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Clipper Clinic: An Academic and Community Collaborative Model to Addressing Health Disparities within Underserved Communities

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Abstract

Clipper Clinic is a free preventative health care screening service that addresses the barriers many underserved communities have in regards to accessing health care. Each Clipper is conducted in, and partnered with a local barbershop or beauty salon that is located in an underserved area. Clipper Clinic provides an alternative care delivery model that establishes fully engaged partnerships that break down silos between academic institutions, community clinics, HMOs, and community barbershops. It increases participant awareness and knowledge by providing biometric screenings, finding a medical home via “warm hand” referrals to low cost health care resources, and providing evidence based health education. At each event, free preventative services are provided including, flu shots, height and weight, blood pressure, blood glucose, cholesterol, HIV/STD testing, and cancer screening questionnaires. There are patient navigators available to provide information about insurance and guide community members through the insurance enrollment process. Over the past three years (2013-2015), clipper clinic services have reached about 611 community members with roughly 36% of the participants identifying as female and 57% identifying as male. The racial and ethnic background of screened participants included Latinos (31%), East Africans (6%), Multi-Racial (3%), and African Americans made up 44% of the total screened over the last three years. Clipper Clinic is a promising method for effectively and efficiently addressing health disparities in underserved populations by utilizing a community-academic framework, reaching multiethnic and gender target population, and allowing for a comprehensive disease focus.

Keywords: Health disparities; Underserved; Health care access; Community-academic

Introduction

The gap in preventative health care services between Caucasians and People of Color continues to be a persistent problem in the United States. The myriad of health disparities and inequities that have created this gap in care continues to grow as ten new topics including; health-related quality of life, residential proximity to major highways, unemployment, and activity limitations due to diagnosis of chronic disease, were added to the long list in the Center for Disease Control's, *CDC Health Disparities and Inequities-U.S. Report* [1]. Often times, communities of color are burdened by the poor health outcomes they face due to the gap in care. Infant and maternal mortality rates, which serve as widely accepted markers of the health status of a population, highlight grave realities when the rates for Whites, Blacks, and Latinos in the United States are placed side by side [2].

In recent years heart disease, cancer, and diabetes have been cited as three of the leading causes of death within Native Americans and Alaskan Natives, Latinos/Hispanics, African Americans, Asian Americans, Native Hawaiians and Pacific Islanders, and other communities of color [3-6]. In the state of Minnesota, health disparity trends within communities of color align with the

discouraging trends seen at the national level. The 2014 Minnesota Department of Health report to the legislature revealed that despite improvement in overall health outcomes, disparities between whites and people of color remain unchanged; inequities in social and economic factors serve as key contributors to health disparities in Minnesota; and exposing structural racism, where it operates and where effects are felt, is essential to determining where and how policies and programs can work to eliminate health disparities [7]. In Minnesota, the rate of HIV/AIDS among African-born people is almost sixteen times higher than White/non-Hispanic individuals; Native American, Latino/Hispanic, and African American youth have the highest rates of obesity; and African American and Latino/Hispanic women are more likely to be diagnosed with later stage breast cancer. Furthermore, children of color are less likely to receive dental services and more likely to have cavities than their white counterparts [7]. The goal of the current public health system in the United States of America is to have a health department, public health system, community partners, and workforce that builds operational capacity/ infrastructure that impacts every community program and public health activity, which leads to better health outcomes, reduced disparities, and better preparedness at the federal, state, and local levels. The current structure of the United States (U.S.)

