Establishing Medical Care in Impoverished Areas
A CAN Do-it Pop Up/Transportable Medical Clinic

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Tag Words: healthcare, medical care, infrastructure, impoverished, rural, underdeveloped, access, CAN project, community

Summary:
The absence of decent healthcare infrastructure can tremendously inhibit the ability of developing nations to provide citizens with suitable medical care. There are various charitable organizations that serve to improve the healthcare of communities in need, however many of these traditional humanitarian groups aim to provide aid during times of crisis and do not necessarily focus on improving overall healthcare in a permanent capacity. Other organizations, including Life in Abundance and Homes of Living Hope, seek to provide sustainable solutions to the problems associated with poor medical infrastructure through transforming shipping containers into pop-up medical clinics. These medical clinics can provide a more permanent solution to the problem of poor medical infrastructure benefitting many aspects of healthcare, including emergency medicine, prenatal and obstetric care, preventative medicine, and, most importantly, primary care. The objective of improving primary medical care in impoverished areas is to improve the overall community health and decrease the burden on emergency medicine. Individual volunteers in the United States can provide support through helping to transform shipping containers into medical clinics.

Video URL: https://www.youtube.com/watch?v=8LzRpF5Hpi4

The Issue: Improving the Delivery of Healthcare in Impoverished Areas
As Americans, we are privileged to be able to have access to advanced and well-developed healthcare systems but there are many places across the globe that do not have the same access. Many developing nations do not possess a sound medical infrastructure. While this problem is magnified in developing nations, this problem is not limited to developing nations. Some rural communities may be situated a great distance from hospitals and emergency health clinics. This paper will address how to improve the delivery of medical care, especially primary care, in developing communities, including rural America. This can be executed through transforming shipping containers into medical clinics through the efforts of volunteers in the United States and donating these fully functional clinics to communities in need. The objective of improving primary medical care in impoverished areas is to improve overall community health and decrease the burden on emergency medicine.

When comparing a multifaceted issue such as healthcare across several countries, it is vital to maintain a sense of objectivity. In this analysis, this is done by juxtaposing several smaller and more focused subsects of healthcare and comparing them each individually. The four areas of focus are primary care, emergency medicine, prenatal and obstetric care, and preventative medicine. In addition to the issue of healthcare itself being a highly complex industry to evaluate, Africa is both a physically vast and geopolitically diverse continent that faces a myriad of socioeconomic and health related challenges in each region. It is far from homogenous. To
account for this variation, the previously mentioned four sub-industries of healthcare will be compared across three representative regions of Africa. Uganda, Liberia, and Kenya have been chosen due to their unique socioeconomic and geopolitical atmospheres, all of which give rise to unique healthcare structures.

The Current Situation & Programs that are Presently Providing Healthcare Aid
Proper healthcare in developing nations may be variable to nonexistent. A lack of proper medical infrastructure profoundly hinders the ability of developing nations to provide reliable healthcare of respectable quality. In terms of certain indicators of health including life expectancy at birth, the number of physicians per 1,000 people, and both child and maternal mortality rates, many African countries are lagging being the rest of the world (1). In addition to a lack of medical supplies, deficiencies in the structure of medical care lends to the overall deficiencies of healthcare in many impoverished nations. In order to compensate for these inadequacies, various aid organizations, both foreign and local, serve to assist these communities.

Doctors Without Borders and Drugs for Neglected Diseases Initiative
Doctors without Borders is a global philanthropic organization that seeks to provide medical care to areas in need across the globe. These areas may be experiencing political upheaval or may have been met with a devastating natural disaster. This organization was founded by ten French physicians that felt it was their duty to intervene in communities experiencing distress. They work in war-torn nations, communities dealing with food shortages and malnutrition, and they assist refugees in many parts of the world (2). They co-founded the Drugs for Neglected Diseases Initiative in 2003 in order to consolidate existing drug research and development initiatives across the globe to decrease research costs. This was done with the goal of developing new drug compounds and finding more advantageous uses for drugs already in existence (3). In this way, this organization seeks to increase the availability of medications across the globe through consolidating research efforts and decreasing costs, paying particular attention to the tropical diseases that devastate many impoverished nations. This organization, headquartered in Brussels, Belgium, provides aid to over 70 countries (2). The dedicated members of this organization are known for being outspoken about injustice and human suffering (4). The tremendous aid efforts of this organization have been undoubtedly beneficial to many nations experiencing situations characterized by an extreme degree of crisis. While this type of organization acts as a reserve, ready to take swift measures in response to emergencies, it does not necessarily solve the problem of improving the overall healthcare systems of these nations, as it does not always act in a permanent capacity. While each situation requires different considerations, Doctors without Borders will, by necessity, have to leave a particular area after the initial crisis has subsided. At this point, the day-to-day healthcare operations of the community return to their previous, potentially substandard, infrastructure. Emergency aid does not necessarily assist in improving the day-to-day operations of healthcare systems. In order to improve the overall state of healthcare in developing African nations, the gap between providing short-term, emergency care and long-term, family medicine must be bridged.

