Master of Public Health

Integrative Learning Experience Report

FEED THE WORLD: WORKING TO END HUNGER IN VULNERABLE POPULATIONS

by

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submitted in partial fulfillment of the requirements for the degree

MASTER OF PUBLIC HEALTH

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Summary/Abstract

I completed my internship at Convoy of Hope, located in Springfield, Missouri. Convoy of Hope is a humanitarian, faith-based organization. Their goal, according to their website, is to “serve people who are impoverished, hungry, and hurting.” Their international initiatives include Children’s Feeding Services, Women’s Empowerment, Disaster Relief, Community Events, Agriculture, and Rural Initiatives. During my time at Convoy, I worked in the Global Programs Department which encompasses Children’s Feeding, Women’s Empowerment, and Agriculture. My assigned mentor was Melanie Morgan, R.D.N./Nutritionist. Ms. Morgan was initially the lead nutritionist for Eastern Europe, Latin America and the Caribbean, but due to a resignation during my internship, she became the only Nutritionist for the entire feeding program. She has been employed with Convoy of Hope since 2021.

During my internship, I created an 8-lesson Nutrition Curriculum for Roma youth in Slovakia, assisted with a Latin American countries’ Youth Sports Initiative, drafted a Women’s Health Initiative Proposal for a group of clinics in Tanzania, and assisted in evaluating whether a garden’s produce provided sufficient calories and macros to feed a family of four for a year. I also helped calculate and analyze anthropometric data for some of the feeding centers Convoy of Hope has worldwide. I later created a project board, using Monday.com, an online platform, to provide an easy to read, high-level overview of nutrition data. I served on a Wellness Fair Planning Committee and worked during the event with my team. Finally, I presented a culminating presentation of my time at Convoy to members of the Global Programs team.

Subject Keywords: “Children’s Feeding Program,” “nutrition curriculum,” malnutrition, “sustainable agriculture,” obesity, overweight, ultra-processed foods, Tanzania, “Women’s health”

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Chapter 1 - Literature Review

Childhood Hunger

Childhood hunger continues to be a reality in many parts of the world. Numerous government agencies and private organizations have created initiatives to combat this crisis. As part of this effort, the implementation of children's feeding programs has created a need to evaluate their impact. While the results of these programs' initiatives have shown impressive benefits, inconsistencies in their effectiveness have also been found.

According to the Food and Agriculture Organization of the United Nations (U.N.), the landscape of hunger in the world has changed due in part to a growing population, and migration of people from rural to urban areas. These changes have led to an evolution of challenges related to hunger throughout the world. Stunting and wasting have decreased, but diet-related non-communicable diseases are rising. The U.N. report also says that moderate food insecurity continues to be a problem. Progress towards meeting the Sustainable Development Goal two of zero hunger by 2030 is dismal. The U.N. estimates that in the past year, anywhere between 713 and 757 million people may have gone hungry, over half of those from the continent of Africa (*The State of Food Security and Nutrition in the World (SOFI) Report - 2024* | *World Food Programme*, 2024).

Cupertino et al. (2022a) define nutrition security for children as "the guaranteed right to access quality food, in a sufficient quantity, without compromising the access to order essential needs." More than 802 million people worldwide are food insecure. One of the United Nations' sustainable development goals (SDG) is eliminating hunger by 2030 (United Nations, 2023). To complicate the matter, while undernutrition continues to present challenges worldwide, overnutrition and obesity are becoming an increasingly prevalent challenge. About 160 million children worldwide are obese today (World Health Organization, 2024).

Malnutrition is a complicated challenge affecting millions of children worldwide. Its effects can last a lifetime. One study evaluating the effect of malnutrition on growth and development in elementary school students in Ethiopia found that 21.3% of the children were stunted, meaning they had a deficit in height-for-age, which is an indication of long-term malnutrition. Eighteen percent were underweight, resulting from a combination of chronic and acute malnutrition. Over 17 percent of children showed evidence of wasting, defined as having a low weight-for-age and indicating recent or severe malnutrition (Assemie et al., 2020).

The consequences of malnutrition in children are long-lasting. The likelihood of these consequences often depends on the extent and duration of hunger. Several definitions related to chronic malnutrition are important to understand. Stunting, defined as height-for-age <-2 SD of the WHO Child growth standards median. Stunting results from long-term malnutrition, and can lead to delayed mental development, poor school performance, and decreased intellectual capacity, all of which have the potential to impact not only individuals, but productivity as a nation. Women of short stature are at an increased risk of having low birth weight babies, and obstetric complications due to a small pelvis (World Health Organization, 2023).

Wasting is defined as weight-for-height <-2 SD of the WHO Child growth standards median. Whereas stunting is related to long-term malnutrition, wasting is a result of acute malnutrition. Wasting impairs the immune system's ability to function properly, leading to an increased risk of infectious disease and risk of death (World Health Organization, 2023).

According to the World Health Organization (2023) underweight is defined as weight-for-age <-2 standard deviations (SD) of the WHO Child growth standards median. The risk of mortality is higher even for children who are slightly underweight, but especially for severely underweight children.

Finally, and a growing phenomenon, is children who are overweight or obese, which is also considered a form of malnutrition. Children who are overweight, defined as weight-for-height >+2 SD of the WHO Child growth standards median, have an increased risk for adult

obesity, cardiovascular disease, such as heart disease and stroke, musculoskeletal disorders like arthritis, and various cancers, including cancers of the endometrium, breast and colon (World Health Organization, 2023).

Feeding Programs

Many children's feeding programs have been established to combat the long-term implications of malnutrition. Many of the feeding centers in these programs are held in schools since schools provide considerable, consistent access to children. Many of these programs have been met with success. Eight out of nine studies in a review conducted by Wall et al. (2022) found that school meal interventions improved educational outcomes in attendance, enrollment, and learning capabilities, all of which may have been due to the ability to focus when hunger was not an issue.

A systematic review of school feeding programs found improvements in weight and height, school attendance, math performance, bone mineral density, arm muscle, B-vitamin levels, and behavior in children participating in school feeding programs (Owusu et al., 2016).

Verguet et al. (2020) found many potential benefits of school feeding programs. They found that enrollment in programs resulted in reduced absenteeism, enhanced learning, and higher educational attainment. These benefits may have an even greater impact on girls and young women, including reduced risk of early marriage or sex work and limited exposure to HIV and other health risks. The authors point out that these programs often benefit the most vulnerable and marginalized, including women and people experiencing poverty.

School feeding programs can also empower local agriculture and farmers by requiring a consistent local food source. By involving family farmers in school feeding programs, market opportunities can be created for small-production farmers, encouraging economic growth and sustainability in communities (Cupertino et al., 2022b).

In a review by Locke et al. (2024), SFPs were found to positively impact not only the physical health of children but also their social, emotional, and psychological health. Researchers point out that children from low socioeconomic backgrounds benefitted more from school feeding programs. Studies within the review included both target and universal intervention feeding programs. The target programs, which included only those children from low-income households receiving lunches, were associated with poorer mental health outcomes and negative stigma. The authors pointed out the need for universal feeding programs in order to avoid adverse outcomes. One study they reviewed showed that a universal school feeding program led to a 35% decrease in behavioral incidences, including bullying. Researchers believed this was due to the mitigation of stigma attached to a low socioeconomic status, as well as to an overall more inclusive environment. A second study in this review included a staff survey evaluating both universal and targeted feeding programs. Most staff surveyed reported that universal programs improved the social climate and reduced student stress, family financial stress, and school administrator stress. This was not the outcome for the targeted feeding programs.

One study found that children from large households were more likely to be food insecure, possibly due to scarcity. As a result, school lunch was determined to be the most important source of calories and protein. Students involved in feeding programs had a significantly higher nutrient intake than those not enrolled (Musamali et al., 2007).

A review of government-led school feeding programs showed that while almost all the Eastern Mediterranean Region (EMR) countries had feeding programs, wealthier countries in the area were more likely to have programs despite lower rates of citizens at risk for undernutrition. Countries with more widespread poverty, such as Yemen, Syria, and Somalia, had fewer programs. Programs in higher-income countries like Qatar and the United Arab Emirates focused more on programs to prevent obesity and related diseases than undernutrition (Al-Jawaldeh et al., 2023).

A randomized control trial of displaced female children in Uganda was conducted to evaluate the effectiveness of school feeding programs providing fortified meals on rates of anemia in children aged 6-17. Researchers found a 25.7 percentage point reduction in the prevalence of anemia in adolescent girls aged 10-13. They also found a 19.5 percent reduction in moderate to severe anemia relative to the control group (Adelman et al., 2018b). Children with iron-deficiency anemia perform worse on tests evaluating mental, motor, and social/emotional functioning, as well as on neurocognitive tests from preschool age to adolescence (Lozoff et al., 2006). These effects can translate into poor school performance, lower productivity, and lower income later in life.

A separate randomized control trial evaluated the benefits of a fortified snack in reducing anemia in rural school-aged children in Haiti. Supplementation with Vita Mamba, a fortified peanut butter snack, showed a positive effect on increased hemoglobin concentration and reduced odds of anemia compared with the control group (L. L. Iannotti et al., 2015).

A review of six randomized control studies with medium to large sample sizes found small but significant weight gain changes following the implementation of school feeding programs. Some of the studies included, although not all, showed significant effects on height. Interestingly, most feeding programs that showed weight and height gain benefits included an animal-based product not commonly served in low-income countries (Watkins et al., 2015).

While many of these feeding programs have been shown to have benefits, a few have not. One study found no significant benefits of school feeding programs on HAZ (height-to-weight z scores), WAZ (weight–to–age z scores), or BAZ (BMI for age). However, researchers in this review pointed out that most of the included studies were short in duration (less than 12 months) and that this may not have been enough time to show significant benefits in height and weight (Wang et al., 2019).

A study conducted after implementing China’s national school feeding program showed that students living in rural China continued to suffer from poor health outcomes secondary to

malnutrition. Anemia rates, for example, did not decrease. Numbers rose from 19% before the school feeding program to 25% afterward. Anthropometric measurements did not show any improvement after implementing the feeding programs either. According to the study's researchers, school feeding programs are only beneficial when done correctly. If close attention is not paid to the micronutrient content of the supplementation, benefits are more likely to be inadequate and ineffective (Wang et al., 2019).

In conclusion, most studies have shown that children's feeding programs, especially those conducted in schools, have a positive impact on childhood hunger. However, the results of these programs are only as good as the programs themselves. That is one of the reasons Convoy of Hope has joined the effort to combat childhood hunger by creating its Childhood Hunger Feeding Initiative.

Tanzania

According to the World Health Organization (WHO, 2018), improving maternal health is one of the organization's top priorities. Women in developing countries have on average more pregnancies than women in developed countries, and their lifetime risk of death due to pregnancy is higher. A woman's lifetime risk of maternal death is 1 in 4900 in developed countries, versus 1 in 180 in developing countries. Reasons for this large variation include poverty, distance, inadequate information, lack of services, and cultural practices.

While there have been some improvements in the mortality rate of Tanzanian children under five, rates for maternal and neonatal mortality remain high. Researchers have identified several direct and indirect causes for these outcomes.

