

Project Summary

We are members of Imani Clinic, a student-run UC Davis Medical Center clinic that aims to service the most disadvantaged populations of the larger Oak Park, Sacramento area. "Imani," which comes from the Swahili language meaning faith, represents our mission to serve the community faithfully and demonstrate the existence of a healthcare system that could address their medical needs and social realities. Since its inception in 1994, Imani Clinic has provided preventative and episodic primary care, health education, mentorship, and specialty care.

Oak Park is an example of how systemic racism has critically impacted the healthcare outcomes of its residents. As a historically redlined community, it has limited access to affordable, nutritious foods, a poor emphasis on preventative care, and a high proportion of working poor, unemployed, and uninsured individuals. In recent times, most likely exacerbated by the COVID-19 pandemic¹, we are seeing a troubling increase in patients experiencing heart conditions. Hypertension (H.T.N.) is the most frequently diagnosed, with estimates suggesting that 50% of our 250 annual patients and the community experience it. This shows a marked increase from 2019, in which the reported prevalence in the community and the surrounding areas was around 31-39%². Despite the prevalence of hypertension: lack of awareness, appropriate follow-up, and treatment options are still common barriers to optimal blood pressure (B.P.) control.

Hence, we propose a sustainable H.T.N. prevention program called H.P.M.I, Hypertension Management Program at Imani, aimed at reducing CVD risks by overcoming healthcare barriers patients face and empowering them with an active role in reaching optimal B.P. control. This program will be run through the Imani clinic for its pilot trial, with the intended goal of expanding to all other UC Davis Health-run clinics within a year of its completion. Through this initiative, we hope to fully acknowledge hypertension's intricacies and multifactorial nature to provide culturally and racially sensitive care.

Phase 1

The first phase will seek to establish the hypertension program in a preliminary capacity, serving the existing patient pool at Imani that has hypertension. This way, we can monitor and optimize the program's logistics to maximize the benefits for the patients before we expand and advertise on a larger scale. The pilot trial will include 50 patients, selected based on a recruitment protocol that including the severity/risk of their current condition (such as if a patient has had one or more systolic BP reading of 139), a history of standard treatment options failing to help achieve optimal B.P., and logistical constraints that may affect overall participation.

Blood pressure (B.P.) cuffs

A huge barrier to better hypertension care is the cost of B.P. cuffs; thus, we will provide high quality B.P. cuffs free of charge. For this pilot trial, we will use the OMRON 5 Series Upper Arm home blood pressure monitor that can store up to 120 blood pressure readings and is proven to be consistent and accurate. These cuffs will be precoded to allow multiple records of medications and dosage as well. We have already recruited companies/individuals capable of doing this coding and are testing samples in the clinic space. This will lead to a reduction in the loss of data, pressure on the patient for detailed information, as well as white coat syndrome, a potentially harmful condition where a patient's blood

pressure reading changes due to a health professional^{3,4}. Aman will implement protocols that utilize HIPAA-compliant⁵, anonymized patient data obtained through informed consent to evaluate the effectiveness of the intervention.

Pharmacist

We have already recruited pharmacists to assist with the H.T.N. in-clinic visits through our connection with UC Davis Health. These pharmacists will be present through a telehealth interface established during the COVID-19 pandemic on the biweekly clinic dates. They will be responsible for monitoring the patients, and their medication, alongside preceptors. Funding will also advance access to in-person visits, helping in patient education, medication adherence, and access to optimal care.

Clinic Scheduling and Continuing Care

As coordinators, both Aman and Chiran will work with our medical assistants to schedule standing two-week follow-up appointments at Imani Clinic, hosted every Saturday from 9:00 AM to 1:00 PM. This will enable close monitoring of the impact/utilization of our interventions on our patient's blood pressure levels, as previously mentioned. In order to ensure participation, medical assistants will provide reminders to patients to use their blood pressure cuffs and the details of their clinic appointments. To incentivize patients to meet their appointments, grocery store gift cards will be given in the clinic to allow patients to attain essential nutrition and pharmaceutical products. To reduce transportation barriers, a portion of the grant will also go towards providing free ride-sharing services (Uber & Lyft) to our patients.

Preceptor, Professional Students, and Undergraduate Students

Within Imani, a robust network of doctors, medical, and P.A. students who reflect Imani's goals and visions exist. They work directly with our patient population to provide outpatient services and will help run clinical appointments, including vital intake, histories, and supervised physical exams. Our cardiologist, Dr. Javier Lopez, will oversee the clinic and provide additional guidance to ensure optimal team performance and effectiveness.

At Imani, we also have undergraduate students that dedicate time weekly to ensure the clinic runs smoothly. To prepare for the H.T.N. clinic, all team members will undergo periodic training led by representatives from the American Heart Association. Our undergraduate students will assist with setting up appointments, training patients on how to use the devices, and extracting data from the devices. Training will guide patients about the importance of monitoring their blood pressure regularly and utilizing the resources provided to them. Students will also encourage patients to set achievable goals for their blood pressure management, in order to help them stay motivated and engaged in their treatment plan.