Implications of Political Instability on Healthcare
Solving the issue of substandard medical care in nations where certain communities have been marginalized is a complex one. The overall political stability of a nation can play a huge role in the health of its people. When governments face tremendous difficulties with political instability,
government officials are often left overexerted and are therefore simply unable to pay close attention to providing for the healthcare needs of the people. Considerations of urgent political issues may occupy politicians’ thoughts, leaving matters of healthcare in the background. In the midst of civil war or natural disasters, government officials may not be able to preside over problems with primary care infrastructure. Certain disasters may force government attention away from healthcare. As government attention falls away from overall medical infrastructure, funding and other resources may be channeled in other directions, away from healthcare (5). The lack of proper healthcare in certain impoverished nations may not entirely be a consequence of a lack of resources. The problem may stem from an overexerted government that lacks the ability to properly allocate resources in order to create a stable medical infrastructure. For this reason, the donation of fully functional, prebuilt medical clinics may benefit impoverished, unstable nations far more than donations of individual pieces of medical equipment.

Providing Sustainable Healthcare Aid – Delivery of Medical Clinics
To circumvent the problems that may arise in a community during a catastrophic situation, it is prudent for healthcare charities to focus on improving the overall healthcare of a poverty-stricken community by taking a systemic approach. This involves tackling healthcare aid by providing solutions to poor medical infrastructure. Several organizations, such as Life in Abundance and Homes of Living Hope, seek to aid in the establishment of sustainable healthcare systems. These organizations provide communities across Africa with scalable community clinics, equipped with a wide variety of medical tools (6). Rather than simply provide medical equipment such as blood pressure cuffs and basic first aid tools alone, these supplies are given greater context in the medical clinic in which they are housed. A prebuilt medical clinic provides a community with a specific site for medical care. In addition, this clinic serves as a recognizable, communal location dedicated to providing community members with general healthcare. Organizations such as Life in Abundance and Homes of Living Hope approach the concept of charity with the goal of not only meeting immediate healthcare needs, but also providing sustainable solutions to problems related to a lack of appropriate healthcare infrastructure.

Life In Abundance
Life in Abundance, headquartered in Nairobi, Kenya, seeks to organize the efforts of church-based communities in order to create and deliver prebuilt, well-stocked health clinics. This organization also focuses on the generation of water supply, sanitation, and hygiene facilities. Educational programs concerning nutrition and HIV prevention are also a main focus. The main goals of this organization are to contribute to better health in impoverished communities through education and to provide these communities with the resources necessary for the development of proper medical infrastructure. To combat issues surrounding poor nutrition in impoverished communities, this organization runs nutrition programs for single mothers and children under the age of five. Rather than simply provide food items, they provide nutritional education to contribute to the health-based knowledge of the community members. In addition, this organization runs training sessions aimed at educating community members about hygiene and disease prevention practices (6).

Furthermore, Life in Abundance understands that in order to provide the best form of aid to a community in need, donations must be properly allocated. In order to do so, this group recognizes that its members must gain a strong understanding of the specific needs of the
community that it seeks to assist. Thus, they must become aware of the shortcomings of this community’s existing medical infrastructure (6). By determining the specific needs of a community, Life in Abundance is able to allocate aid in a way that will target the specific needs of individual communities.

