

# Examining Diabetes and Hypertension in Rural Honduran Communities

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## Background

The Global Health Collaborative Project (GHCP) is an international and interdisciplinary research initiative aimed at improving health outcomes in rural Honduras. This team includes physicians, researchers, medical students, healthcare workers, and undergraduates from FSU College of Medicine, FAMU, and the University of Honduras.

Lack of healthcare access, economic burden, and low physician-to-patient ratio are just some of the many factors that contribute to underdiagnosis and poor management of hypertension and Diabetes mellitus (DM). Furthermore, Hypertension in Honduras is often underdiagnosed due to a lack of healthcare access. DM is shown to disproportionately affect low-middle-income countries (LMICs), such as Honduras. (1) With 48.3% of Hondurans living in poverty, this is a serious issue affecting the community. (2)

These chronic conditions have a significant impact on quality of life, especially when left untreated. Importance of educating Hondurans on the progression, treatment, risks, and prevention of these diseases to improve the incidence of hypertension and DM in Honduras. Information from this soon-to-be-implemented survey will hopefully provide some insight into the next steps in addressing diabetes and hypertension in these rural Honduran communities

## Abstract

The goal of this project is to gain information about rural Honduran communities in order to create feasible educational materials about diabetes and hypertension that are both relevant and accessible to Hondurans. This project will accomplish this by implementing a survey investigating the prevalence and management of hypertension and diabetes mellitus in rural Honduran communities, with a focus on low-income communities.

Some questions this survey will have include targeted questions on:

- lifestyle
- exposure to health systems
- targeted questions about diet to gain a better understanding of villagers' habits
- the availability of foods and healthcare resource

## Methods (Overall process)

This survey was developed and approved by the Institutional Review Board.

The actual survey and initial blood pressure/glucose tests themselves will be administered during Spring Break in various rural communities of Honduras.

Through a partnership with local healthcare providers, we will take follow-up blood pressure readings.



## Methods (Overall Process)

Steps 1 and 2: When encountering the patient, the screener will introduce the patient and consent form including information and questions about demographics, information about the survey, and patient rights.

**The survey includes the following information:**

- Demographic Information
- Dietary information
- Lifestyle information
- Exposure to Healthcare Systems
- Questions about Diabetes/Hypertension history

3. Measure Blood Pressure

4. Measure Blood glucose

5. Follow-up date and closing remarks

## Methods (Blood Pressure Screening)

1. Prepare the patient by having them sit properly and avoid certain activities

2. Use a validated and calibrated device for BP measurement

a. placing the midpoint of the cuff on the patient's upper arm at the level of the right atrium

b. Using the correct cuff size

c. Using both the diaphragm and bell of the stethoscope to measure readings.

3. Take appropriate measurements and record BP in both arms

a. waiting 1 to 2 minutes between repeated measurements

b. identifying the brachial pulse for auscultatory determinations

c. The highest BP reading will be noted

4. Take appropriate measurements needed for diagnosis and treatment of high blood pressure/hypertension

5. Properly document accurate BP readings and confirm the readings

6. Provide BP readings to the patient

## Methods (Blood Glucose Screening and Follow Up)

1. Ensure the meter and test strips are clean and ready to use

2. Have the patient wash their hands and massage their hand to get blood into the finger

3. Use a lancet to prick the palmar surface of the 3rd or 4th finger of the non-dominant hand

4. Place a small amount of blood onto the test strip and insert it into the meter

5. Record the results and add notes about anything that might have affected the reading

6. Properly dispose of the lancet and strip in a trash container

**Follow up:** Health center staff will keep records of the patients so they can be more easily contacted by the time the follow-up comes up

## Conclusion

The increased risk of DM in LMICs highlights the importance of proper screening, treatment, and education for individuals living in rural regions of Honduras. Our study aimed to assess the feasibility of using handheld glucometers for diagnosing DM in this population. Although our survey results are pending, we are actively collaborating **with** communities in Honduras to collect and analyze the data with the help of local providers and the biostatistics team.

The findings from our survey will provide insights into the current level of awareness, treatment, and prevention of DM in rural Honduras. This information can help us develop educational materials on hypertension to benefit the overall health of the population and create better screening guidelines applicable to the Honduran context.

Overall, our study has the potential to contribute to the prevention and management of DM in LMICs by improving access to early screening and education.

## References

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