Bwana et al. (2019) found that over ten years, more than 80% of deaths in pregnant women occurred due to direct causes such as eclampsia, hemorrhage, and sepsis. The median age at death was 27 years old. Additional complications identified were obstructed labor (Bwana et al., 2019) and ruptured uterus (Nassoro et al., 2020).

Other, indirect causes of death include anemia, cardiovascular disorders, malaria, HIV/AIDS, and meningitis. Most deaths related to sepsis were caused by unsafe abortions done outside of the clinic setting. Factors that have been found to be responsible for high rates of maternal deaths include biological, economic, and cultural factors, as well as malnutrition, immature reproductive tract, child marriage, and gender inequities (Bwana et al., 2019).

The Lancet (Jamison et al., 2013) reports that reductions in mortality account for about 11% of recent economic growth in low-income and middle-income countries. While national growth is recognized as a sign of progress, it does not consider the physical and emotional well-being of women and children. In order to reduce mortality rates among young women and infants in Tanzania, clinics must consider providing comprehensive services, including prenatal care, delivery, education, family planning, and postnatal care. Fostering women's empowerment and improving the health of women and children are crucial for building resilient, thriving communities.

The Roma in Slovakia

The Roma living in Slovakia are some of the most marginalized people in Europe, often living in segregated settlements. The Roma are one of the oldest and largest minorities. Because the Roma do not have their own state, they often live in scattered groups in several European countries, contributing to their nomadic way of life. There are approximately 400,000 Roma people living in the Slovak Republic, which accounts for about 7.5% of the Slovak population (Macejova et al., 2020a).

Around one-sixth of Slovakia's Roma population lives in segregated settlements. The majority of Slovakia's Roma community lives in Eastern Slovakia, in settlements where living conditions are extremely challenging. Over 80% of Roma in settlements have only basic education, and more than 90% are unemployed. For those who are employed, incomes are far below those of the general Slovak population (Macejova et al., 2020a).

Only about half the Roma people in Eastern Slovakia have reliable access to water, including sinks, showers, and toilets. Some do not have electricity. Access to healthcare is also a major challenge, with many Roma in settlements struggling to obtain healthcare services. This problem is largely due to their socio-economic situation but is worsened by a distrust in healthcare providers and a reliance on self-treatment. When compared to traditional Slovak people, the Roma are less likely to visit physicians. As a result, they experience higher rates of both communicable and non-communicable diseases and have a shorter life expectancy than the national average (Macejova et al., 2020a).

They have been known to have a high incidence of lifestyle-related and infectious diseases. In one study, the Roma were found to have higher rates of metabolic syndrome and obesity than non-Roma. Poor socio-economic conditions, an unhealthy lifestyle, and barriers to healthcare access are challenges that often lead to an increased prevalence of metabolic syndrome and its components, kidney disease, viral hepatitis B and E, and some parasitic diseases (Macejova et al., 2020).

Farming

Sustainable farming efforts focus on meeting food needs, protecting natural resources, and ensuring future food production. Over the last 50 years, advances in fertilizer, irrigation, machines and pesticides have improved farming, but challenges remain. Ongoing efforts include promoting healthy soil, reducing harmful chemicals and non-renewable resources, utilizing beneficial insects, and encouraging farmers to work together to overcome challenges. These efforts work to build important capital assets for agricultural systems, including natural, social, human, physical, and financial capital, contributing to more resilient and productive agricultural systems, creating more resilient and productive agricultural systems (Pretty, 2007).

Convoy's Agriculture and Food Security Initiative empowers farmers in developing countries by providing them with knowledge, tools, and resources to improve food security using

sustainable methods. They help communities by teaching practices like soil health, water conservation and pest management, reducing dependency on expensive, non-renewable products like synthetic fertilizers and pesticides (Convoy of Hope, 2024)

Convoy of Hope

Convoy of Hope is one of the leading charitable organizations in the United States. Consistently featured on Forbes' Top 100 Charities list, it ranked 35th in 2024. They have been recognized for their operational efficiency and significant impact in providing humanitarian aid, focusing on several initiatives such as the Children’s Feeding Program, Agriculture and Food Security, Disaster Services, Community Events, Women’s Empowerment Program, and Rural Initiatives.

Each year, Convoy of Hope helps millions of children through school meal initiatives and additional efforts aimed at reducing hunger, improving nutrition, and assisting vulnerable populations around the world. Through its Children's Feeding program, and with the help of in-country liaisons, Convoy of Hope provides meals to over 571,000 children across 36 countries daily, with a goal of feeding one million children per day by 2030 (Convoy of Hope, 2024).

Convoy has been able to accomplish this vast feeding effort by providing assorted items worldwide, with the most common being the Manna pack—a rice mix fortified with soy protein. They get other, comparable products from organizations such as Meals from the Heartland and various church groups. They also provide other types of foods including beans, rice, dehydrated peaches (used to make juice), tomato sauce and pasta.

Convoy of Hope is working towards the goal of eliminating malnutrition and food insecurity. According to their website, nearly a third of the world’s population meets the criteria for moderate to severe food insecurity. Every ten seconds, a child dies of malnutrition. Malnutrition increases the risk of acute and chronic illnesses, leading to diminished health, resulting in an estimated 200 to 500 million school days lost per year (Convoy of Hope, 2024).

Working to break the cycle of poverty and promote sustainability, Convoy of Hope's Agriculture Initiative trains local farmers, (many of whom are women), in innovative farming techniques that increase crop yield and ensure food security. Systemic food security challenges are addressed by promoting agricultural practices such as food storage, processing, and preservation. In collaboration with governments, academic institutions, and businesses, Convoy conducts research creating innovative, region-specific farming techniques for areas facing food insecurity. By training farmers in agricultural best practices, Convoy can give them the knowledge and tools they need to increase productivity despite challenges such as shifting climates, soil health, and pest issues. A key feature of this program is the donation of ten percent of the crop yield to support the Children's Feeding Initiative. (Convoy of Hope, 2024)

The Women's Empowerment Initiative focuses on improving the physical, emotional, and spiritual well-being of women. Through training programs, small-business support, and mentorship, the initiative equips women to break the cycle of poverty, gain financial independence for themselves and their children, and lead healthier, happier lives. Convoy is working to further its impact by establishing education-based health programs targeting pregnant women and new mothers. By training local liaisons and female volunteers to deliver important nutrition and health education, these programs can help to reduce infant mortality, improve maternal health, and foster stronger, more self-reliant communities. (Convoy of Hope, 2024)

Developed as an extension of Convoy's Women's Empowerment program, Girls' Empowerment offers adolescent girls after-school and community-based education sessions. These sessions focus on teaching them about their worth and identity, as well as other important topics like menstrual health and hygiene, avoiding harmful choices, and making positive life choices. Convoy's Girls' Empowerment program works to develop and implement strategies aimed at reducing risks such as gender-based violence and early childhood pregnancy. (Convoy of Hope, 2024)

Figure 1-2 Convoy of Hope Initiative Map – Agriculture

Figure 1-1 Convoy of Hope Initiative Map – Children's Feeding Program

Figure 1-3 Convoy of Hope Initiative Map – Women's Empowerment

Chapter 2 - Learning Objectives and Project Description

Learning Objectives

1. Break down quantitative harvest data from the Center for Agriculture and Food Security and create a document summarizing nutritional data necessary to be able to determine growing needs for a family garden to sustain a family of four for one year.
2. Analyze data on the Roma people of Slovakia and create an eight-lesson nutrition curriculum for fourteen- to eighteen-year-olds addressing health, nutrition, and physical fitness needs.
3. Identify needs for a maternal health clinic in Tanzania and draft a proposal outlining teaching opportunities for the clinic's medical staff and volunteers.
4. Develop and edit a health, nutrition, and physical activity curriculum designed for elementary-aged students in Latin America.
5. Learn more about the mission and vision of Convoy of Hope and explore other initiatives of the organization.

Activities to be Performed

1. Develop an 8-lesson nutrition curriculum for Roma youth. The Roma is a marginalized group of people living in Slovakia with extremely high poverty, unemployment, and school dropout rates.
2. Calculate and evaluate the caloric and macronutrient data for all harvested fruits and vegetables from two hi tunnels and one school garden to assess the adequacy of meeting the nutritional needs for a family of four for one year. Work with the Center for Agriculture and Food Security (CAFS) to develop a document presenting data to the staff.
3. Create an exploratory document with training opportunities on maternal health for leadership, staff, healthcare workers and volunteers in Tanzania clinics.

Expected Products

1. **Roma Nutrition Curriculum** - Written Curriculum with eight health, nutrition, and physical activity lessons to be taught by Convoy of Hope liaisons to Roma youth in Slovakia.
2. **Center for Agriculture and Food Security (CAFS) Garden Sustainability Project -** Detailed report with visuals prepared for CAFS team, outlining planting and harvesting requirements to meet the nutritional needs for a family of four for one year with an evaluation of final data.
3. **Tanzania Clinic Maternal Health Program Initiative Proposal** - Written proposal and presentation delivered to Global Programs team analyzing and prioritizing training opportunities on maternal healthcare for leadership, staff, clinicians, and volunteers in a clinic in Tanzania.

4. **LAC Youth Sports Curriculum** - Document with an 8-10 lesson physical activity and nutrition curriculum for school-aged children in Latin American countries (assist).
5. **Monday.com Work Management Board** - Work management board providing a high-level view of anthropometric data from the Children's Feeding Initiative.
6. **Anthro Plus Software Program -** Nutrition software database containing raw data from feeding centers, including calculations for statistical metrics such as HAZ, WAZ, BAZ, SAM, and MAM.
7. **Employee Wellness Fair Committee -** Committee team member for the wellness fair, assisting in the planning and execution of a health fair for more than 300 employees.
8. **Internship Reflection Presentation** - Visual presentation given to Convoy of Hope mentor, intern coordinator, and other team members summarizing my experience.

Collaboration

As part of the Convoy Intern Program, interns participated in meetings with various departments within the organization to learn more about their responsibilities and areas of focus. My mentor also included me in many of her meetings with colleagues and leadership within the Global Programs Department. Additionally, I had the opportunity to join international video conferences with program center staff in Latin America. While some international staff members speak English, my mentor has been working on her fluency in Spanish. She also utilizes tools like Google Translate or used an interpreter when one was available.

Chapter 3 - Results

The internship was completed with sixteen other interns, all in different areas of the organization. The first week was spent with the group and an intern liaison learning relevant terminology, culture of the company, and company policies. Assignments were made, and I

was assigned to the nutritionist for the Latin American/Caribbean areas, Melanie Morgan, R.D.N./Nutritionist.

Roma Nutrition Curriculum

I was first tasked with developing an 8-lesson nutrition curriculum for Roma youth ages 12-18 in Slovakia, which I felt was a good fit since I have a teaching degree and have taught students in this age group. The lessons were designed to be delivered by volunteer staff at youth centers within the Roma community. The goal of the curriculum was to teach healthy lifestyle behaviors in a simple yet engaging format. Since the teachers would be volunteers, possibly with limited knowledge of nutrition and health, the lesson plans needed to be comprehensive, easy to read, and user-friendly. I aligned the curriculum with the standards of Convoy of Hope's children's feeding program, which follows guidelines from the United States Department of Agriculture (U.S.D.A) and the Department of Health and Human Services (D.H.H.S.).