Homes of Living Hope
The development of sustainable charity in a community relies on the establishment of a project that will provide aid to a community long after the donating organization leaves (7). The idea of providing a long-term solution to the problem of poor healthcare infrastructure has been additionally confronted by Homes of Living Hope, a nonprofit organization based in the United States that enables volunteers to contribute to an aid project that will improve an impoverished community without having to travel abroad to do so. Homes of Living Hope was founded by Scott Kalevik in 2004. While traveling to West Africa, Kalevik experienced distress upon witnessing the unsanitary living conditions and substandard medical infrastructure of many Liberian communities. This organization works by orchestrating American volunteer efforts to create facilities, including medical clinics, out of shipping containers. A metal shipping container is transformed into a fully functional medical clinic, complete with fully furnished examination rooms, an office, and a pharmacy. These rooms are filled with donated medical supplies, including but not limited to blood pressure cuffs, scales, and blood analysis equipment. The volunteers also supply the final product with plumbing and wiring for electricity (8).

This organization provides a solution to the problem of expensive travel by enabling volunteers to perform philanthropic work without the need to travel to the impoverished community they are seeking to serve. The shipping containers are transformed by the volunteers into medical clinics within the United States, lifting the burden of expensive travel costs from volunteers’ shoulders. Homes of Living Hope is able to connect the volunteer efforts of Americans with various international aid organizations, including the Mexico City-based organization ConeXión Mosaico and the aforementioned Nairobi, Kenya-based organization Life in Abundance. These organizations have close associations with the communities in need, and therefore have a strong understanding of the unique needs of the individual communities (8). For example, ConeXión Mosaico currently focuses its efforts on providing aid to two specific communities, Los Reyes La Paz and Chimalhuacán, both located directly outside of Mexico City (9). Concentrating on the individual needs of specific communities allows these organizations to better allocate the aid provided by the distantly located volunteers.

Problems Associated with the Donation of Medical Supplies
Many impoverished nations rely heavily on donations in order to provide basic medical care to their people. While medical equipment donations are often made with the optimistic intentions of benefiting a community, poor allocation often stands in the way. There are substantial obstacles standing in the way of medical care donations being able to successfully aid a community in need. When medical equipment is purchased directly by healthcare providers, its usefulness is, in an ideal situation, thoroughly deliberated with respect to patient benefit. These considerations include its appropriateness with respect to a particular setting, its level of quality and cost effectiveness, and its ease of use and maintenance. When medical care equipment is donated, this process does not necessarily occur. The healthcare workers in the community in need are not necessarily able to request specific items. In many cases, medical equipment is donated at
random. Another potential issue regarding medical donations stems from the absence of proper training and maintenance for the donated equipment. In order for a particular piece of donated equipment to be useful to a community, it must be accompanied by any training necessary for its utilization. In order for a piece of donated medical equipment to become functional in a healthcare setting, a great deal of coordination and planning must occur (10). In many cases, a large portion of donated medical supplies may go unused by the community to which they were donated. A study by the World Health Organization determined that about 70% of medical equipment goes unused due to a lack of proper user training or maintenance support (11). The donated item must not exist in a vacuum, as its many constituent components, from technical support to supplementary parts, must be considered as well.

While monetary donations are nonetheless helpful, the solution to fixing the problems in impoverished areas does not lie solely in donations. Many factors are implicated in the existence of poverty in certain nations. It appears likely that a substantial factor hindering the improvement of impoverished communities is not a lack of monetary and other types of donations. A large reason for the inability of many developing nations to improve stems from the absence of opportunities. The people of many impoverished communities are often denied basic resources, such as satisfactory healthcare and hygienic living conditions (12). In order to improve the medical infrastructure in impoverished areas, collaborative efforts among volunteers and government officials are necessary. Oftentimes, donations are not efficiently allocated and communities find themselves still lacking proper structures in which to house medical clinics. For this reason, the lines of communication between government officials, who likely have a relatively good understanding of a nation’s needs, and volunteers, who may have a say in the type of items being donated, should remain open.

Analyzing Healthcare in the Developing World
The current state of healthcare in developing countries is one that is foreign to most who have experienced it in a developed counterpart. To retain a sense of objectivity throughout this analysis, healthcare will be broken down and considered in three component parts: primary and preventative care, emergency care, and prenatal/obstetric care.