public health system was founded on ten essential services that the system offers to the community which include; monitor health status, diagnose and investigate; inform, educate, and empower; mobilize community partnerships, develop policies and plans, enforce laws and regulations, link people to needed services/assure care, assure a competent workforce, evaluate health services and conduct research [8]. Through this system and the services it provides, U.S. citizens and residents can access care through private insurance or government regulated insurance. Once insured, citizens and residents can access hospitals, emergency departments, and community clinics. It should be noted that not all citizens or residents are insured and not all with insurance utilize the care system due to costs and accessibility barriers. Despite the current goals and structure of the U.S. public health system, or efforts made on both a local and national scale, not much has changed over the years as there are still significant differences among races and ethnicities when it comes to these widely accepted markers of population health. The lack of change is due in part to the multiple barriers to care that communities of color face, such as, lack of affordable care, complexities of health insurance and payer status, limited hours of clinic operation, a lack of transportation, and geographic distance. These barriers cause individuals to delay treatment and self-care which increases the prevalence of negative health outcomes in communities of color in the United States.

In response to this overwhelming problem, community based health initiatives have been proposed to address these disparities; a large majority of them focusing on addressing hypertension and prostate cancer, as both relate to heart disease and cancer which are two of the leading causes of death in communities of color and Native Americans [3-6]. Furthermore, a large majority of the initiatives have taken place at community barbershops and salons because of the growing knowledge citing community assets such as barbershops and salons as appropriate venues for reaching and teaching community members about health; these venues are perceived as safe places as community members often form trusting relationships with their barber or stylist [9-11]. Positioning initiatives at barbershops and salons also address a difficult, but key step to addressing disparities and increasing reach. Barbershops and salons are community sites that attract diverse groups of individuals on a regular basis [10], making them prime locations to provide services and disseminate information. Additionally, a large majority of the community health initiatives that have been geared towards African Americans, are led by state or local government or educational institutions, and cater to males; creating yet another gap in care for communities of color.

In an effort to address health disparities in local communities and address the current gaps in models used by other community health initiatives, the University of Minnesota's Program in Health Disparities Research (PHDR) in collaboration with their community partner organizations created the Clipper Clinic: Free Preventative Health Care Services program in 2010. The founding community partners included; U Care, who provided funding and outreach on insurance options; Southside Community Health Services, who provides the mobile medical unit, coordinates community collaborations such as the neighborhood clinics and nurses from the Minnesota Black Nurses Association; barbershops, who host the event and provide use of their space and outreach to their clientele; as well as other organizations that provide screening services for the program

including, but not limited to, Minnesota Black Nurses Association, Fremont Clinic, and North Point Wellness. Before the initiative started in 2010, PHDR and the listed partner organizations drafted and signed a memorandum of understanding which included program objectives, Community-Based Participatory Research Principles, academic institution responsibilities, community-based organization responsibilities, roles of key individuals, as well as, group processes which name PHDR and Southside Community Health Services as authoritative co-leads for the community-academic initiative. The primary goal of Clipper Clinic is to provide quality health care and access to health-related information to underserved communities in Minnesota in a comfortable and trusted environment. Each Clipper Clinic is conducted in partnership with a local barbershop or beauty salon. At each event, free preventative services are provided including, flu shots, height and weight, blood pressure, blood glucose, cholesterol, and HIV/STD testing and counseling. There are also patient navigators from neighborhood community health centers available to provide guidance about follow-up care as needed ("warm hand-off"), information about insurance, and guide community members through the insurance enrollment process. The long term goal of this program is to reduce health disparities in Minnesota's underserved communities. The Clipper Clinic works to accomplish this goal by;

1. Establishing fully engaged partnerships that break down silos between academic institutions, community clinics, Health Plans, and barbershops.
2. Increasing participant awareness and knowledge building by providing biometric screenings, finding a medical home via "warm hand-offs" referrals to low cost health care resources and providing evidence based health promotion education.
3. Assessing and responding to community health needs.

The purpose of this paper is to highlight the community/academic framework, multiethnic and gender target population, and comprehensive disease focus that allows this initiative to effectively and efficiently address health disparities in underserved populations.

Methods

This initiative involved two levels, community and individual participant.

Community level

The community level is made up of three main activities;

1. Bringing together community partners that can offer relevant health related services.
2. Recruiting and establishing partnerships with barbershops and beauty salons located in underserved areas.
3. Education and resources for barbershops so that they can serve as health champions for their community.