Attention was given to ensure extensive details were provided for each lesson, considering the volunteer-based teaching model. Each lesson included instructions for welcoming students, gathering supplies, setting group agreements, and outlining lesson goals. The lessons featured an ice breaker, a "Big Idea" lesson overview, the main content, an application section to encourage deeper reflection, and a takeaway or home component. The "homework" was designed not only to reinforce student learning, but to teach other family members new knowledge and encourage healthy behaviors for the entire household.

- **Ice Breaker** Due to the transient nature of Roma life, and the possibility that student attendance would vary from week to week, each lesson begins with an icebreaker. The icebreakers were designed to understand prior knowledge about the lesson topic while also encouraging movement and interaction with peers.

- **Anchor (Big Ideas)** The Big Ideas inform students on the overarching themes for the lesson.
- **Lesson (Content)** The lessons provide initial background knowledge for the teacher, and resources as needed. The content is provided in a more traditional, teacher-centered format. Information is kept simple and succinct. Many of the Roma children do not stay in school, so content had to be created considering that education level may not be aligned with age.
- **Application (Extension)** The application requires a deeper level of knowledge. This part of the lesson usually involves class discussion and provides the teacher feedback on students' understanding of the content.
- **Away (Home)** This segment of the lesson encourages participants to become more aware of healthy behaviors at home and encourages them to make small changes. This part of the lesson also asks students to involve the whole family. When speaking with the Senior Vice President of Global Programs, it was suggested that the family be included in the home assignments as family dynamics in the Roma community have been known to be challenging.

The document was then forwarded to the Marketing/Communications department for final editing. I have since received a final copy of the document that will be used in a pilot project at centers serving the Roma community in Slovakia.

Figure 3-1 Roma Nutrition Curriculum

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Lesson 1
What Is Health?

WELCOME

- Welcome participants at the door.
- Invite the participants to take a seat in the circle of chairs.
- Play lively music; maybe lead an energizer.
- Thank everyone for being present.

SUPPLIES NEEDED

- Magazines
- Scissors
- 1 large poster board
- Glue

ICEBREAKER

Provide students with magazines and ask them to cut out pictures that resemble health. This is open to the students' interpretation, so it could be anything from people walking along the beach to food products or advertisements for medications. Once each student has cut out four or five pictures, ask them to glue the pictures on the poster board.

GROUP AGREEMENT

Read this together as a group: This group is a safe place where we can share personal stories and opinions. When someone shares, it's like a gift to the group. For this reason, we must create a safe space where everyone feels good about sharing these gifts.

GOALS

At the end of this session, I will:

- Understand what health is and why it is important
- Know how to live a healthy lifestyle

ANCHOR (BIG IDEAS)

- When you think about health, what components does this include?
- Why is it important to take steps for healthy living?
- What are some simple steps to take?

LESSON (CONTENT)

Health is a word that is used a lot, but what does it really mean? For today's lesson, we will take a look at the definition of health and learn about the different components of health. We will also take some time to discuss some practical steps for promoting health in each area of our lives.

HEALTH

According to the World Health Organization, the definition of health is, "... a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Health involves three different areas, including physical, mental, and social health. When one of these areas is not well, the whole body feels it. For example, if you break a toe, it affects your whole body. You can't walk well, it can be difficult to put shoes on, and you feel the pain.

Similarly, if you are having problems with a friend or if you are struggling with grief, those problems also affect your whole body. You may not be hungry or you might be struggling to get good sleep. It's important to remember that health is more than just the food you eat or the exercise you get, though all of those things are important. In the following paragraphs, we will discuss the different components of health.

PHYSICAL HEALTH

Physical health is the most commonly known component of health. This involves caring for our physical bodies, which means being mindful of the food we eat, drinking enough water, and getting exercise. The purpose behind these actions is to keep our bodies strong and to prevent disease. Our bodies get stronger when we are active, and a diet with nutritious food gives our bodies the energy we need to move and function. When we eat food with lots of sugar and other additives, it leads to inflammation in our bodies and can be a factor that leads to diseases like overweight/obesity, diabetes, high blood pressure, cancer, and kidney disease. Additionally,

Figure 3-2 Roma Community in Slovakia

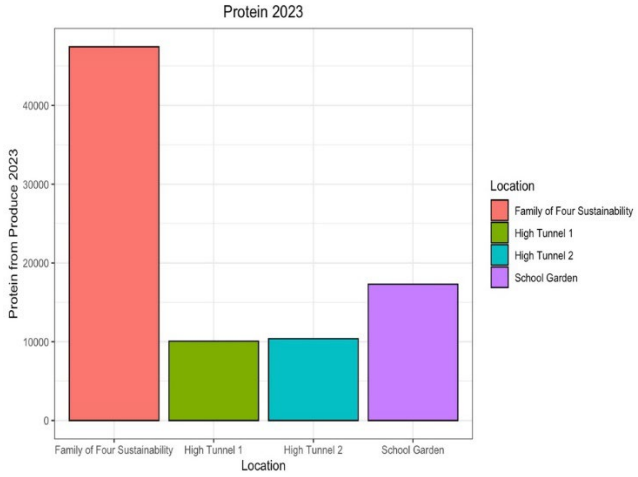
Source: https://balkaninsight.com/2020/09/30/slovak-roma-strive-for-better-lives-despite-extreme-poverty-report-finds/

Center for Agriculture Food Security (CAFS) Garden Sustainability Project

As part of the Agriculture Food Security (CAFS) initiative, Convoy staff planted three gardens to evaluate the energy provided in the form of calories and micronutrients from the harvest. The goal was to design a garden plan capable of supplying a family of four with all food needed for one year. In collaboration with the Global Programs Nutritionist, they calculated the calorie, fat, and protein requirements for adults. My role involved analyzing the harvest data to determine the calorie and macronutrient content of each vegetable grown. This information was then organized and presented using coding software by another intern working in the department.

The data was helpful in identifying any potential adjustments necessary. For instance, the team determined that providing chickens to families would help ensure each member had access to one egg per day allowing for higher protein intake. The results of the data evaluation ultimately revealed that protein levels and overall calories remained insufficient to meet nutritional needs for individuals. Based on the findings, the CAFS team will be devising and implementing a new plan.

Figure 3-3 Center for Agriculture and Food Security (CAFS) Garden Sustainability Project



Tanzania Clinic Maternal Health Program Initiative Proposal

Convoy of Hope is currently serving several communities in Tanzania through its Women's Empowerment and Children's Feeding Initiatives. Prompted by the high rates of maternal and neonatal mortality, and the lack of education on prenatal health and newborn care, Convoy decided to assess the need for a potential Women's Healthcare Initiative in clinics serving these areas. After discussions with physicians and leadership who had recently visited Tanzania to evaluate the local conditions and needs, I was tasked with drafting a proposal to identify knowledge gaps in maternal health and lactation among pregnant women and new mothers in Tanzania. The proposal also explored opportunities to improve maternal health and infant outcomes. The team has since visited Tanzania again to solidify plans for implementing the program.

LAC Youth Sports Curriculum

This project required collaboration with another intern who had completed a significant part of the curriculum before transitioning to a different department, leaving the remaining portion for me to complete. Designed for elementary-aged students in Latin American countries, the curriculum aimed to promote a healthy lifestyle through lessons on nutrition, mental health, and physical activity. It was specifically tailored for students attending feeding program centers, operating during the summer months.

The rising rates of childhood overweight and obesity in Latin America are due largely in part to inactivity and diets high in processed carbohydrates. The curriculum was designed to address these challenges while remaining cognizant of the limited budgets and access to equipment faced by many of these centers. This project will be used as a pilot and is being reviewed and edited by the Marketing/Communications Department.

Figure 3-4 LAC Youth Sports Curriculum

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Ultra Processed Foods/Nutrition Labels

CONVOY OF HOPE LESSON PLAN

- **Lesson title**: Introduction to ultra-processed foods and understanding how to read a nutrition label
- **Describe your students**: This lesson plan is designed for 25 third grade students
- **How long is the class?** 1 hour
- **Overall Instructional Goal**: To give students the basic understanding of ultra-processed foods and provide an alternative to ultra-processed foods to students, and to understand how to read a nutrition label
- **Lesson Learning objectives AND how you will measure each** (at least 2 objectives):
  - Students will:

I. Understand the difference between whole foods and processed foods.

1.Measurement: Students will be able to correctly categorize foods in order from whole food to ultra processed food.

ii. Identify alternative foods to their typical ultra-processed foods

2. Measurement: Students will be able to share examples of substitutions they can make for ultra processed foods with whole foods or less processed foods.

iii. Understand how to read a nutrition label.

3. Measurement: Students will be able to list three pieces of information they can find on a nutrition label. (calories, serving size, added sugars) They will be able to verbalize a basic understanding of why understanding nutrition labels is important.

- **Why this lesson?**
  Provide justification/reason for why you are teaching this lesson. How does it 'fit' with the goals for the curriculum? This lesson is important because there are known health benefits of whole food nutrition, and health risks associated with ultra processed foods. Understanding how to read a nutrition label can help students make informed choices about the foods they choose.

- **Materials - List all materials, handouts, etc**. Food picture cards, brown bags, food cards and nutrition labels (See links in lesson for cards.), blank paper, colors or pencils

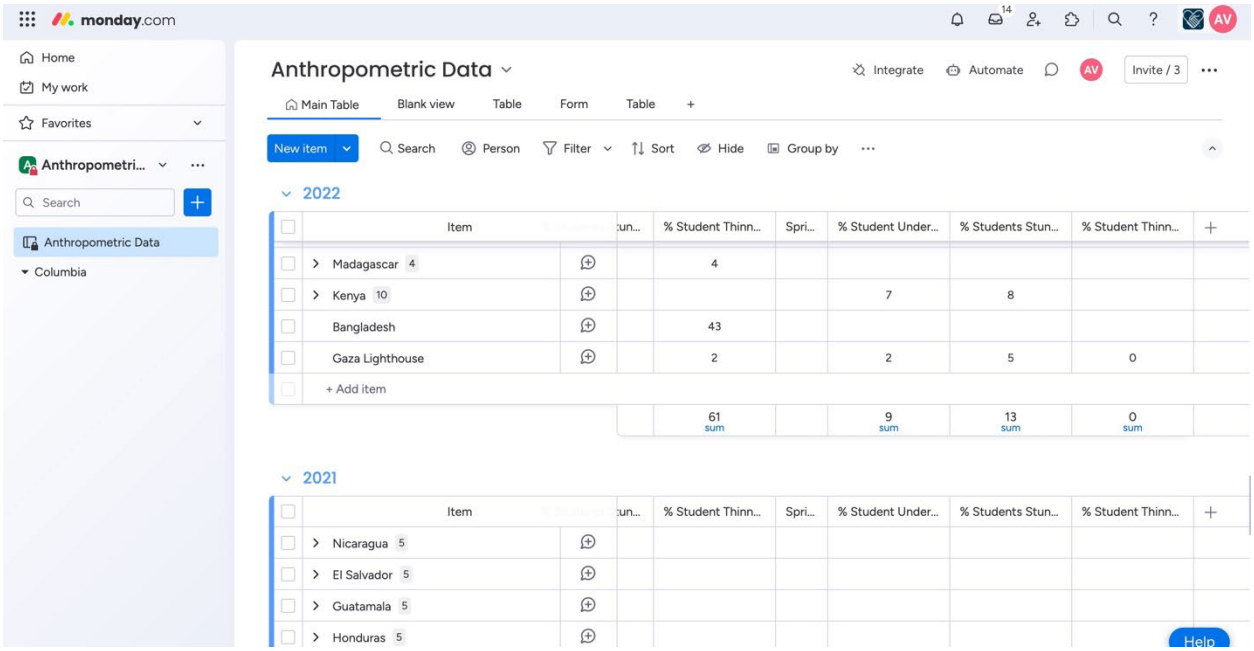
THE PLAN (describe the activities & student arrangement)
Welcome the students and open the lesson in prayer (2 min.)
Read scripture over the students or all together (2 min.)
Transition: "Good morning/afternoon. We are going to begin by looking at some pictures of different types of food to see if we can put them in categories based on what has been done to the food."