History & Etiology
Prior to examining the current state of medical care in developing countries, it is important to consider the etiology that gave rise to the healthcare challenges that plague these regions of the world. Several of the obstacles faced by developing countries in building effective healthcare infrastructure stem from geopolitical unrest. Uganda, for example, serves as a model that illustrates the deterioration of healthcare in many war-torn countries. Uganda had one of the most developed healthcare systems in the region during the 1960’s. During the following years in the 1970’s, the country was met with several political challenges that stemmed from civil unrest (13). The existing healthcare system virtually collapsed. 45 years later, the country is still struggling to rehabilitate infrastructure and establish an efficient healthcare system. Currently, the majority of Ugandan citizens seek care through local dispensaries that are overcrowded, understaffed, and under equipped (14). As of 2013, Uganda had one doctor for every 24,725 patients, a fraction of what it should be for the system to operate efficiently (15). The World Health Organization recommends having at least one doctor for every 1,000 people. The United States has 2.5 physicians per 1,000 people (16). Worldwide, there are 57 countries with a critical
shortage of healthcare workers- a deficit of 2.4 million doctors and nurses (17). In addition to these logistic limitations, the country is fighting an uphill battle against communicable diseases such as malaria, HIV, tuberculosis, measles, cholera, and countless others (13). Unfortunately, the wide range of factors that affect healthcare in this region are quite common in developing areas. This pattern of political turmoil that leaves healthcare in shambles is one that plagues many regions. Efforts to rebuild are slow and tumultuous, as it is difficult to combat such a multifaceted challenge.

Primary Care
The World Health Organization defines primary healthcare as “the first level of care and usually the first point of contact that people have with the health-care system. PHC supports individuals and families to make the best decisions for their health. It includes advice on illness and injury prevention, health promotion, individual health assessments, diagnosis and treatment of episodic and chronic conditions, and supportive rehabilitative care” (18). As mentioned above, one of the most overwhelming challenges that healthcare professionals face when delivering primary care is the sheer volume of people who require services. In 1975, approximately 9 million people of Ghana (90% of their population) required at least a minimal level of primary healthcare (the other 10% required more specialized care) meanwhile, the country was only able to spend 15% of its health expenditures on primary care (19). The completely inverted nature of population versus health expenditure in Ghana is one seen in many economically underdeveloped countries where the population is rapidly rising. To further complicate delivery of primary care to a large population in developing countries, their healthcare systems are faced with double the burden. Not only do they have to deal with persistent rates of infectious diseases, but they also have to battle rapidly increasing rates of chronic (long term) disease as well. According to the Global Health Education Consortium, this is a dilemma often seen in developing countries (19). There is a substantial dissonance between the resources available and the ever-increasing number of people who require treatment.

According to UNICEF, the primary killers of children in the developing world are pneumonia, diarrhea, malaria, measles, HIV/AIDS, and malnutrition. Many of these children die as a result of not having access to routine immunization and basic health services. Over 30 million children remain unimmunized worldwide (20). Those in developing countries face an even higher risk of contracting deadly illnesses due to the poor nutrition in poverty-ridden regions of the world. These children lack essential micronutrients that render their immune systems even more susceptible to these otherwise non-fatal illnesses. For example, measles rarely kills children in industrialized countries, however, it has up to a 40% mortality rate in children of developing countries (20).

The overwhelming challenge in delivering primary healthcare in developing countries comes in building the capacity to serve a large number of people. Every single person residing in these developing nations requires some level of healthcare (ranging from generic primary care to specialized hospitalization). Delivering this care becomes a problem of pure logistics when there is such a discrepancy between the number of healthcare professionals available and the number of people who require treatment. This problem of sheer numbers becomes even more challenging when the lack of infrastructure is also taken into account. Finally, once the high rates of infectious disease and low incidence of satisfactory nutrition place burden on an already
inadequate system, the healthcare delivery crisis in developing nations can be fully understood (20).

**Emergency Medical Care**

Healthcare in developing countries has not typically been focused around emergency medical care. When there is difficulty meeting the demand for routine primary care, it is that much more difficult to establish any type of reliable and specialized emergency care. Dr. Adam L. Kushner, M.D., a surgeon and associate in International Health, states that “If a kid in Sierra Leone, Liberia or Sudan falls out of a tree and breaks his arm; he’s potentially disabled for life” (21). The World Bank estimates that 11% of worldwide health afflictions could be treated by surgery; yet, two billion people have no access to surgical healthcare (21). In addition to the logistic challenges previously mentioned, a major impediment to the delivery of emergency medical care is the lack of adequate transportation. Many developing countries lack the infrastructure and road work to quickly transport acutely ill patients to a medical care facility. Additionally, many hospitals lack ambulatory vehicles and therefore do not have the means to transport those who need urgent treatment. This phenomenon is seen in Guinea-Bissau, where 20 out of 125 ill children died either in transit to a hospital or while waiting to be tended to in an outpatient facility (22). Expectant mothers are also faced with the burden of limited emergency care. There is a significant amount of crossover between emergency care and neonatal care, as a large amount emergency care incidents occur during childbirth.