The first activity consisted of identifying partners to fit the community/academic framework. After a search and review of interested partners, the Minnesota Black Nurses Association, Southside Community Health Services (a federally qualified health center [FQHC]), Fremont Clinic (FQHC), and U Care were chosen

as collaborative partners for the Clipper Clinic. Many of these organizations also played a role in identifying barbershops and beauty salons for the Clipper Clinic.

The second community level activity consisted of establishing partnerships with barbershops and salons that would serve as the host sites for Clipper Clinic. Focus was placed on barbershops and salons in socio-economically-disadvantaged communities. Communities that fit within these parameters often face many barriers to care- many of which can be addressed by the convenient services that Clipper Clinic offers. In recent years, word of mouth has become another manner of establishing partnerships in the community.

The final activity at the community level consisted of ensuring that barbers and stylists had adequate knowledge and resources to offer clients and community members so they were capable of serving as health champions for their community. From this activity, a spin-off initiative entitled, "Clipper n' Curls", was created and launched in 2013. Clippers n' Curls built off of the barber and stylists education piece and placed a large emphasis on training and equipping barbers and beauticians with the skills and knowledge needed to engage the community and share important health information with their clients. In addition to equipping barbers and beauticians with knowledge regarding heart health, another part of the spin-off initiative was placing blood pressure screening equipment at the participating five locations to allow for opportunities for community members to receive blood pressure screenings and education in a trusted environment in their community at their convenience.

Individual participant level

The individual participant level is made up of two main activities;

1. Delivering preventative health screening services such as; blood pressure, cholesterol and glucose measurements, height and weight measurements, health education, flu shots, and confidential STD/HIV screenings.
2. Evaluating further needs of screening participants then connecting them with referrals to community health centers or other services, further health education, health insurance, or other screening services that were not provided.

The first activity at the individual participant level was the delivery of screenings that provided community members with biomarkers that allowed them an in-depth look at their health and alerted them of risk factors that could lead to chronic diseases including heart disease, cancer, and diabetes, three of the top ten leading causes of death in communities of color [3-6]. Moreover, this activity directly addressed health disparities, community barriers to care, and community health outcomes by equipping community members with results, education, and suggested lifestyle changes. All of the aforementioned factors lead to an increase in self-capacity, behavioral capability, and action potential in the community member receiving the services [12].

The second activity in the individual participant level consisted of utilizing evaluation tools to assess community members' needs beyond screening as they relate to accessing referrals, further education, and insurance. Clipper Clinic practices "warm hand-offs" which allow patients to be connected to accessible and affordable insurance, clinics, mental health services, and dental services right

away by navigators present on site. The tools used to evaluate these needs include; demographics forms, biometric and health care status screening forms, and satisfaction evaluations. These evaluation tools asked various questions related to the community member's demographics, motivations for screening, access to health insurance and healthcare, screening results (except for HIV/STD), cancer prevention activities, and recommendations for additional services to be offered at Clipper Clinic events. Per the Health Insurance Portability and Accountability Act (HIPPA) purposes, the forms are kept separate and are not linked together. These tools are also used to improve and increase the service options provided at Clipper Clinic events. After the events, evaluation results are shared with program stakeholder including the community affected.

Measures

In order to collect information regarding the health status of the communities that this initiative has served; biomarker measurements were taken and reported for every individual that opted for a "full screening". Full screenings include; blood pressure, cholesterol, and blood glucose tests; the completion of a cancer screening questionnaire, a demographics form, and an event evaluation. HIV/STD tests are provided as part of the screening service, but are optional, even when the participant has opted for the "full -screening". Furthermore, HIV/STD results are not documented on any of the screening tools for privacy reasons. The following information outlines the Clipper Clinic screening process and how measures are collected.