Monday.com Work Management Board

While some of the members on the global programs team need detailed data from feeding centers, other members are looking for more of a high-level view. I was asked by the nutritionist to create a work management board using the website, Monday.com, and to input data showing the HAZ, WAZ, and BAZ for each feeding center served by Convoy. The files were arranged in folders and subfolders categorized by country and the data collected.

Convoy team members have differing needs for feeding program data, with some requiring detailed information, and others wanting a more high-level overview. At the Nutritionist's request, I developed a work management board using the platform Monday. This board displayed the HAZ (Height-for-Age Z-score), WAZ (Weight-for-Age Z-score), and BAZ (Body Mass Index-for-Age Z-score) for each feeding center in folders and subfolders, and was organized by country, year, and month in which the data was collected. Data will be continually entered and updated on this board.

Figure 3-5 Monday.com Work Management Board



Anthro Plus Software Program

The Nutritionist utilizes a software program called Anthro Plus to process the raw data from feeding centers around the world, and calculate HAZ, WAZ, BAZ, standard deviations, and the percentage of children with Severe Acute Malnutrition (SAM) and Moderate Acute Malnutrition (MAM). Given the extensive number of feeding centers across the globe, each presenting data in different languages, formats, and programs, completing this task proved to be a significant challenge with a steep learning curve. I began entering the current year's data for as many feeding centers as possible during my final two weeks. The data entered revealed

some centers had higher rates of SAM and MAM. Once the data entry is complete, the nutritionist will evaluate the data and address concerns. The data is submitted twice per year by hundreds of centers around the world, therefore this is an ongoing process.

Recognizing the likelihood that someone other than the Nutritionist might need to work with the software in the future, I also developed a comprehensive, step-by-step guide on how to use the Anthro plus software program.

Figure 3-6 Anthro Plus Software Program Instructions

Instructions for Analyzing Nutrition Data in Anthro Plus and Creating Corresponding Excel document

1. Ensure that raw data from PCs is in the correct format.
    a. Download to an Excel spreadsheet.
    b. Add a column titled, "Program Center" and ensure that all cells in the column contain the center's name.
    c. If there are multiple sheets, copy individual pages into one Excel sheet. (Make a copy so the original data is still intact.)
    d. Data must include Program Center Name/Name/Gender/DOB or Age/Height in cm/Weight in kg. (You must also know the date of measurement to know what to use for data's date.)
    e. Reformat DOB cells so that they are formatted as four digit year, two digit month, and two digit day. (ie. 2004-03-14)
    f. Use Command+F to find any symbols. (ie., ñ) and replace all with traditional letters.
    g. Sort DOB column by age. Data is only included for 5-18 year olds. (Highlight column, select sort and filter, replace all.
    h. Name the tab for this sheet, "raw data."

2. Importing data into Anthro Plus
    a. Save form as "Text Tab delimited".
    b. Email it to yourself.
    c. Open Microsoft desktop version.
    d. Open Mail in Microsoft version, find the email you sent to yourself, and download .txt file.
    e. Open Anthro Plus.

3. Using Anthro Plus
    a. Once in Antro Plus, click on Nutritional Survey Model.
    b. Select Nutritional Survey
    c. Choose import from file.
    d. Select .txt file.
    e. Make sure the data sheet is closed.

4. Create new sheet in your Excel document for Anthro Plus data
    a. Create a second sheet in the new Excel document and title the tab, "Anthro Plus" data.
    b. Save newly created Anthro Plus document into your excel file by highlighting in top left corner of the data and hitting Control + C.
    c. Go back to the Excel document created in step 1 (the copy of the original), select the second, "Anthro Plus" tab, and paste data into the document using Control + V.

5. Perform formatting changes to highlight out of range Waz, Haz, and Baz data (in Anthro tab).

Employee Wellness Fair Committee

I was invited to join my mentor in serving on the Wellness Fair Committee, an initiative organized and led by the Human Resources team. The committee met regularly to discuss and finalize important aspects of the fair, such as selecting vendors, coordinating event logistics, and developing a marketing strategy to promote the event. My responsibilities included assembling vendor gift bags, crafting trivia questions for display in the employee cafeteria to generate interest and enthusiasm, assisting with event setup, checking in employees, announcing prize winners, and contributing to a welcoming and organized experience for attendees.

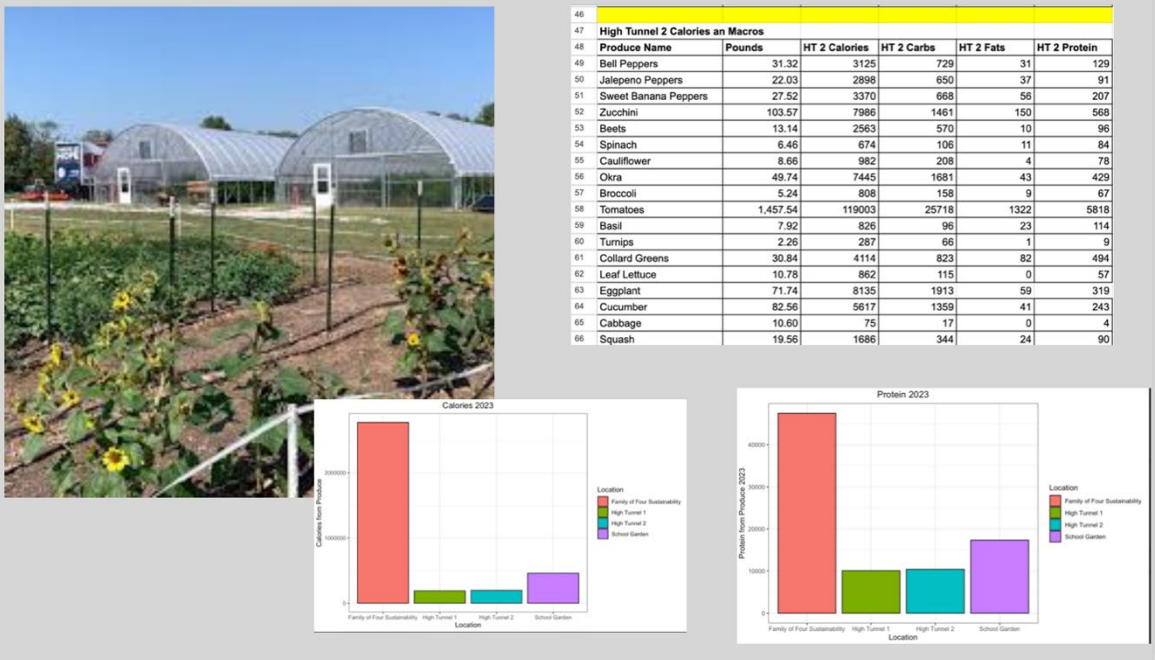
Figure 3-7 Employee Wellness Fair Committee

Internship Reflection Presentation

At the conclusion of my four-month internship, I delivered a presentation to members of the Global Programs leadership and staff summarizing my experience at Convoy. During the presentation, I highlighted the projects I worked on, the skills and knowledge I gained, and the key takeaways I would carry forward from the program. The presentation also provided an opportunity to express my gratitude for the time and effort staff dedicated to mentoring and supporting me throughout my internship.

Figure 3-8 Internship Reflection Presentation

Figure 3-9 Internship Reflection Presentation



46						
47	**High Tunnel 2 Calories an Macros**					
48	**Produce Name**	**Pounds**	**HT 2 Calories**	**HT 2 Carbs**	**HT 2 Fats**	**HT 2 Protein**
49	Bell Peppers	31.32	3125	729	31	129
50	Jalepeno Peppers	22.03	2898	650	37	91
51	Sweet Banana Peppers	27.52	3370	668	56	207
52	Zucchini	103.57	7986	1461	150	568
53	Beets	13.14	2563	570	10	96
54	Spinach	6.46	674	106	11	84
55	Cauliflower	8.66	982	208	4	78
56	Okra	49.74	7445	1681	43	429
57	Broccoli	5.24	808	158	9	67
58	Tomatoes	1,457.54	119003	25718	1322	5818
59	Basil	7.92	826	96	23	114
60	Turnips	2.26	287	66	1	9
61	Collard Greens	30.84	4114	823	82	494
62	Leaf Lettuce	10.78	862	115	0	57
63	Eggplant	71.74	8135	1913	59	319
64	Cucumber	82.56	5617	1359	41	243
65	Cabbage	10.60	75	17	0	4
66	Squash	19.56	1686	344	24	90

Chapter 4 - Discussion

I have stayed in touch with my mentor, Melanie, since the conclusion of my internship. I am excited that several of the projects I created or worked on will be implemented in the field by Convoy. I am fortunate to have worked with a mentor who provided meaningful and impactful projects for me and was humbled by this experience. Observing the scope of the needs in the world, and the passion and dedication of Convoy's staff is truly inspiring. Their unwavering commitment to serving others day in and day out was remarkable. I hope to contribute to one of Convoy of Hope's projects in the future. Recently, a member of the leadership team from the Development Department reached out and invited me to speak to the department about strategies and tools for maintaining a healthy lifestyle.

Roma Nutrition Curriculum

This was one of my favorite projects to work on. Before starting, I took time to learn more about the Roma people, and specifically the Roma youth, as they would be the target audience. I conducted online research to gather information and met with a Global Program Senior Vice President who had extensive experience interacting with the Roma. Additionally, I interviewed one of the liaisons who worked closely with the community. The information I gathered enabled me to create a curriculum that was both culturally appropriate and relevant. Developing the lesson plan itself felt comfortable and familiar, given my background in teaching. I have included the lesson itself. I am grateful that this curriculum will soon be used in several centers as part of a pilot project.