**Antenatal Care**

According to the World Health Organization, 99% of childbirth related deaths occur in developing countries (23). These deaths reflect the disparity in healthcare, as over half occur in sub-Saharan Africa and a third occur in rural Asia. About 830 women die worldwide as a result of childbirth complications each day. The majority of these complications are preventable or treatable under the appropriate care. These conditions include severe bleeding after childbirth, postpartum infections, high blood pressure, complications from delivery, and unsafe abortions. These factors account for over 75% of deaths due to childbirth (22). Prenatal and childbirth care are areas of healthcare where there is an evident socioeconomic disparity. Virtually all women in industrialized nations receive specialized prenatal care and give birth in the presence of a skilled professional. In developing countries, only 51% of women are assisted by a doctor, nurse, or midwife during childbirth (23). This means that virtually half of all births in the developing world occur in the absence of a healthcare professional, thus, many treatable complications go undetected and result in fatalities. As seen in the delivery of emergency care, lack of transportation vehicles and infrastructure also play a role in the lack of prenatal and childbirth healthcare in rural areas (22). Pregnant women often do not have a way to be transported to the hospital during childbirth. There are also challenges in education. Many women in impoverished areas lack the education to seek medical care during pregnancy and childbirth or do not know how to detect signs of complication (23).

**Challenges in Developing Healthcare**

It is evident that there is a largely unmet need for adequate healthcare in the developing world. Not only are basic healthcare needs for routine visits and immunizations not being met, but specialized care is even more out of reach in these areas. A significant theme that is pertinent to delivering all three subtypes of healthcare (primary, emergency, and prenatal) is the sheer lack of
healthcare professionals available to deliver care. The second most relevant complication is due to a lack of medical transportation systems to bring patients who require specialized care to hospitals. Without the people to provide care and the infrastructure to transport patients, developing countries are lacking the resources necessary to bridge the gap between healthcare demand and delivery.

How Diseases Play a Role in Establishing Healthcare

When trying to describe the current medical situation in impoverished areas, one faces many difficulties. Africa will be discussed for the purpose of explaining the struggles of diseases in impoverished areas. Africa is a very expansive continent and there are so many different problems within the different subregions that it has become a challenge to talk about all of the different problems throughout the continent because what might be an issue in one country may not be an issue in another. Many nations don’t even know where to begin due to the lack of a sound medical infrastructure.

Each country is threatened by different diseases that all need to be tended to but it becomes very difficult to combat these diseases when people aren’t educated about these diseases. The natives don’t understand how dangerous these diseases are and the medical professionals may not be fully trained in this area of diseases. An article from Medweiser states that there aren’t enough workers available, and the ones that are, aren’t well trained, and the one who are well-trained leave the continent to look for safer places to practice (26). Without a sound medical system, people resort to their own “home remedies” to cure themselves. Some people have never been exposed to real medicine.

A variety of different diseases pose a threat to African countries and progress needs to continue to be made with controlling the spread of diseases like malaria, HIV/AIDS, tuberculosis, and Ebola. Malaria is one of the diseases that can be found throughout Sub-Saharan Africa whereas HIV/AIDS and tuberculosis are most prevalent in Southern African countries and Ebola is found mostly in Western African countries.