Blood pressure

Blood pressure screenings were done by registered nurses who are members of the Minnesota Black Nurses Association. Blood pressures were obtained in the sitting position with both feet on the floor. Participants were encouraged to take a "calming breath" before the nurse performed the procedure. Blood pressures were taken using an automatic portable blood pressure machine. The procedure was repeated after 1 full minute of calming breaths if the results were abnormal. If the second results were abnormal, the procedure was done with a manual blood pressure cuff and stethoscope. The American Heart Association's criterion was used to designate readings as normal or abnormal. According to the American Heart Association [13], healthy/normal ranges are combined scores of <120mm/HG and <80mm/HG for systolic and diastolic respectively. Participants received health education and nutrition counseling based on their results.

Cholesterol & blood glucose

Cholesterol and blood glucose screenings were completed by a team of registered nurses, Physicians, and trained allied health center undergraduate students under the supervision of a registered nurse. After disinfecting the participant's hand and chosen finger, fifteen to twenty microliters of blood was obtained from the participant's finger using one-time use/disposable lancets and 15-20 microliter glass capillary tubes. The blood sample was then placed on a blood test strip and inserted into a *Cardio Chek* (PTS diagnostics) machine which provided the screener with the participant's total cholesterol level, HDL cholesterol level, and blood glucose level. Participants received health education and nutrition counseling based on their results. According to the Mayo Clinic [14], ranges for total cholesterol

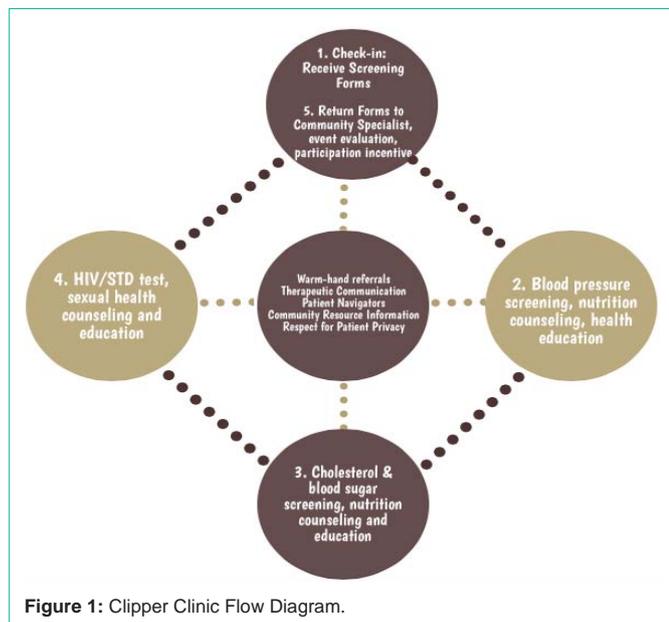


Figure 1: Clipper Clinic Flow Diagram.

are; desirable →below 200 mg/dL, borderline high →200-239 mg/dL, high →240 mg/dL and above. HDL ranges are; poor →below 40mg/dL, better 40-59 mg/dL, and best 60 mg/dL and above. For blood glucose, participants who do not have diabetes type 1 or type 2 and no other underlying chronic health issues should have a fasting blood glucose level of less than 100 mg/dL or a random blood sugar test result of less than 200mg/dL [15].

Cancer screenings

Cancer screening questionnaires were added to the Clipper Clinic in 2014, since then 376 community members have completed the cancer questionnaire. The participant receives the questionnaire when checking into the event. Prior to obtaining the participant’s blood pressure, a registered nurse asks the cancer questionnaire questions to the participants if they are eligible. Eligibility is based on the participant’s identified gender and age. Participants fifty years of age and older are asked whether they’ve ever completed a blood stool test; when their last blood stool test was; and the last time they’ve had a colonoscopy. Females who are forty years or older are asked if they’ve ever had a mammogram and when their last mammogram was. All women are asked if they’ve ever had a pap smear and when their last pap smear was. The information obtained from these screenings are used to gain insight on the preventative measures against cancer that are being taken by community members and identify participants who may benefit from connecting with a patient navigator from the University of Minnesota’s Masonic Cancer Center if they are interested. Cancer screening questions were derived from longstanding and well validated surveillance surveys conducted by the Centers for Disease Control and Prevention of the United States Public Health Service [16].