Center for Agriculture Food Security (CAFS) Garden Sustainability Project

This was another interesting project to work on. I appreciated collaborating with the staff at the Center for Agriculture and Food Security. Their commitment to providing vulnerable

people with the education and tools required to produce life-sustaining crops is unwavering. They are constantly conducting research locally and internationally to enhance their ability to help farmers. I was veery comfortable working with the calorie and macronutrient calculations. The project ultimately identified the need to develop a new plan, but I was glad to contribute to the process of making this determination. Interestingly, R Studio was used to create the visuals for the report, a program I had recently been introduced to in my statistics class.

Tanzania Clinic Maternal Health Program Initiative Proposal

While this project was relatively short in duration, it was one I truly enjoyed and felt connected to. Until now, Convoy of Hope has not been involved in medical mission work. However, recognizing the need for resources and training in maternal and newborn healthcare, discussions began exploring this area. A team of staff, leadership, and physicians visited a clinic in Tanzania, one of the countries served by the children's feeding program and discovered a significant lack of medical resources and training. Given that Convoy was considering pursuing this initiative, I was tasked with creating a proposal for the health program. I began by meeting with leadership and attending a meeting with leadership, staff, and medical personnel who participated in the trip. After researching the topic further, I created the proposal. Although maternal health was not my area of expertise, my nursing background provided me with the medical knowledge necessary to review the data, understand the discussions, and ultimately create a proposal that outlined the needs of the region and how Convoy could help. Since my departure from Convoy, my mentor attended another exploratory trip, and I was excited to learn that they are planning to move forward with the project, which will initially focus on education. I have expressed my interest in being involved in this project in the future.

LAC Youth Sports Curriculum

My involvement in this project was limited, but I was grateful for the opportunity to contribute. I completed the final lessons for an incredibly talented intern with experience in after-

school programs. I also participated in a video conference with a liaison from one of the Latin American countries to discuss how the curriculum could be implemented challenges such as limited equipment and a small budget. Despite the challenges, this curriculum was important, as it focused primarily on the importance of physical activity and, to a lesser extent, healthy nutrition. With childhood overweight and obesity rates continuing to rise in many of the countries Convoy partners with, providing education was considered a priority.

Monday.com Work Management Board

This project pushed me out of my comfort zone. I was unfamiliar with Monday.com and work management boards in general, and the data I worked with was spread across more than 100 spreadsheets. Thankfully, one of the Strategic Planning Project Managers, who was very experienced with data, was willing to answer my questions when I was creating the board. In hindsight, this project helped to prepare me for my next assignment, which was even more data-driven, and less user-friendly.

Anthro Plus Software Program

This project became one of my favorites because it was one of the most challenging. I was unfamiliar with Anthro Plus, a program developed by the World Health Organization to “analyze child growth data based on the WHO child growth standards, allowing users to compare a child's height, weight, and other measurements against the established norms.” My mentor introduced me to the program, but an unexpected resignation left her responsible for serving as the Nutritionist for the entire organization. With an already overwhelming workload, I knew she did not need the added burden of my questions. Unfortunately, she was the only one familiar with the program, so I had to learn it through trial and error. One of the most difficult moments of my internship came when I lost hours of work because I failed to save my progress correctly. The IT department could not recover the data, and I had to start over. Despite the setback, the experience reminded me that learning something new can be both frustrating and

rewarding. It also reminded me that I hope to never stop learning and growing. I have always heard that you know something well if you can teach it to others. So, as I figured out this program through trial and error, I created a document with step-by-step instructions for future users knowing this would not only have the potential to help someone else, but it would also force me to learn the program well.

Employee Wellness Fair Committee

This was an incredibly fun project to work on. Having been interested in nutrition, health and fitness for most of my adult life, I loved brainstorming and discussing all things related to health. This was the first employee wellness fair of its kind, and I was impressed that Convoy took on the manpower and expense to provide this for its employees. The fair was heavily attended, and almost all of the feedback was positive. The committee was very passionate about providing this for the staff, and I am sure that it will be even better next year.

Internship Reflection Presentation

My time at Convoy was incredibly meaningful. I first learned about the organization over fifteen years ago when I attended one of their early International Women's Day luncheons. I was so impressed that I began learning more about their initiatives and the work they do. A few years later, a friend who had recently visited a feeding program in Tanzania with Convoy spoke to my students and shared photos of the Tanzanian children in the program, which only further increased my desire to support the organization. This reflection presentation gave me the opportunity to discuss my evolving connection with Convoy –from someone who simply passed by their headquarters as I drove around town, to supporter, and then intern. During this internship I was able to witness the day-to-day efforts and the many dedicated individuals who work to make these initiatives successful. The staff and leadership were gracious during my time there, and I was grateful for the chance to share my experiences, express my admiration for the organization, and show my gratitude to the people I worked with there.

Future Direction

Going forward, Convoy of Hope is working to expand its children's feeding program with a goal of feeding one million children per day by 2030. Each week, staff and leadership make calls and take trips to reach more children suffering from hunger and poverty. During my time there, I heard stories of trips involving hours on small prop planes and vans driven down dusty roads to reach the most vulnerable. Just this summer, Senegal was added to the list of countries served, with new countries are being added each month.

While Convoy continues its dedication to Women's Empowerment, it is expanding its focus to newer programs for girls' and boy's empowerment, addressing specific growth and development needs of both genders. Convoy is working to ensure that both girls and boys have the resources, support, and opportunities they need to thrive.

Plans are also underway for a large center in the agriculture department featuring training facilities where liaisons from around the world can receive online and on-site instruction. The center will also include gardens replicating diverse growing conditions to research solutions for various agricultural challenges worldwide.

The Disaster Relief department frequently manages up to 30 disasters simultaneously. In 2023 alone, Convoy responded to 38 U.S and 48 international disasters. Recently, efforts have included responding to fire-stricken areas of Los Angeles. To improve disaster response times and capabilities, Convoy is exploring additional distribution centers both domestically and internationally. In addition, Community Events and Rural Initiatives are continuously expanding as food insecurity becomes increasingly prevalent.

Finally, Convoy of Hope is taking continued steps to implement a women's health clinic initiative in Tanzania to improve health outcomes for women and infants. By providing education to pregnant and lactating women, Convoy hopes to reduce maternal and infant mortality rates and address preventable complications.

Chapter 5 - Competencies

Table 5.1 Summary of MPH Foundational Competencies

Number and Competency		Description
6	Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels	An eight-lesson curriculum was developed for volunteers to teach at Convoy of Hope feeding centers.
3	Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate	Anthro plus, a program designed to analyze anthropometric data, was used to calculate HAZ (height-for-age z score), WAZ (weight-for-age z score), and BAZ (BMI for age z score) to determine growth trends.
8	Apply awareness of cultural values and practices to the design or implementation of public health policies or programs	A curriculum was created to educate students on a healthy diet, and the importance of physical activity.
9	Planning and Management to Promote Health; Design a population-based policy, program, project, or intervention	This two-year project involved planting and harvesting a garden designed to sustain a family of four for one year, then calculating and evaluating caloric and protein values.
19	Communication; Communicate Audience-appropriate public health content, both in writing and through oral presentation	A culminating presentation of my internship and projects was given to staff and management of the Global Programs team.

Table 5.2 MPH Foundational Competencies and Course Taught In

22 Public Health Foundational Competencies Course Mapping	MPH 701	MPH 720	MPH 754	MPH 802	MPH 818
Evidence-based Approaches to Public Health					
1. Apply epidemiological methods to the breadth of settings and situations in public health practice	x		x		
2. Select quantitative and qualitative data collection methods appropriate for a given public health context	x	x	x		
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate	x	x	x		

22 Public Health Foundational Competencies Course Mapping	MPH 701	MPH 720	MPH 754	MPH 802	MPH 818
4. Interpret results of data analysis for public health research, policy or practice	x		x		
Public Health and Health Care Systems					
5. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings		x			
6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels					x
Planning and Management to Promote Health					
7. Assess population needs, assets and capacities that affect communities' health		x		x	
8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs					x
9. Design a population-based policy, program, project or intervention			x		
10. Explain basic principles and tools of budget and resource management		x	x		
11. Select methods to evaluate public health programs	x	x	x		
Policy in Public Health					
12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence		x	x	x	
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes		x		x	
14. Advocate for political, social or economic policies and programs that will improve health in diverse populations		x			x
15. Evaluate policies for their impact on public health and health equity		x		x	
Leadership					
16. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making		x			x
17. Apply negotiation and mediation skills to address organizational or community challenges		x			
Communication					
18. Select communication strategies for different audiences and sectors	DMP 815, FNDH 880 or KIN 796				
19. Communicate audience-appropriate public health content, both in writing and through oral presentation	DMP 815, FNDH 880 or KIN 796				
20. Describe the importance of cultural competence in communicating public health content		x			x
Interprofessional Practice					
21. Perform effectively on interprofessional teams		x			x
Systems Thinking					
22. Apply systems thinking tools to a public health issue			x	x	

Student Attainment of MPH Foundational Competencies

Competency 6 - The Roma people in Slovakia have a long history of oppression and discrimination, which has resulted in limited access to important resources such as housing, healthcare, and education. Poverty and a lack of educational opportunities have led to high levels of food insecurity, increased reliance on cheap and accessible ultra-processed foods, and limited knowledge regarding nutrition. In response, Convoy of Hope is working to make a positive impact on Roma youth by educating them on the importance of healthy food choices. A comprehensive eight-lesson curriculum on health and nutrition was developed to be taught to youth by local, trained volunteers at Convoy of Hope feeding centers in Slovakia.

Competency 3 - Growth and Development data is collected and analyzed for all children in the Convoy of Hope international feeding program. This is done to ensure nutritional standards are being met and to evaluate the results of interventions. Using Anthro plus, a program designed to generate anthropometric data, measurements for HAZ (height-for-age z score), WAZ (weight-for-age z score), and BAZ (BMI for age z score) were calculated and analyzed so that trends could be identified. If necessary, further discussions can be arranged with in-country liaisons to determine a course of action.

Competency 8 - Data from Latin American countries served by Convoy of Hope have shown an upward trend in rates of overweight and obese children. A cultural diet that has typically been high in processed carbohydrate foods, and increasingly higher in ultra-processed foods, has been identified as two of the major challenges. In addition, limited financial resources for sports and playground equipment have created challenges in ensuring adequate physical activity for children. An initiative was created to educate students on a healthy diet, and the importance of physical activity, taking into consideration resources available.

Competency 9 - The Planting and Nutrition Data Project was designed to meet nutritional needs through agriculture for families living in impoverished countries. This two-year

project involved planting and harvesting a garden designed to sustain a family of four for one year. Once the produce was harvested and weighed, calorie and macronutrient values were calculated and evaluated for all foods from three different garden designs to determine whether adjustments to the current plan would be required.

Competency 19 – A written proposal was drafted for a women's health initiative in Tanzania and presented to Global Programs leadership. In addition, a culminating presentation of my internship, including all projects, was given to staff and management of the Global Programs team. A separate wrap-up meeting was held with the Senior Vice President of Global Programs. In this meeting, we discussed the benefits of the internship program, and the significance of the public health projects I worked on during the internship.