Diseases in Africa

Malaria is found throughout all of Africa making people ill with symptoms such as a high fever, shaking chills, and flu-like illness (24). The CDC defines malaria as “a serious and sometimes fatal disease caused by a parasite that commonly infects a certain type of mosquito which feeds on humans” (24). If not treated properly or within a certain time frame, it can become deadly. “Globally, the World Health Organization estimates that in 2013, 198 million clinical cases of malaria occurred, and 500,000 people died of malaria, most of them children in Africa” (24). Specifically we see that East African countries bear a heavy burden on the prevalence and mortality. “In Kenya, there are an estimated 6.7 million new clinical cases and 4,000 deaths each year” (27). In Uganda, malaria is the leading cause of morbidity and mortality “ accounting for approximately 8–13 million episodes per year, 30–50% of outpatient visits at health facilities, 35% of hospital admissions, 9–14% of hospital deaths (nearly half of those in children less than 5 years of age) and a great many deaths occurring outside of healthcare settings” (28). Both countries lack the medical facilities and necessities, such as vaccines and drugs to manage the disease.
Other diseases like Ebola, although primarily found in West African countries, can be easily transmitted to others countries and cause a major scare. Around September of last year “a total of 4507 confirmed and probable cases of Ebola virus disease (EVD), as well as 2296 deaths from the virus, had been reported from five countries in West Africa — Guinea, Liberia, Nigeria, Senegal, and Sierra Leone.” (NEMJ Ebola). Ebola is spread through contact of bodily fluids, which makes it incredibly difficult to contain because even small particles in the air can further the transmission of the disease. In these African countries, the lack of medical infrastructure and medical professionals and supplies severely impacted their ability to contain the spread of the disease. In the United States, the CDC called for make-shift emergency quarantine locations and isolation of those who had recently traveled to the previously mention African countries. Because the U.S. had the funds, knowledge and resources, the spread of the disease was blocked. Another major disease that we see in Sub-Saharan African countries is HIV/AIDS and tuberculosis. Tuberculosis is often associated with HIV/AIDS because of the person’s compromised immune system. “Africa, home to 11% of the world’s population, carries 29% of the global burden of tuberculosis cases and 34% of related deaths” (25). With that being said, there are 54 countries in Africa but South Africa bears almost the entire burden of HIV/AIDS for the continent. “About 12% of the South African population is affected by HIV/AIDS; excluding children, that percentage rises to 18%.” (26).

Establishing Healthcare in Africa
Overall the diseases that are prevalent in Africa make establishing healthcare in this country that much more complicated and challenging. At the same time, these diseases expose how much of a need there is for a functioning healthcare system. Once an area has some sort of functioning medical system, complete with trained staff and proper equipment, the natives of the area can start to reap the benefits of healthcare. These benefits would include, information about the diseases and how the people can protect them from contracting them or even ways to manage a disease that they already have. The most important part of establishing a healthcare system is that it is providing the people of that area with access to medical professionals and treatment that they may not have had otherwise.

Community Action: Gifting of Surgical Supplies to the Medical Clinic CAN Destined for Kenya
After reading all of the research that describes the burden of diseases, lack of funding, and problems with allocating donations, it is clear that something needs to be done. Instead of just talking about the problems we see, we decided that we should do our part to make a difference, even if it’s something as small as sending in donations, whether it be surgical equipment or money.

The inspiration for our project began when our professor mentioned that she had some surgical equipment that she was looking to donate. She had heard about the Lutheran Church of God’s Love in Newtown, Pennsylvania that had something called the “CAN Project”. “CAN” stands for “Container at Newtown” which was started by The Lutheran Church of God’s Love in Newtown, Pennsylvania. This church group partnered with an organization called Homes of Living Hope. This group specializes in transforming shipping containers into medical clinics, schools, and housing. Homes of Living Hope has been leading these projects since 2006 and they have positively impacted numerous lives. This specific project oversaw the transformation of a
shipping container into a makeshift medical clinic that was eventually sent to Kenya (for pictures, see Appendix 1). Members of the church and the local community came together each Saturday for over a year to put the masterpiece together. With the hard work of the volunteers, the once-stark interior of the can was converted into 2 medical examination rooms, a small pharmacy, and an office space. The examination rooms were fully furnished with an examination table and complete with electric and plumbing system. Local construction workers came together to help with the framework and families came to paint the outside. Everything that was supplied to the “CAN” was either donated from local citizens, physicians, construction workers or was paid for through monetary donations.

After hearing about this project we decided that we wanted to be able to do our part in making a difference. We decided to donate a variety of surgical supplies to be sent off with the “CAN”. The following items were brought to Newtown PA on Sept 13, 2015: Stainless steel sterilizing tray, stainless sterilization case, autoclavable plastic tray, 14 scalpels or blade handles of various sizes, 29 forceps of different varieties, 28 varied scissors, 16 towel clamps, 6 grasping forceps, 5 rubber padded clamps, 51 straight and curved hemostats, retractors, dissectors as well as other more specialized surgical tools.

