurse practitioner.



## You will learn about:

- » Chlamydia, a common STD among women.
- » How to get tested
- » How to protect yourself and
- » How to get treated if infected.

**Continue >>**

# About the Kiosk

You can help us learn about:

- » Your opinions on chlamydia information and testing in urgent care.
  - » Your opinions about HIV screening in urgent care.
  - » Your opinions about this computer kiosk.
- » Information you provide on the kiosk is confidential.
- » This kiosk program takes 5-10 minutes.

**Continue >>**

<< Back

Repeat Audio

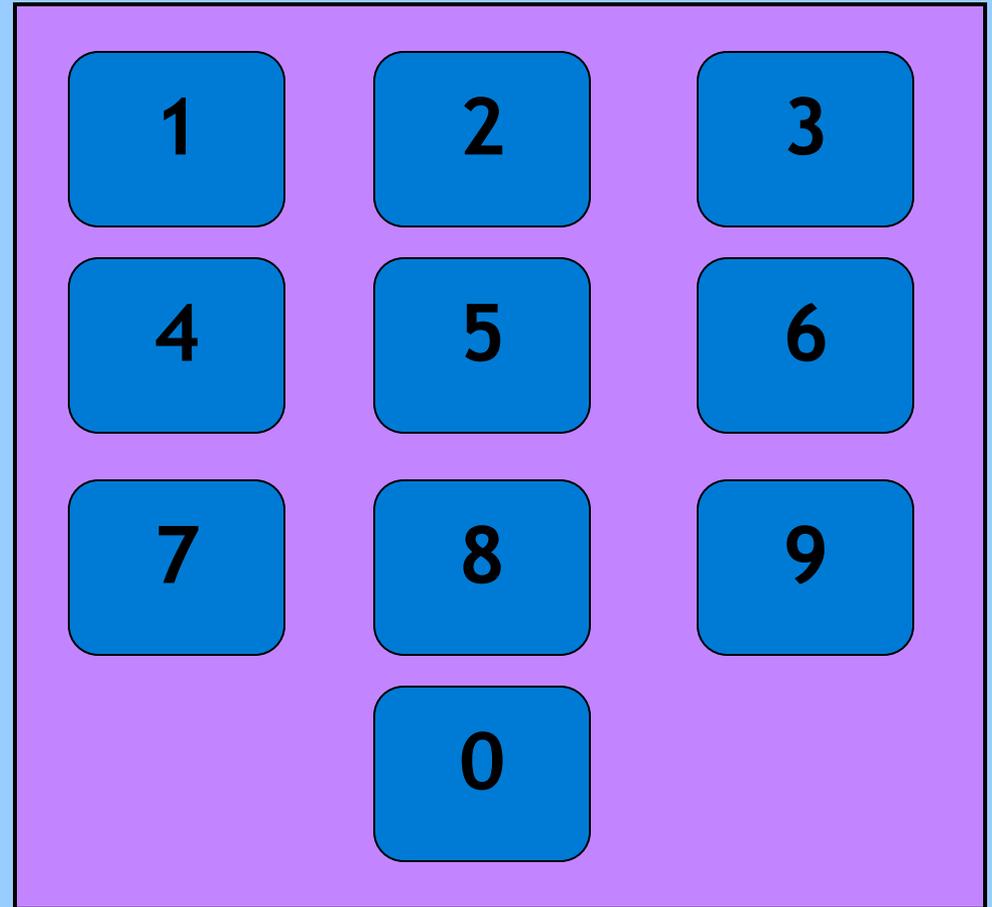
Exit Program



Please enter your medical record number, using the keypad numbers, to participate. Touch the “Participate” button when you have finished entering your patient ID number.

Your medical record number is the 8 digit number on the sticker given to you at registration.

### Patient ID



# What would you like to do now?



**Get Tested for  
Chlamydia**

**Watch Video**

**<< Back**

**Repeat Audio**

**Exit Program**

# Video Menu

Pick a video  
to the right

Nicole's  
Story



...I've never heard of Chlamydia, and have no idea if I want to get tested...