Competency 22 - I used the Sociological Ecological Framework (figure 5.1) in developing the Roma Nutrition Curriculum, taking into consideration each of the five levels of influence and their impact on the students' health behaviors. At the **Individual** level, I considered the developmental level (12-18 years old) of the students, and the background knowledge and education level of both students and volunteer teachers. **Interpersonal** factors were addressed by encouraging social interaction among students and staff with the use of ice breakers and other group activities throughout the lessons. The family was also integrated into the lesson plans by including home activities. The curriculum will be taught at student centers within the Roma community and taught by trusted Roma volunteers **(Organizational).** Convoy of Hope works closely with local organizations in Slovakia and within the Roma community itself to foster trusted relationships in hopes of empowering the local community while providing the financial and educational resources they need **(Community).** Finally, the curriculum was developed using guidelines from D.H.H.S and U.S.D.A. to ensure alignment with evidence-based standards (**Public Policy**).

Figure 5-1 Socio-Ecological Model

Table 5.1 Summary of MPH Emphasis Area Competencies

MPH Emphasis Area:		
Number and Competency		**Description**
1	***Information literacy of public health nutrition***	Inform public health practice through analysis of evidence-based policy, systems, and environmental change.
2	***Compare and relate research into practice***	Examine chronic disease surveillance, policy, program planning and evaluation, and program management, in the context of public health nutrition.
3	***Population-based health administration***	Critically examine population-based nutrition programs.
4	***Analysis of human nutrition principles***	Examine epidemiological concepts of human nutrition in order to improve population health and reduce disease risk.
5	***Analysis of nutrition epidemiology***	Describe criteria for validity in nutritional epidemiological methodology.

Student Attainment of MPH Emphasis Area Competencies

Competency 1 – Convoy of Hope uses established, research-based guidelines to inform its initiatives. They place a high priority on systematic data collection and evaluation to create the organization's public health policies to determine program effectiveness and future direction.

I created an eight-lesson curriculum for Roma youth in Slovakia using evidence-based nutrition guidelines from the U.S.D.A. and D.H.H.S. The curriculum took into consideration cultural and environmental factors and was written to encourage healthy lifestyles for Roma youth and their families for long-term change.

The CAFS Garden Sustainability project was created to address food security and support using sustainable agriculture. This initiative takes into consideration environmental change, such as climate change and its impact on farming, in its effort to improve the health of populations in communities around the world. I analyzed harvest data to determine whether the current planting design would meet the calorie and macronutrient needs for a family of four. After evaluating and reviewing the results, it was determined that protein was inadequate, but that chickens could be provided to families to increase protein intake. Carbohydrates and fats were also found to be inadequate based on current planting plans, and a redesign was initiated.

For the Tanzania Clinic Maternal Health Initiative, I proposed a program with the potential to reduce maternal and infant mortality rates. The proposal was based on current maternal and infant mortality rates in Tanzania. The research showed, and was further supported by interviews with clinic patients, a lack of education in pregnant

women regarding maternal health and lactation, which was in part, driving these statistics.

Competency 2 - Using Anthro Plus, a software program used by Convoy of Hope's feeding centers, and created specifically for analyzing nutritional data, I was able to compare participants' height, weight, and length against World Health Organization growth standards. The program does this by calculating z-scores for height-for-age, weight-for-age, and body mass index (BMI) for age, and also flags scores that indicate moderate or severe malnutrition. This information is collected twice per year for all 571,000 children in Convoy of Hope's feeding program. The program also generates graphs of the entered data comparing it to WHO standards. The data is then used for program planning and evaluation purposes. The LAC Youth Sports Curriculum Project was initiated based on incidence rates of overweight and obesity in children in Latin American countries.

The CAFS project required examination and evaluation of the garden sustainability project, for planning purposes. As mentioned with Competency 1, the garden was ultimately determined to be inadequate and required further assessment.

The Tanzania clinic proposal included examination of maternal and infant mortality, and based on those findings, suggested an educational project be implemented in Tanzania clinics. This initiative is currently in the planning stages. Ongoing evaluation will be used to measure the effectiveness of the educational project in improving maternal and infant health outcomes.

Finally, the Monday.com and Anthro Plus projects examined HAZ, WAZ, and BAZ, as well as rates of moderate and severe malnutrition to identify areas that required

additional information, and/or possible intervention. Ongoing planning and evaluation are conducted with all initiatives, including the Children's Feeding Initiative.

Competency 3 – The Roma Nutrition Curriculum was based on dietary guidelines from the U.S.D.A. and D.H.H.S. I researched and took into consideration the needs of this specific population, including cultural barriers. I addressed systemic barriers such as lack of education using a curriculum that encourages behavior change strategies creating long term health improvements.

For the CAFs project, I generated harvest data, which identified nutritional inadequacies in the current plan. Program changes were planned to address deficiencies in macronutrients and overall calories to ensure that the nutritional intake will be adequate and sustainable for vulnerable populations.

The proposed Tanzania project suggested educating pregnant women on types of foods to consume to encourage healthy pregnancies and babies, for example adequate iron. It also provided education for lactating mothers to ensure nutritional needs are met for mothers and infants.

Finally, both Anthro Plus and Monday.com use anthropometric data to determine the effectiveness of the Children's Feeding Initiative. This ongoing evaluation helps to refine and improve the program to better combat malnutrition for vulnerable children.

Competency 4 - The Roma Nutrition Curriculum took into consideration specific epidemiological concepts including poverty-related health risks, food environment and access. By tailoring the curriculum to the specific needs of the Roma culture, it promotes improved dietary habits and reduces long-term disease risks in a way that is both practical and sustainable.

The Tanzania Maternal Health Program Initiative proposal examines epidemiological factors such as disease and death rates, and nutritional risk factors including disease and mortality rates, and evaluating the relationship between nutritional risk factors and health outcomes. It focuses on assessing the needs of pregnant women and new mothers in Tanzania, evaluating existing resources such as education and ultimately, improving knowledge of maternal health and lactation to improve health outcomes for mothers and infants.

The LAC Youth Sports Curriculum focuses on reducing the risk of overweight and obesity by addressing dietary habits and levels of physical activity. It also takes into consideration the children's food environment, for example, living in a culture with diets high in processed carbohydrates, and access to healthy foods.

Competency 5 – The Roma Nutrition Curriculum was aligned with established nutritional guidelines including U.S.D.A and D.H.H.S, maximizing validity and reliability. Both Monday.com and Anthro Plus rely on standardized WHO growth metrics to ensure internal and external validity in addressing childhood malnutrition, growth, and development.

The CAFS Garden Sustainability Project also adhered to established nutritional standards for protein and overall caloric intake requirements. Finally, the curriculum for the LAC Youth Sport Initiative was driven by childhood overweight and obesity rates in Latin America. The basis of the curriculum was evidence-based practices, such as consuming a healthy diet and engaging in physical activity. The lesson also took into consideration resource limitations, increasing external validity in a real-world setting.

References

Adelman, S., Gilligan, D. O., Konde-Lule, J., & Alderman, H. (2018a). School feeding reduces anemia prevalence in adolescent girls and other vulnerable household members in a cluster randomized controlled trial in Uganda. *Journal of Nutrition*, *149*(4), 659–666. https://doi.org/10.1093/jn/nxy305

Assemie, M. A., Alamneh, A. A., Ketema, D. B., Adem, A. M., Desta, M., Petrucka, P., & Ambaw, M. M. (2020). High burden of undernutrition among primary school-aged children and its determinant factors in Ethiopia; a systematic review and meta-analysis. *the Italian Journal of Pediatrics/Italian Journal of Pediatrics*, *46*(1). https://doi.org/10.1186/s13052-020-00881-w

Bwana, V. M., Rumisha, S. F., Mremi, I. R., Lyimo, E. P., & Mboera, L. E. G. (2019). Patterns and causes of hospital maternal mortality in Tanzania: A 10-year retrospective analysis. PloS One, 14(4), e0214807. https://doi.org/10.1371/journal.pone.0214807

Convoy of Hope. (2024). Retrieved December 29, 2024, from https://convoyofhope.org/

Cupertino, A., Ginani, V., Cupertino, A. P., & Botelho, R. B. A. (2022a). School feeding programs: What happens globally? *International Journal of Environmental Research and Public Health*, *19*(4), 2265. https://doi.org/10.3390/ijerph19042265

Iannotti, L. L., Henretty, N. M., Delnatus, J. R., Previl, W., Stehl, T., Vorkoper, S., Bodden, J.,Maust, A., Smidt, R., Nash, M. L., Tamimie, C. A., Owen, B. C., & Wolff, P. B. (2015). Ready-to-Use supplementary food increases fat mass and BMI in Haitian School-Aged children. *Journal of Nutrition*, *145*(4), 813–822. https://doi.org/10.3945/jn.114.203182

Jamison, D. T., Summers, L. H., Alleyne, G., Arrow, K. J., Berkley, S., Binagwaho, A.,

Bustreo, F., Evans, D., Feachem, R. G. A., Frenk, J., Ghosh, G., Goldie, S. J., Guo, Y., Gupta, S., Horton, R., Kruk, M. E., Mahmoud, A., Mohohlo, L. K., Ncube, M., & Pablos-Mendez, A. (2013). Global health 2035: a world converging within a generation. The Lancet, 382(9908), 1898–1955. https://doi.org/10.1016/s0140-6736(13)62105-4

Lozoff, B., Beard, J., Connor, J., Barbara, F., Georgieff, M., & Schallert, T. (2006). Long-lasting neural and behavioral effects of iron deficiency in infancy. Nutrition reviews, 64(5 Pt 2), S34–S91. https://doi.org/10.1301/nr.2006.may.s34-s43

Locke, A., James, M., Jones, H., Davies, R., Williams, F., & Brophy, S. (2024). Impacts Of global school feeding programmes on Children's health and Wellbeing Outcomes: A scoping review. *medRxiv (Cold Spring Harbor Laboratory)*. https://doi.org/10.1101/2024.09.03.24312981

Macejova, Z., Kristian, P., Janicko, M., Halanova, M., Drazilova, S., Antolova, D., Marekova, M., Pella, D., Madarasova-Geckova, A., & Jarcuska, P. (2020b). The Roma population living in segregated settlements in eastern Slovakia has a higher prevalence of metabolic syndrome, kidney disease, viral hepatitis B and E, and some parasitic diseases compared to the majority population. *International Journal of Environmental Research and Public Health*, *17*(9), 3112. https://doi.org/10.3390/ijerph17093112

Musamali, B., Walingo, M. K., & Mbagaya, G. M. (2007). Impact of school lunch programmes on nutritional status of children in Vihiga District, Western Kenya. *African Journal of Food Agriculture Nutrition and Development*, *07*(06), 001–014. https://doi.org/10.18697/ajfand.17.2010

Nassoro, M. M., Chetto, P., Chiwanga, E., Lilungulu, A., Bintabara, D., & Wambura, J.

