The Trajectory of Non-Communicable Diseases in Rural and Urban Kenya

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Introduction
• In developing countries, an increase in the frequency of non-communicable diseases such as type-2 diabetes, cardiovascular diseases, and asthma is correlated with changes in lifestyle, often due to the transition from rural to urban environments.

Objective of Internship
• By using data from past scientific studies, the Kenyan National Bureau of Statistics, Kenyan National Archive at Syracuse, NY, and field research from the Turkana county in Kenya, we are exploring how the incidence of non-communicable diseases tracks urbanization.

Methods
• Performed data search on Kenyan National Archive microfilms at Syracuse, NY and from the Kenyan National Bureau of Statistics.
• Performed literature searches on Turkana studies regarding urbanization, genetics, and disease over time.
• Created surveys to collect data from settled and pastoral Turkana populations.

Results
• The Turkana as a study group is relevant due to some populations becoming settled with increased urbanization over time and some remaining nomadic.
• Because of the state of preservation of older records, I focused on microfilm data dating after the 1920s, noting the scarcity of numerical data in the earlier years.
• Located in Syracuse University’s Bird Library, the Kenyan National Archive contains provincial and district annual reports preserved in the form of microfilms. Due to the vast quantity and the time associated with viewing each microfilm, we focused on 33 microfilms of data from the Turkana county.
• From such reports detailing malaria outbreaks within hospital staff and developments of health facilities, the microfilms offered me a glimpse into the lives of these historic populations.
• Using survey solutions, I designed surveys to collect detailed data on an individual’s background (wealth, subsistence, and urbanicity, etc.), biological/physical status, and diet.
• These surveys are currently being used within the Turkana nomadic and settled populations.
• The data collected from the surveys will be promising in demonstrating concretely the differences between the populations.
• With the microfilms depicting health change over time and present data from the surveys detailing health change from urbanization, we will be equipped to investigate the relationship between urbanization and non-communicable diseases in developing countries.

Looking ahead
I hope to visit the microfilm archives at Syracuse to view data from more urbanized counties and populations, possibly using the scarcity of data from the Turkana as an indicator of lack of urbanization. I hope to additionally analyze data longitudinally in comparing rural and urban populations.

Questions
• How can developing countries proactively combat non-communicable diseases?
• How can countries currently facing non-communicable disease epidemics use these findings?

Conclusion
From these findings, developing countries can establish more targeted strategies and systematic protection systems in the defense against non-communicable diseases.

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