Additionally, we had hoped to secure donations of equipment (such as an autoclave) and furniture (dental chair) that had been requested by doctors in Kenya. We contacted several resellers of medical equipment and they were either unwilling to donate or didn’t have the items requested.

It’s still nice to know that the donations will be involved in improving the medical care in a community in Kenya.

Projects like the “CAN” seem to be the perfect solution to the healthcare dilemma present in many developing nations. By delivering these transformed shipping containers to countries that do not have an established primary care system, or to rural areas in America where health clinics may be relatively scarce, we would hopefully be able to begin the process of improving primary healthcare. These containers would be the first step. The idea behind a project like this is, first and foremost, to have these newly transformed shipping containers sent out to act as the building blocks for future medical professionals to work in. Although the “CAN” is just a made-over shipping container, it provides a structure in which medical workers can perform their duties. Patients would come in for routine check-ups or for more urgent care in emergency situations at the clinic. If further care is needed, the medical workers can then take the necessary steps to transfer the patient to a larger hospital. Hopefully, this makeshift clinic would lay the foundation for possibly an even larger clinic that would permanently remain there for the community to use as needed. Ideally, more trained and educated personnel would continue to inform themselves and be able to come up with prevention plans and strategies for the community. While the healthcare infrastructure continues to develop, this “CAN” would be able to serve the community effectively.

While the volunteers involved in the “CAN” project created a medical clinic to be delivered to Kenya, these types of medical clinics can be of use in developing areas across the globe. This container could also serve an important purpose in rural areas of America where it is difficult to
obtain healthcare simply because the nearest medical clinic or hospital is not in close proximity. Homes of Living Hope primarily has connections with organizations in Kenya, Uganda, and Mexico City but that does indicate that this type of donation cannot reach and benefit other places. This would be a wonderful opportunity to try and establish relationships with different organizations that are probably also in need. Imagine your small community being able to connect with another organization in India to help provide a community with medical necessities to keep people healthy. This type of volunteer work can also help to foster relationships among different communities within the United States. Members of multiple communities can come together to help construct the inside, paint the outside, provide food for the volunteers, or simply raise money for the shipment of the container. Even the seemingly small steps taken by many volunteers that are put towards the transformation of a shipping container into a medical clinic contribute to the improvement of the health of many people in developing communities.

References


Appendix 1. CAN Project Pictures
Container At Newtown
The Lutheran Church of God’s Love
Newtown, Pennsylvania
Images taken on Sunday, September 13, 2015
View from the side of the shipping container, looking in at the full length of the container. Areas for future doors and windows are seen on the left wall. There are doors separating each of the 4 rooms. Doors to the outside will be installed on the left wall so that each room can be independent.

View of the first room (the far right side of the container where you first walk in). Sink and cabinets are shown. Water will be provided to the sink from a tank with a water heater on top of the container. Plumbing has been installed and will be connected once the container arrives in Kenya. There is another future window seen in the top middle of the picture. Here you can see where volunteers wrote messages on the metal walls of the container. Sinks were donated by a local hardware store. The binder contains pictures of the volunteers working on project.
Next room - exam room 1. Scale, exam table, light, & other medical instruments seen in this picture were donated by a local dentist & member of the church.

This is a picture of the first room taken from the second room (exam room 1). The shelves on the wall will likely be used to organize different medications, acting as a pharmacy. The cut out to the right of these shelves will be turned into a window once the container is in Kenya. This window will then likely be used as a pharmacy window, so patients can pick up medications quickly.
This room is the third room in. It is designed to act as an office. The furniture has been arranged in this way for the purposes of showing the container to the public. There is another spot for a window to be installed.

This is the 4th room in. It is the second exam room. It is set up similarly to the first exam room. It has a space for an outside door to be installed.
This shows some of the messages written by volunteers on the inside of the container.

The outside of the container was painted by volunteers. The areas that are blue are the places where doors and windows will be installed once the container gets to Kenya.
Another image depicting the outside of the container.

The blue areas are locations where a door and window will be installed once the container arrives in Kenya.