(2020). Maternal mortality in Dodoma Regional Referral Hospital, Tanzania. International Journal of Reproductive Medicine, 2020, 1–6. https://doi.org/10.1155/2020/9082179

Owusu, J. S., Colecraft, E. K., Aryeetey, R. N., Vaccaro, J. A., & Huffman, F. G. (2016). Comparison of two school feeding programmes in Ghana, West Africa. *International Journal of Child Health and Nutrition*, *5*(2), 56–62. https://doi.org/10.6000/1929-4247.2016.05.02.2

Pretty, J. (2007). Agricultural sustainability: concepts, principles and evidence. Philosophical Transactions of the Royal Society B Biological Sciences, 363(1491), 447–465. https://doi.org/10.1098/rstb.2007.2163

The State of Food Security and Nutrition in the World (SOFI) Report - 2024 | World Food Programme. (2024, July 24). UN World Food Programme (WFP). https://www.wfp.org/publications/state-food-security-and-nutrition-world-sofi-report

United Nations. (2023). Goal 2: Zero Hunger - United Nations Sustainable Development. United Nations Sustainable Development; United Nations. https://www.un.org/sustainabledevelopment/hunger/

Watkins, K., Gelli, A., Hamdani, S., Masset, E., Mersch, C., Nadazdin, N., & Vanhees, J. (2015). Sensitive to nutrition? A literature review of school feeding effects in the child development lifecycle HGSF WORKING PAPER SERIES #16. https://www.imperial.ac.uk/media/imperial-college/medicine/sph/pcd/HGSF-Working-Paper-16-Sensitive-to-nutrition-lit-review-of-school-feeding-effects-in-child-development-life-cycle.pdf

Wall, C., Tolar-Peterson, T., Reeder, N., Roberts, M., Reynolds, A., & Mendez, G. R. (2022).

The Impact of school meal programs on educational outcomes in African schoolchildren: a Systematic review. *International Journal of Environmental Research and Public Health*, *19*(6), 3666. https://doi.org/10.3390/ijerph19063666

Wang, H., Zhao, Q., Boswell, M., & Rozelle, S. (2019). Can school feeding programs reduce malnutrition in rural China? *Journal of School Health*, *90*(1), 56–64. https://doi.org/10.1111/josh.12849

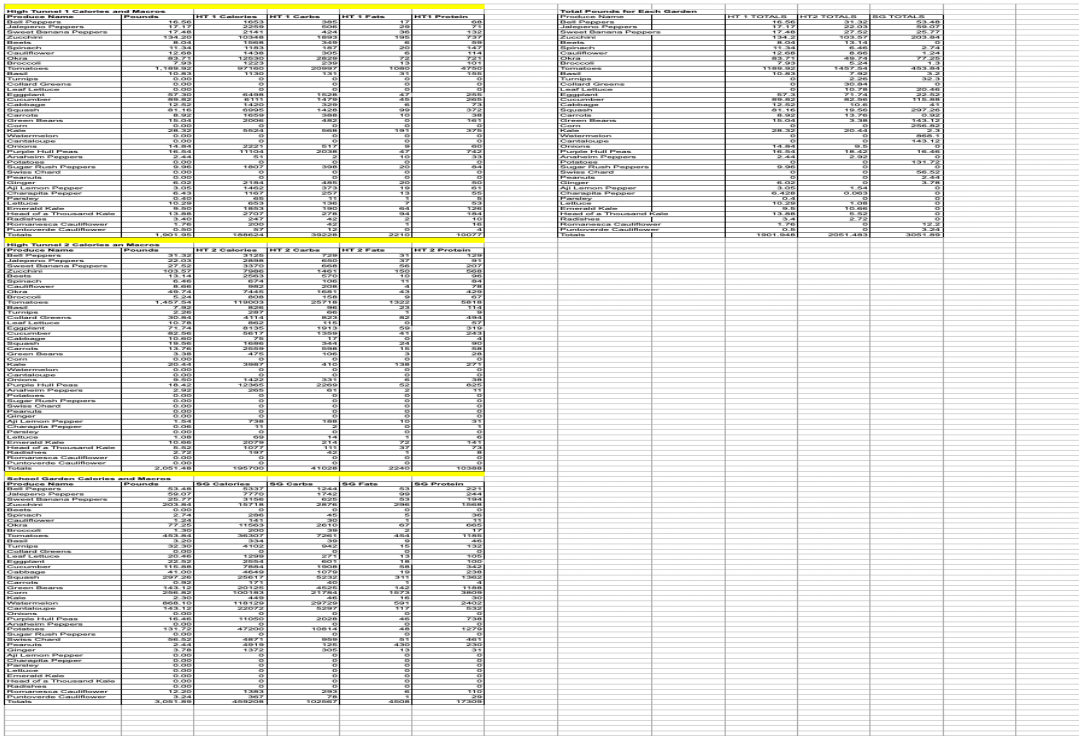
World Health Organization. (2024, March 1). Obesity and overweight. World Health Organization; WHO. https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight

World Health Organization. (2023). Malnutrition in children. World Health Organization. https://www.who.int/data/nutrition/nlis/info/malnutrition-in-children

WHO. (2018). Maternal Health. WHO | Regional Office for Africa. https://www.afro.who.int/health-topics/maternal-health

Appendices

Appendix 1. Center for Agriculture and Food Security (CAFS) Garden Sustainability Project



High Tunnel 1 Calories and Macros					
Produce Name	Pounds	HT 1 Calories	HT 1 Carbs	HT 1 Fats	HT1 Protein
Bell Peppers	16.05	1553	385	14	48
Jalapeno Peppers	17.17	1662	408	36	70
Sweet Banana Peppers	17.48	2141	424	36	132
Zucchini	134.20	10348	1893	198	737
Beets	8.04	1368	349	4	89
Spinach	13.14	2083	370	10	98
Cauliflower	12.68	1438	305	6	114
Okra	83.71	12530	2828	72	721
Broccoli	83.71	12530	2828	72	721
Tomatoes	1,189.92	87160	20997	1080	4700
Basil	10.83	1130	131	31	185
Turnips	0.00	0	0	0	0
Collard Greens	0.00	0	0	0	0
Leaf Lettuce	10.78	882	115	8	87
Eggplant	87.30	8498	1826	47	288
Cucumber	89.82	6111	1478	43	289
Cabbage	10.80	1000	176	4	43
Squash	91.16	6900	1428	99	372
Carrots	8.92	1659	386	10	38
Green Beans	15.04	2006	382	0	191
Corn	0.00	0	0	0	0
Peanuts	26.12	6824	1961	198	378
Watermelon	0.00	0	0	0	0
Cantaloupe	0.00	0	0	0	0
Ginger	14.34	2214	497	17	82
Purple Hull Peas	16.54	11104	2038	47	742
Anaheim Peppers	2.44	51	2	10	33
Poblano	0.00	0	0	0	0
Cherokee Purple Peppers	9.96	1807	398	20	81
Swiss Chard	0.00	0	0	0	0
Peanuts	0.00	0	0	0	0
Ginger	6.02	2184	485	20	80
Cherokee Purple Pepper	6.43	1167	257	13	53
Chiarapita Pepper	6.43	1167	257	13	53
Parsley	0.30	85	31	2	5
Lettuce	1.08	99	14	3	6
Emerald Kale	16.66	2979	713	64	128
Head of a Thousand Kale	13.88	2707	278	94	184
Radishes	3.40	247	42	2	10
Romanesca Cauliflower	1.76	200	43	1	14
Purlywoode Cauliflower	0.00	0	0	0	0
Totals	1,981.86	186624	39226	2210	10077

High Tunnel 2 Calories an Macros					
Produce Name	Pounds	HT 2 Calories	HT 2 Carbs	HT 2 Fats	HT 2 Protein
Bell Peppers	31.32	3128	728	37	128
Jalapeno Peppers	22.03	2898	660	37	91
Sweet Banana Peppers	27.52	3370	668	56	207
Zucchini	103.97	8020	1467	153	571
Beets	13.14	2083	370	10	98
Spinach	6.46	674	106	11	94
Cauliflower	6.66	756	160	3	60
Okra	48.74	7445	1681	43	428
Broccoli	5.24	808	166	3	67
Tomatoes	1,457.54	119003	25716	1322	5816
Basil	7.32	826	86	23	113
Turnips	2.96	329	66	1	44
Collard Greens	30.84	4118	823	82	493
Leaf Lettuce	10.78	882	115	8	87
Eggplant	71.74	6982	1500	39	237
Cucumber	82.58	5617	1359	40	265
Cabbage	10.80	76	17	4	4
Squash	74.36	5626	1164	81	303
Green Beans	13.76	2589	594	14	99
Corn	3.38	475	106	3	28
Peanuts	0.00	0	0	0	0
Kale	20.44	3987	410	136	271
Watermelon	0.00	0	0	0	0
Cantaloupe	0.00	0	0	0	0
Onions	8.60	1422	331	6	38
Purple Hull Peas	18.42	12368	2270	52	827
Anaheim Peppers	2.92	395	61	12	41
Potatoes	0.00	0	0	0	0
Sugar Rush Peppers	0.00	0	0	0	0
Swiss Chard	0.00	0	0	0	0
Peanuts	0.00	0	0	0	0
Ginger	0.00	0	0	0	0
Aji Lemon Pepper	1.54	738	188	10	31
Chiarapita Pepper	0.00	0	0	0	0
Parsley	0.00	0	0	0	0
Lettuce	1.08	99	14	3	6
Emerald Kale	16.66	2979	713	72	141
Head of a Thousand Kale	6.52	1027	111	37	73
Radishes	0.00	0	0	0	0
Romanesca Cauliflower	0.00	0	0	0	0
Purlywoode Cauliflower	0.00	0	0	0	0
Totals	2,051.48	195700	41026	2247	10388

School Garden Calories and Macros					
Produce Name	Pounds	SG Calories	SG Carbs	SG Fats	SG Protein
Bell Peppers	33.48	8337	1243	83	271
Jalapeno Peppers	59.07	7770	1742	99	244
Sweet Banana Peppers	25.77	3156	625	53	194
Zucchini	203.84	15718	2876	296	1088
Beets	2.74	286	45	0	30
Spinach	2.74	286	45	0	30
Cauliflower	7.22	131	30	2	11
Okra	77.30	11809	2667	67	679
Broccoli	1.40	216	44	1	17
Tomatoes	483.84	38307	7261	454	1185
Basil	3.00	334	36	8	51
Turnips	32.30	4102	942	15	132
Collard Greens	30.84	0	274	13	105
Leaf Lettuce	20.46	1298	271	19	108
Eggplant	22.32	2884	601	18	100
Cucumber	124.66	9249	1979	59	398
Cabbage	41.00	4649	1070	19	234
Squash	297.26	25617	5232	311	1362
Carrots	0.92	171	40	1	4
Green Beans	143.12	20125	4525	142	1148
Corn	256.82	36107	8071	616	2128
Kale	2.30	449	46	15	30
Watermelon	666.10	118129	29729	591	2402
Cantaloupe	137.00	22072	5297	119	934
Onions	0.00	0	0	0	0
Purple Hull Peas	16.46	11050	2026	46	738
Anaheim Peppers	0.00	0	0	0	0
Potatoes	119.00	47200	10814	48	1274
Sugar Rush Peppers	0.00	0	0	0	0
Swiss Chard	36.92	4871	869	31	391
Peanuts	2.44	4918	126	430	230
Ginger	0.00	1572	506	13	34
Aji Lemon Pepper	0.00	0	0	0	0
Chiarapita Pepper	0.00	0	0	0	0
Parsley	0.00	0	0	0	0
Lettuce	0.00	0	0	0	0
Emerald Kale	0.00	0	0	0	0
Head of a Thousand Kale	0.00	0	0	0	0
Radishes	0.00	0	0	0	0
Romanesca Cauliflower	13.24	1367	283	6	114
Purlywoode Cauliflower	1.24	367	75	0	32
Totals	3,081.88	459208	102867	4508	17309

