Short Term Global Outreach Clinics and Rural Free Clinics; How do formularies compare? An IRB Exempt Study

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Introduction

As the world becomes more globally minded and family medicine continues to expand to include a global focus, many non-governmental organizations (NGOs) operating in resource-constrained settings fill gaps in local health care services with popup Short Term Global Volunteer Clinic (STGVC). STGVC aim to provide public health intervention that addresses the population specific priority. [1] Often relying on internal and national volunteers, the STGVC aspires to be the global version of a United States volunteer run free clinic. Within the United States, free clinics aim to create equitable health care for patients who face obstacles that impede their access to primary care such as lack of insurance and inability to pay. The growing need for free clinics continues to rise as the number of patients with no health care coverage begins to exponentially grow. [2] Both STGVC and rural health clinics focus on areas where there is a visible lack of access to critically needed health care and medication. To meet the medication needs of its patients in an organized manner free clinics establish their own specific formulary. The methodology of formulary creation differs between STGVC and Rural Health Clinics. Within the US, formularies are largely created by the "judgment of the physicians and pharmacists and other experts". [3] STGVC's, however, are often guided by the 'WHO essential medicine' list, as well as experts on the ground in the countries the formulary is intended to serve. [4] The WHO Essential medicine list includes selected medication that addresses the needs of their patient based on efficiency, safety, and cost. The researchers theorize that the development of a universal formulary for both STVGC and free clinics are achievable, simplifying formulary creation for both entities. The foundation of this concept is to understand how much of each formulary currently aligns with the WHO essential medications list.

Photo 1 (left): *Drs. Miller and Reinoso work on discharge and follow up for a patient in the STGVOC in San Pedro, DR*
Photo 2 (right): *Local medical student volunteer examines child in the STGVOC in San Pedro de Macoris, DR*
Photo 3 (middle): *WesternU Students discussing treatment plans for a patient in Lebanon, OR*

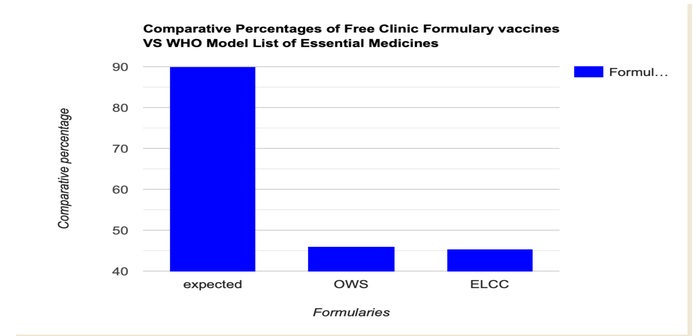
Methods

This poster compares the formularies of several clinics, including the formularies for a NGO STGV pop up clinic based in Dominican Republic, and hospital system sponsored rural free clinics based in Corvallis and Lebanon, Oregon. Formularies were compiled through collaborative efforts with Dr. Jhomairy Miller, a One World Surgery Physician assisting with STVGC in the Dominican Republic, as well as a clinic coordinator based in Lebanon and another in Corvallis, Oregon. Two western University of Health Sciences students conducted these comparisons. The formularies underwent a comprehensive analysis and were juxtaposed with the World Health Organization's catalog of essential medications. Each medication that was on the WHOs' list was accounted for and compared to the clinic formularies one by one to ensure the most accuracy. Therapeutic alternatives were also considered and the findings were noted alongside the results. WHO also provided a roster of vaccines, which was subsequently cross-referenced with the vaccines mentioned in the formularies. Following data collection, it was processed using a software that generated bar graphs to facilitate clear visual representation.

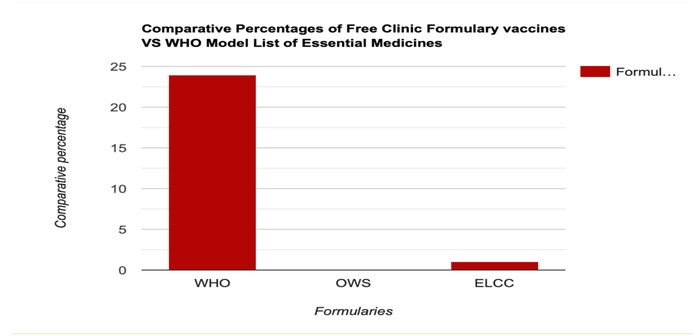
The null hypothesis: There should be a 90% correlation in each formulary to the WHO essential medicines list.
Alternate Hypothesis: SGTV and rural free clinic formularies are vastly different compared to the WHO essential medication list.

Results

Upon review and comparative analysis of the formularies, the findings indicate that neither the STGV pop-up clinic in the Dominican Republic, nor the rural free clinic in Corvallis and Lebanon, Oregon, align to a 90% equivalence with the WHO essential medication list. This substantiates the alternative hypothesis.



WHO = World Health Organization
OWS = One World Surgery (based in the Dominican Republic)
ELCC = Free clinics based in Lebanon and Corvallis, Oregon



We reject the null hypothesis, which posits that "there should be a 90% correlation in each formulary to the WHO essential medicines list". This is supported by the Corvallis and Lebanon NGOs' comparison at 45.45% and the OWS in the Dominican Republic NGO comparison at 46.05%. In regard to vaccinations, the WHO endorses 24 vaccines. Notably, the ELCC formulary provided a flu shot, while the OWS formulary did not offer any vaccines. However, it's worth mentioning that the OWS clinic did incorporate 10 therapeutic alternatives that were listed in the WHO medication list.

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Discussion

As seen in the results section we see both formularies fall short of the 90% equivalency. It is critical to note the wide diversity in medications seen in both NGO formularies. The relevance of these findings indicate that variations in formularies from the WHO essential medication list may be needed in order to meet the needs of the unique population the clinics are serving. As NGOs develop, they may learn lessons from rural free clinics or form partnerships to provide healthcare to those who need it most. Each formulary is well crafted to cater to the unique healthcare needs of a particular population. The study highlights a high degree of variability across the sector in terms of individual clinics' capacity to satisfy the basic health care needs of uninsured patients and the needs of the community. The idea of a universal formulary based on the WHO essential medication list may not be achievable due to the unique populations being served. Distinct regions, such as the Dominican Republic, may encounter healthcare challenges that differ from those experienced by populations in Lebanon, Oregon. Taking that into consideration it is also important to note that the Dominican Republic ranks 98 out of 189 on the human development index, whilst the state of Oregon ranks at 16. This human development index takes many factors into consideration to rank the overall well being of a population. We see how wide the gap is among the two regions of comparison, which may contribute to the different formularies.

Conclusion

The rural free clinic model focuses on the abatement of chronic health disease, therefore much of the WHO essential medication list is unnecessary in a STGVC. The focus of STGVC is on raising the standard of health care for the region and eliminating preventable region specific diseases. Improving the formularies in global and rural free clinics may reduce health disparities globally. Worldwide, we are far away from a global universal medication list to be used at all NGOs and free clinics.

Future Studies

This study had several limitations. Only 2 site specific formularies were evaluated during the study. To better understand the implementation and management of formularies within resource-poor settings multiple sites must be explored. It should include more local and international settings as well as publicly available formularies.

In addition, a comparison between the Executive Order 13944, the US Food and Drug Administration (FDA) essential medication and WHO essential medication should be made. It was not until the COVID Pandemic that the United States developed a true national medicines list. Assessing the similarity between the two lists can function to see if the WHO truly does serve as a model for creating a formulary that highlights its most needed medicine that is also reasonably affordable.

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