HIV/STD

HIV AND sexually transmitted disease screening are performed by certified outreach specialists from Fremont Clinic in North Minneapolis, MN. The testing specialist starts by collecting information about the participant’s sexual history (sexual orientation, number of sexual partners, contraceptive use, etc.) and asking the

participant if they believe they are ready to hear the results that day. Once the first step is complete, the screening specialist explains to the participant that the screening test is reactive (meaning that a test can be reactive/positive if the participant has disease related antibodies in their blood) and not a diagnostic tool. Blood is collected from the participant via a finger poke and a *Clear view 1.5* test is used to test the blood sample. After the test is complete, the participant receives information and counseling related to necessary next steps. If the test is reactive positive, the participant is referred to a positive care unit at Hennepin County Medical Center, Minneapolis MN where they receive follow-up care and additional diagnostic tests.

Once a patient has completed all screening stations associated with the Clipper Clinic process, they return their demographic form to the community event specialist and the following information is later used to evaluate community measures, blood pressure reading, total cholesterol and HDL cholesterol levels, and blood glucose level. Flow diagram 1 shows the clipper clinic event and screening process from entry to finish point (Figure 1).

Budget

The budget for each Clipper Clinic was approximately US \$4,000. This covered the cost of the mobile unit, nurses, community health workers, and disposable project supplies. Faculty, students, and staff from the University of Minnesota, as well as project managers from community organizations, volunteer their time. The Clipper Clinic is funded in part by U Care, a health plan based in Minnesota.

Results

Over the past three years (2013-2015), 611 community members have been screened at Clipper Clinic events with roughly 36% of the participants identifying as female and 57% identifying as male. The racial and ethnic background of screened participants included Latinos (31%), East Africans (6%), Multi-Racial (3%), and African Americans made up 44% of the total screened over the last three years. Of all 611 screened participants, 35% reported that they did not have health insurance, 11% reported that it has been more than five years since their last dental exam, 33% reported that they had no access to a regular clinic, and 28% of the screened participants reported going to the Emergency Room within a year of when they received the screening. Fifty-four percent of community participants screened for blood pressure had either systolic or diastolic readings in ranges that were considered not healthy using the American Heart Association criteria [13] in which healthy/normal ranges are combined scores of <120mm/HG and <80mm/HG for systolic and diastolic respectively. Nine percent of the screened participants had a total cholesterol score over 200 mg/dl, which is considered unhealthy and increases one’s risk for heart disease [14]. As stated earlier, cancer screening questionnaires were added to the Clipper Clinic in 2014, since then 376 community members have completed the cancer questionnaire. Of those community members screened, only 10% have had a colonoscopy in the last five years and 49% have never had a colonoscopy performed. Furthermore, only 15% of females screened received a mammogram in the last five years.

The evaluation tools included questions related to motivation for participating in the Clipper Clinic. Results showed that 68% of clipper clinic participants reported that they were motivated to receive a

Table 1: Participant Demographics. Percent completed (number of people).

Participant Gender		Have access to regular clinic	
Female	36% (136)	Yes	60% (367)
Male	57% (213)	No	33% (303)
Missing	7% (27)	Missing	7% (41)
Racial/Ethnic Background		Emergency room visit within last year	
African American	44% (166)	0 Times	57% (318)
Latino/Hispanic	31% (119)	1 time	17% (96)
East African	6% (22)	2 or more times	11% (60)
Multi-Racial	3% (10)	Missing	15% (82)
Other	14% (56)		
Missing	2% (8)		
Have access to health insurance		Motivations for participating	
Yes	60% (364)	Avoid ER	2% (8)
No	35% (218)	Urgent Health Concern	4% (14)
Missing	5% (29)	I don't know where else to go for these services	3% (10)
Time since last dental exam		Curious about health status	68% (263)
5 years or less	50% (304)	Missing	23% (89)
More than 5 years	11% (66)		
Missing	39% (241)		

screening because of curiosity in regards to their health status. Four percent reported that they underwent screenings because they had an urgent health problem, 3% reported that they underwent screenings because they did not know where else to go for health services, while 2% of screened community members decided to undergo screening services because they wanted to avoid the ER.