Angela's  
Story



...I heard my friend got chlamydia. I've been thinking about getting tested...

Alex's  
Story



...I went with my friend who got tested. It was so easy – I want to get it done now, but I still have some questions...

<< Back

Repeat Audio

Exit Program

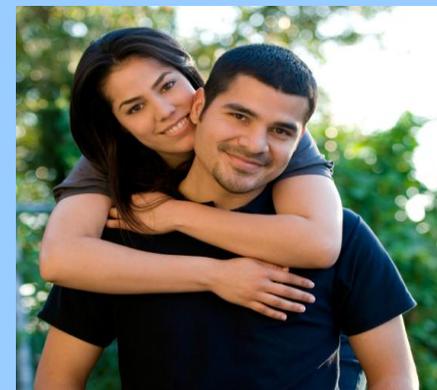
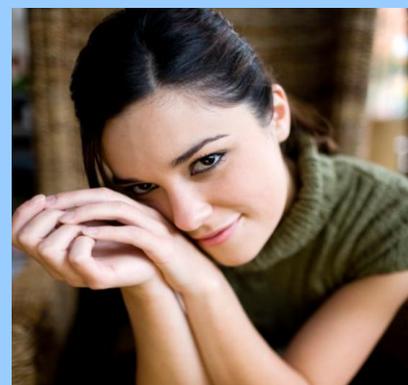
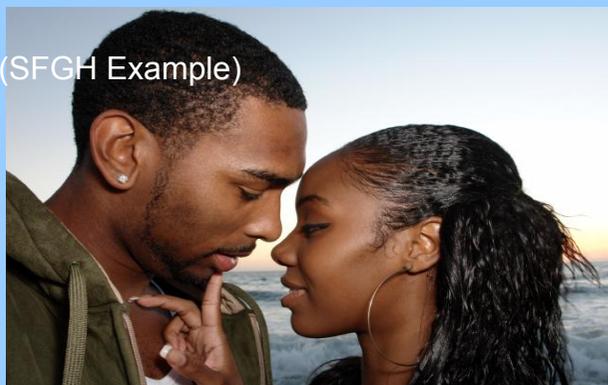
# Angela's Story

[Video Here]

<< Back

Repeat Video

Exit Program



## Testing Instructions – These will be printed for you when you finish.

When you are finished with this computer kiosk...

- » Ask the nurse for a urine cup bag
- » Go to the patient bathroom and pee into the cup until it is half full
- » Put the lid tightly on the cup
- » Write your name on the sticker and place it on the cup
- » Place the cup on the specimen tray outside the bathroom

Your results will be ready in just a couple days – results are always confidential.  
The clinic will call you if you test positive for chlamydia.

<< Back

Repeat Audio

Continue >>

Exit Program

# Sample Clinic Flow Chart

**Registration/Triage**



**Kiosk Participation**



**Provider Encounter**



**CT Results & Follow-up**

***How will we implement  
at SFGH?***

# Clinic Flow Chart

## Registration/Triage

- Register patient
- Triage care
- Refer eligible to Kiosk

Kiosk Participation

Provider Encounter

CT Results & Follow-up

# Clinic Flow Chart

Registration/Triage

**Kiosk Participation**

Provider Encounter

CT+ Follow-up

## AT KIOSK

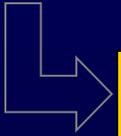
- 5-10 minutes
- Assess risk
- Provide education
- Print instructions
- Collect sample
- Give sample to ?

# Clinic Flow Chart

Registration/Triage



Kiosk Participation



**Provider Encounter**



• no impact



CT Results & Follow-up

# Clinic Flow Chart

Registration/Triage



Kiosk Participation



Provider Encounter



**CT Results & Follow-up**



- Results in record
- CT+ treatment per SFGH/CDC protocol

***Discussion***  
***Questions***  
***Comments***