Health Education and Goods

Our established Imani Health Education Outreach (IHEOP) program will offer in-person workshops and classes about nutrition, cooking, and fitness for community members and patients to learn how to effectively manage their blood pressure. These classes, held biweekly, will aim to empower individuals to manage their health effectively, despite facing local barriers. By providing information packets and online tools, these classes will promote the patient being their primary caregiver and the role of community support in self-management. To ensure education is delivered in a culturally

sensitive manner, Chiran will develop a training program for our IHEOP members that covers topics such as language barriers in education, culturally-appropriate dietary suggestions, and exercise plans consistent with the patient's lifestyle.

Phase 2

Expanding clinic services to other student-run clinics by establishing a strong referral system and efficient information service and actively recruiting patients through outreach efforts in neighboring communities.

Outreach

To increase the clinic's presence, we will leverage Imani's existing outreach team, which Aman is a part of. He will help organize multiple events to raise awareness about the clinic and proper B.P. maintenance, including B.P. smart days featuring healthy food, basketball games/other sports events, free blood pressure checks, and informational packets about hypertension. The outreach committee will also conduct targeted flyering, identifying "hot" areas such as local events, popular stores, and public spots. To assess the impact of flyering, the flyers will be coded to match each location and will offer patients a gift card for visiting the clinic. This will enable us to track which areas are most receptive to our outreach and adjust our strategy accordingly. Simultaneously, Imani's webmaster, in charge of Imani's online presence, will utilize the clinic's social media and website to reach out to the Oak park community. Furthermore, Aman will lead efforts to expand to new cities, starting with Del Paso Heights, where many disadvantaged populations have relocated due to gentrification.

Inter-Clinic Referral

Imani Clinic distinguishes itself amongst the other 11 student-run clinics with its unique cardiology clinic. As a result, patients requiring heart care are frequently referred to us; however, the current process can cause delays of over a month before the patient can receive care. Chiran will strive to improve access to the over 2,000 patients in our sister clinics by creating a streamlined electronic Excel referral system stored/shared via the cloud service Box. The system will incorporate integrated patient communication, status tracking, and real-time physician-physician communication⁶. We will monitor the number of referred patients in the upcoming years to gauge the effectiveness of the new pathway.

Longevity and Sustainability

During the first year, Chiran and Aman will serve as co-coordinators and collaborate with the cardiology clinic coordinators to manage all aspects of the program. To ensure sustainability, we will actively recruit a new co-coordinator from Imani's volunteer pool 4 months before Aman graduates in 2024. The new person will first be onboarded to ensure they are prepared to run the clinic. This process includes shadowing essential administrative tasks, practice communicating with vendors, preceptors, or pharmacists, and training on our electronic tools like our referral system and proper data storage. This cycle will be repeated annually to maintain a minimum of two coordinators per year. This model, already implemented in our other specialty clinics, will ensure continued future growth and success. To consistently obtain resources like blood pressure cuffs, we will pursue grants for future financing, utilizing the interventional data that we gathered as a proof of concept and instilling greater confidence in potential funders like UC Davis Health.

Timeline

May

- Training undergraduate, professional, and IHEOP on the specific needs of the program
- Creating the infrastructure of the program (acquiring B.P. cuffs, scheduling of IHEOP classes, clinic shifts)

June - September (Phase 1)

- Official Launch of the Program
- Ongoing assessment of weak points within the program and active work to resolve said points

September - April (Phase 2)

- Expansion of program reach through outreach: flyering, community events, social media
- Working alongside sister clinics to create a robust referral system
- Begin onboarding and training of New Hypertension Coordinator

Budget Breakdown

Product/service	Cost (US \$)	Product/service	Cost (US \$)
Base cost of Blood pressure cuffs (\$72 each x 50)	3,600	Gift cards	2,000
Coding services for blood pressure cuffs	1,500	Transportation	2,500
Outreach events/supplies (printing and paper for flyers, furniture for tabling, etc)	1,000	Miscellaneous	500
IHEOP classes/supplies (foodstuffs, nutrition and fitness informational flyers, etc)	2,500	Personal tuition scholarship	1,400
Total		15,000	

Citations

1. Kreutz, R. et al. (2020). Lifestyle, psychological, socioeconomic and environmental factors and their impact on hypertension during the coronavirus disease 2019 pandemic. *Journal of Hypertension*, 39(6), 1077-1089. <https://doi.org/10.1097/hjh.0000000000002770>
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5. HIPAA Journal. (2023). HIPAA Updates and HIPAA Changes in 2023. HIPAA Journal. Retrieved from <https://www.hipaajournal.com/hipaa-updates-hipaa-changes/>
6. Esquivel, A., Sittig, D. F., Murphy, D. R., & Singh, H. (2012). Improving the Effectiveness of Electronic Health Record-Based Referral Processes. *BMC Medical Informatics and Decision Making*, 12(1). <https://doi.org/10.1186/1472-6947-12-107>