Discussion

The purpose of this paper was to highlight the community/academic framework, multiethnic and gender target population, and comprehensive disease focus that allows the Clipper Clinic initiative to address health disparities outcomes in underserved populations. In doing so, the data demonstrated that a community/academic partnership framework model was effective in engaging approximately 700 community members. This finding demonstrates the importance of an approach that is community based and encourages partnerships that enhance interactions between academics and community members in an effort to combine the knowledge and resources that both parties have to offer. The data presented above demonstrates that there are still areas of health that patients struggle with, but due to the support of the initiative's community partners, they were able to be connected with a health agency or organization that could provide follow-up care.

Another finding that the results revealed was the program's success in engaging both men and women from various ethnic backgrounds. Previous studies regarding health screenings in barbershops and salons focused on African American male participants [2,9,10]. As demonstrated in table 1, 36% of Clipper Clinic participants were women and 54% identify with an ethnic/racial group other than African American. This finding demonstrates that the Clipper Clinic

model allowed for the focus to be placed on a broader group within socio-economically disadvantaged communities. This data sheds light on these groups and the health risks prevalent among them. Continuation of these practices will increase the demographic and health information on Latino, East African, Hmong, Asian American, and Native American populations in the State of Minnesota. Additionally, the continuation of a model similar to the Clipper Clinic can provide information on health preventive care needs among women in the communities served. The results also highlight interesting information related to the age of the participants. The average age of the participants was 42 years, with the lowest age being 11 years and the highest age being 82 years. The data collection tool that the participant information was entered into did not allow for an in-depth look into the utilization of screening services based on age groups, but the mean provides a glimpse of how age may correspond to screening preference and the patient education components or program enhancements that can come from a more in-depth look at age groups and screening utilization in the future. Based on the mean age of 42 years, one may think that it may be possible that the majority of community members receiving care via the Clipper Clinic initiative are middle aged. This is an important finding because annual and bi-annual screenings that look for indicators of serious health issues, such as mammograms for breast cancer or colonoscopies for colon cancer, start around age 40. This finding creates an excellent opportunity for screening specialists at Clipper Clinic events to engage patients in education related to advise screening ages and the importance of routine health screenings. Furthermore, the mean age may provide evidence that the initiative is not capturing the young adult population (20-29 years), which is an important population to target when discussing prevention due to the population's high risk of engaging in adverse health behaviors [17].

A fourth and final finding revealed by the results was that screening for biomarkers other than blood pressure proved to be useful when assessing the disparities that these communities face. In addition, the screening results for biomarkers other than blood pressure provided a wider lens for researchers to look at when reassessing the risks within the population and the needs of the population. Previous studies focused on addressing hypertension and educating communities on the risks of high blood pressure in an effort to combat the disproportional rates of heart disease and related health issues within communities of color [9,10]. The Clipper Clinic model called for five different screenings including; blood pressure, blood sugar, cholesterol, HIV-STDs, and cancer (Table 2). Due to offering comprehensive screenings, the data provides important information about cardiovascular and cancer disparities within these communities. According the National Cancer Institute, cancer disparities are often seen among low-socioeconomic groups, certain ethnic and racial groups, and populations that live in geographically underserved and isolated areas. Cancer disparities can manifest as higher incidences of particular types of cancer among a certain population or even underrepresentation of certain populations in cancer trials [18]. The Minnesota Department of Health (MDH) found that African American, Native America, and Asian/Pacific Islander women have a higher incidence of cervical cancer than their Caucasian counterparts [7]. The results demonstrated that the communities that the Clipper Clinic visited since starting the cancer screening in 2014 are at risk

Table 2: Blood Pressure and Cholesterol Data. Percent completed (number of people).