A tree was painted on the side of the container with volunteers’ handprints.
Letters to the Editor

Amanda Immidisetti
Sent to: National Geographic
In Reference to the September 22, 2015 Article “How Smartphones Fill the Healthcare Gap in Myanmar”

To the Editor:
Ken Banks’ article on cell phone usage in Myanmar shed light on one of the most prominent 21st century challenges that faces the world: delivering healthcare in developing countries. It was inspiring to read how two men from Myanmar (where the life expectancy is on average 2 decades less than it is in the United States and there are only 4 doctors per 10,000 citizens) were able to use smartphones to make healthcare more accessible to the average citizen. Not only do developing countries need more health care professionals present, but they also need innovative ways to deliver healthcare. Additionally, education plays a key role in the population’s overall health literacy, which is what enables them to make their own health decisions in the first place. This article highlighted a way to open the door to education and proficient delivery of health care in the developing world. Innovations like this need to be taken into consideration by all aspiring healthcare professionals today.

Amanda Immidisetti
Rutgers University School of Environmental and Biological Sciences
Biological Sciences Major
Class of 2016

By Brianne Reed
Sent to: Asbury Park Press

Dear Editor:

About 2 months ago I read an article in a paper about a community service opportunity called The “CAN” Project. It stands for “Container at Newtown” because it is located in Newtown, Pennsylvania. A church group (God’s Love Lutheran Church) partnered with Homes of Living Hope to put into action the awesome idea of taking an empty shipping container and transforming it into a makeshift freestanding medical clinic that they would stock up with medical supplies and other necessities to then send off to another church group in Kenya called Life in Abundance.
This “CAN”, although deceivingly small, actually has a pharmacy, an office and 2 exam rooms complete with electricity and plumbing. All of the equipment, such as the medical examination tables, desks, chairs, etc., were all donated by people who had heard about this project and wanted to be a part of it. Monetary donations also helped out when it came time to actually ship the “CAN” off to Kenya. The great thing about this project is that regardless your financial status, or age, or occupations, you can do your part.

This made me start to think our community should partner with Homes of Living Hope to start this project in our community. We would design our shipping container locally and then proceed to send it to an area in need, whether it is a rural area in developing countries or maybe even rural areas in America. The purpose of shipping one of these containers would be to provide a more convenient location to access medical care when the nearest clinic might not be in close proximity. A project like this poses an opportunity to bring people and organizations together from all different parts of our community and even the world. People are always looking for a chance to do good and this would be the perfect opportunity. This container would sit in a visible spot in our community as a symbol of how we come to together to make a difference in our local area but also in another part of the world. Not everyone has the time or the funds to pick-up and go on a mission trip but people can find the time to come together with the people of their community to do their part in making this world a better place.

-Brianne Reed  
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Letter to the Editor  
Carly Earle  
Sent to: Jamaica Observer  
In reference to the November 9, 2015 article “Trees that feed: foundation makes mission of donating breadfruit seedlings”

To the Editor:

This article underscores the importance of providing developing nations with a sustainable form of aid. Providing people in need with the seeds to grow fruit-bearing trees rather than simply a one-time supply of fruit makes the donation a continuous one. This is an important concept that has implications reaching beyond just food donations. The concept of sustainability in charity can be applied to healthcare aid as well.

The charitable organization highlighted in this article, Trees that Feed, draws many parallels to a healthcare-based charity, Homes of Living Hope, that provides impoverished communities with scalable health clinics. These clinics are created out of large shipping containers and consist of examination rooms, an office, and a pharmacy. Donated medical supplies, such as scales and blood pressure cuffs, fill the container. They are created by
volunteers within the United States and are subsequently shipped to communities in need across the world.

This clinic is designed to become a permanent fixture in the community. The benefit of medical supply donations of any form should not be minimized these donations. However, when gathered and delivered within a shipping container that has been transformed into a community medical clinic, donated medical supplies have been given an origin, a place in which they will be used together in order to improve the health of the community in many different ways. The donation of a medical clinic provides a community with a structure in which health care practices can be conducted on a daily basis.

This article highlights the importance of providing well-rounded aid to communities in need. All donations may be advantageous if they fill a void in a community. However, donations that provide continuing support for a community are even more advantageous. Food, containers of clean water, stethoscopes, gauze, bandages, and medications help to improve the overall health of an impoverished community. However, the donation of a structure in which to house these medical supplies or trees to grow a continual food supply provides these communities with a longer lasting solution. The donation of fruit-bearing trees by Trees That Feed contributes to the sustainable improvement of Caribbean nations including Jamaica. Perhaps the introduction of the prebuilt medical clinics created out of shipping containers by organizations such as Homes of Living Hope may provide similarly immeasurable benefit to developing Caribbean communities.

-Carly Earle
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