Blood Pressure	
Healthy Range	41% (253)
Unhealthy Range	54% (329)
Missing	5% (29)
Healthy range is considered Systolic< 120mmHg; Diastolic,80mmHg	
Total Cholesterol	
Healthy	39% (241)
Unhealthy	9% (57)
Missing	28% (172)
Healthy is considered a total cholesterol number below 200mg/dL	

due to low preventative cancer screenings and care (Table 3). Changes to the care and education underserved communities receive about cancer can increase positive long-term health outcomes in many communities.

When reviewing the finding from the perspective of an ecological model that includes the individual, familial, and societal levels, one thing that becomes evident is the beneficial financial impact that preventative care offered via a community-academic framework can have on an entire community. According to the Joint Center Health Policy Institute [19], the combined costs of health inequalities and premature deaths in the United States were US\$1.24 trillion between 2003 and 2006. During the same time period, eliminating health disparities among minority populations would have reduced direct medical care expenditure by US\$229.4 billion. The significant preventative health role that the Clipper Clinic initiative plays and the protective factors it offers at the individual, familial, and societal levels are classified as efforts towards eliminating health disparities and could result in billions of dollars’ worth of healthcare savings for communities and providers of care.

Limitations

Although the initiative’s results from the past three years offered great insight on the benefits of an academic/community initiative framework that targeted multiethnic and gender representative populations and focused on preventive care services, the Clipper Clinic project has some limitations. First, the project included a convenience sample of clients of the barber shops and beauty salons who self-selected to participate in the program. However, because the Clipper Clinic data was collected over a 3-year period, the data likely

reflected average clientele of these barbers and stylists. Second, the relatively small sample size of participants may not be representative of neighborhoods, cities or counties where the barbershops and beauty salons were located. Nevertheless, the results are consistent with established local and state data regarding health disparities within socioeconomically disadvantaged communities. In addition, the program did not include assess outcomes from referrals to clinics or hospitals for follow-up care or a manner of recording repeat participants. This is a limitation because access to community member follow-up data or knowledge regarding how many times a person has received services via the Clipper Clinic would be helpful in identifying trends related to health behavior changes and positive health outcomes associated with services and accessibility/ convenience of care provided by the Clipper Clinic.

Another limitation is the lack of information collected in 2013. Information regarding the participant’s gender, racial/ ethnic background, emergency room visits within the last year, and motivations for participating in the screening process was not collected until 2014, so percentages do not reflect this information.

Conclusion

With respect to the question of the effectiveness of a community health intervention model with a community/academic framework, multiethnic and gender target population, and comprehensive disease- the results have demonstrated that such a model is effective and has demonstrated effectiveness via the Clipper Clinic initiative in Minneapolis, Minnesota.

Recommendations

Based on highlighted findings in the results and discussion sections of this paper, recommendations include: a continuation of data collection in the identified populations, comprehensive cancer screenings, and a follow-up component for screening participants.

The continuation of data collection among the populations targeted by the Clipper Clinic initiative is an important aspect of the effort to decrease health disparities in Minnesota and across the country. By increasing the amount of health demographic data on populations served, future initiatives and partnerships can assess trends in the data in an effort to decide the types of services they will provide based on the prevalent risks to the target population and what the population of interest believes they need.

Providing comprehensive cancer screenings via the Clipper Clinic

Table 3: Cancer Screening Data. Percent completed (number of people completed).

Have you had a at home blood stool test?		Time since last colonoscopy		Time since last Mammography *Women Only*	
Yes	13% (32)	Never had one	49% (185)	Never had one	23% (86)
No	80% (199)	Within the last year	4% (16)	Within the last year	10% (39)
Not Sure	7% (17)	Within the last 2 years	2% (10)	Within the last 2 years	3% (11)
Have you had a PAP smear? *Women Only*		Within the last 3 years	2% (6)	Within the last 3 years	1% (5)
Yes	55% (82)	Within the last 5 years	1% (5)	Within the last 5 years	0.5% (2)
No	42% (62)	5 or more years	1% (5)	5 or more years	0.5% (2)
Not Sure	3% (4)	Not sure	3% (11)	Not sure	2% (6)
		Missing	38% (138)	Missing	60% (225)

can be effective and beneficial to the target populations because it will increase knowledge about cancer risks (per community/population) and increase the individual's self-efficacy by teaching participants how to feel for breast lumps, watch for rashes, coughs, and provide them with the opportunity to sign-up and participate in clinical cancer trials.

An optional follow-up component will allow Clipper Clinic academic and community-based staff members to contact original participants again when the event is in an area near them so they have the opportunity to come in again. This second visit will benefit the participant by providing them with a second round of preventative screening services and access to healthcare providers' warm hand-offs referrals, at no cost to participants. Additionally the second visit allows for follow-up data collection that can be used to evaluate and identify health trends associated to Clipper Clinic contact (healthy behavior change, increased health knowledge and self-efficacy, referral service use, etc).

References

- Center for Disease Control. CDC Releases Second Health Disparities & Inequalities Report. Atlanta: U.S. Department of Health and Human Services. 2013.
- Laveist T. Minority Populations and Health: An Introduction to Health Disparities in the United States. San Francisco: Jossey-Bass. 2005.
- Center for Disease Control. Health of American Indian or Alaska Native Population. Atlanta: U.S. Department of Health and Human Services. 2014.
- Center for Disease Control. Health of Black or African American non-Hispanic Population. Atlanta: U.S. Department of Health and Human Services. 2015.
- Center for Disease Control. Health of Hispanic or Latino Population. Atlanta: U.S. Department of Health and Human Services. 2016.
- Center for Disease Control. Health of Asian or Pacific Islander Population. Atlanta: U.S. Department of Health and Human Services. 2015.
- Minnesota Department of Health. Advancing health equity in Minnesota: Report to the legislature. 2014.
- Centers for Disease Control. United States Public Health 101. 2013.
- Luque J, Ross L, Gwede C. Qualitative Systematic Review of Barber-Administered Health Education, Promotion, Screenings and Outreach Programs in African-American Communities. *J Community Health*. 2015; 39: 181-190.
- Linnan L, D'Angelo H, Harrington C. A Literature Synthesis of Health Promotion Research in Salons and Barbershops. *Am J Prev Med*. 2014; 47: 77-85.
- Releford B, Frencher S, Yancey A, Norris K. Cardiovascular Disease Control through Barbershops: Design of a Nationwide Outreach Program. *J Natl Med Assoc*. 2010; 102: 336-345.
- Skinner C, Tiro J, Champion V. *Health Behavior: Theory, Research, and Practice*. Edition 5. San Francisco: Jossey-Bass; 2015.
- American Heart Association: *Healthy Living*. Dallas: American Heart Association. 2015.
- Mayo Clinic: *Cholesterol Test*. Mayo Foundation for Medical Education and Research. 1998.
- Mayo Clinic: *Diabetes Tests and Diagnostics*. Mayo Foundation for Medical Education and Research; 1998.
- Center for Disease Control. Behavioral Risk Factor Surveillance System. Atlanta: U.S. Department of Health and Human Services. 2016.
- Center for Disease Control: *Young Adults Seeking Medical Care*. Atlanta: Center for Disease Control. 2011.
- National Cancer Institute at National Institute of Health. U.S. Department of Health and Human Services. 2015.
- Joint Center for Political and Economic Studies: *Health*, Washington: Joint Center. 2016.