Total Pounds for Each Garden				
Produce Name	HT 1 TOTALS	HT2 TOTALS	SG TOTALS	
Bell Peppers	16.05	31.32	33.48	
Jalapeno Peppers	17.17	22.03	59.07	
Sweet Banana Peppers	17.48	27.52	25.77	
Zucchini	134.2	103.97	203.84	
Beets	8.04	13.14	2.74	
Spinach	13.14	6.46	2.74	
Cauliflower	12.68	6.66	7.22	
Okra	83.71	48.74	77.30	
Broccoli	83.71	5.24	1.40	
Tomatoes	1189.92	1457.54	483.84	
Basil	10.83	7.32	3.0	
Turnips	0	2.96	32.3	
Collard Greens	0	30.84	0	
Leaf Lettuce	10.78	10.78	20.46	
Eggplant	87.3	71.74	22.32	
Cucumber	89.82	82.58	118.66	
Cabbage	10.8	10.8	41	
Squash	91.16	15.06	297.26	
Carrots	8.92	13.76	0.92	
Green Beans	15.04	3.38	143.12	
Corn	0	0	256.82	
Peanuts	26.12	26.12	2.44	
Watermelon	0	0	666.1	
Cantaloupe	0	0	143.12	
Ginger	14.34	6	0	
Purple Hull Peas	16.54	18.42	16.46	
Anaheim Peppers	2.44	2.92	0	
Potatoes	0	0	131.72	
Cherokee Purple Peppers	9.96	0	0	
Swiss Chard	0	0	36.92	
Peanuts	0	0	2.44	
Ginger	6.02	6	3.76	
Aji Lemon Pepper	1.54	1.54	0	
Chiarapita Pepper	6.428	0.963	0	
Parsley	0.4	0	0	
Lettuce	10.78	1.08	0	
Emerald Kale	0.4	10.66	0	
Head of a Thousand Kale	13.88	6.52	0	
Radishes	3.4	2.72	0	
Romanesca Cauliflower	1.76	0	12.2	
Purlywoode Cauliflower	0	0	1.24	
Totals	1901.948	2051.483	3081.28	

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Appendix 2. Tanzania Clinic Maternal Health Program Initiative Proposal

Proposal for Maternal Health Education Program at Tanzania Clinic

To: Jason McClaflin

From: Aline Vann

Date: Aug 8, 2024

Subject: Tanzania Health Clinic Initiative

Introduction

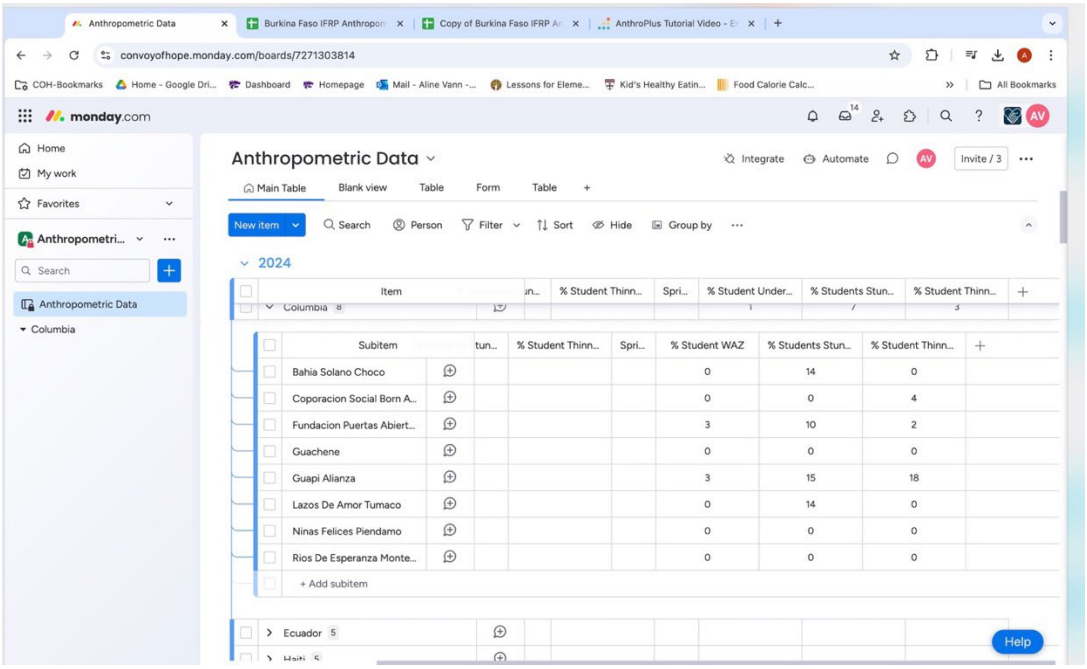
As Convoy of Hope's programming expands around the world, there has been an increased desire to deliver essential medical care and education to underserved areas. A group of rural communities in Tanzania were selected as a pilot for a medical intervention initiative with a focus on maternal health. This proposal examines deficiencies in knowledge regarding maternal health and lactation for pregnant women and new mothers in Tanzania. It also explores opportunities for education to improve maternal health and infant outcomes. Jason McClaflin, other Convoy of Hope team members, volunteer physicians, and local healthcare workers toured the clinic in Tanzania to obtain insight and feedback in areas that could benefit from more knowledge and resources. Based on that initial visit and subsequent discussions, three topics have been identified as potential areas of focus for this initial phase.

Background Information

Maternal health is essential to public health, especially in developing regions like Tanzania. Educating pregnant women and new mothers on pregnancy-related health topics can significantly improve health outcomes for both mothers and their babies. This proposal outlines the first steps for a health initiative in Tanzania, focusing on what pregnant women can expect during each trimester, the importance of maternal nutrition, common vitamin deficiencies during pregnancy, and lactation basics.

Although Tanzania has made some gains in the mortality rate of children under five, rates for maternal and neonatal mortality remain high. Researchers have identified both direct and indirect causes for these statistics. Bwana et al. (2019) found that over ten years, more than 80% of deaths in pregnant women occurred due to direct causes such as eclampsia, hemorrhage, and sepsis. The median age at death was 27 years old. Additional complications identified were obstructed labor (Bwana et al., 2019) and

Appendix 3. Monday.com Work Management Board



Appendix 4. Anthro Plus Software Program

Date of birth	Age (d)	Age (m)	Weight (kg)	Oedema	Recumbent	Height (cm)	WAZ	HAZ	BAZ	Fl
1/6/12	3403	111.8	45	No	No	149	2.24	2.35	1.57	
4/15/11	3669	120.54	35	No	No	135	0.69	-0.47	1.28	
1/3/12	3406	111.9	31	No	No	137	0.41	0.45	0.21	
2/5/12	3373	110.82	29	No	No	124	0.05	-1.61	1.35	
12/29/12	3045	100.04	26	No	No	133	-0.08	0.68	-0.81	
5/8/13	2915	95.77	25	No	No	125	-0.1	-0.38	0.18	
5/8/13	2915	95.77	25	No	No	125	-0.1	-0.38	0.18	
11/20/13	2719	89.33	23	No	No	121	-0.13	-0.42	0.12	
4/13/14	2575	84.6	22	No	No	121	-0.14	-0.02	-0.24	
4/13/14	2575	84.6	22	No	No	121	-0.14	-0.02	-0.24	
4/9/13	2944	96.72	25	No	No	126	-0.16	-0.28	0	
6/29/14	2498	82.07	22	No	No	120	-0.16	-0.16	-0.12	
1/29/13	3014	99.02	25	No	No	121	-0.19	-1.2	0.66	
7/10/11	3583	117.72	30	No	No	139	-0.22	0.24	-0.52	
2/16/14	2631	86.44	22	No	No	125	-0.25	0.55	-0.91	
6/25/11	3598	118.21	30	No	No	139	-0.25	0.2	-0.54	
2/13/14	2634	86.54	22	No	No	118	-0.26	-0.72	0.2	
11/14/13	2725	89.53	23	No	No	117	-0.32	-1.34	0.77	
12/7/11	3433	112.79	28	No	No	133	-0.33	-0.31	-0.24	
6/25/11	3598	118.21	29	No	No	134	-0.35	-0.48	-0.13	
11/11/11	3459	113.64	28	No	No	133	-0.39	-0.38	-0.26	
11/20/13	2719	89.33	22	No	No	124	-0.42	0.12	-0.77	
10/10/11	3491	114.69	28	No	No	136	-0.45	0.02	-0.69	
1/20/12	3389	111.34	27	No	No	120	-0.45	-2.29	1.3	
7/14/14	2483	81.58	21	No	No	121	-0.48	0.08	-0.86	
5/4/12	3284	107.89	26	No	No	127	-0.52	-0.92	0.05	
12/5/12	3069	100.83	24	No	No	128	-0.56	-0.16	-0.72	
3/22/12	3327	109.31	26	No	No	131	-0.58	-0.35	-0.56	
3/18/12	3331	109.44	26	No	No	132	-0.59	-0.2	-0.71	
5/15/13	2908	95.54	23	No	No	128	-0.69	0.17	-1.3	
5/15/13	2908	95.54	23	No	No	128	-0.69	0.17	-1.3	
10/6/13	2764	90.81	22	No	No	121	-0.73	-0.71	-0.43	
1/19/13	3024	99.35	23	No	No	122	-0.74	-1.05	-0.19	
3/28/13	2956	97.12	23	No	No	117	-0.78	-1.89	0.64	
12/8/11	3432	112.76	26	No	No	124	-0.79	-1.73	0.41	
1/21/15	2292	75.3	19	No	No	112	-0.81	-1.11	-0.15	
7/28/14	2469	81.12	20	No	No	118	-0.82	-0.45	-0.84	
4/13/12	3305	108.58	25	No	No	130	-0.83	-0.47	-0.88	
4/29/13	2924	96.07	22	No	No	122	-0.83	-0.79	-0.55	
4/24/13	2929	96.23	22	No	No	124	-0.84	-0.46	-0.87	
4/24/13	2929	96.23	22	No	No	124	-0.84	-0.46	-0.87	
8/11/12	3185	104.64	24	No	No	130	-0.9	-0.18	-1.29	
3/5/13	2979	97.87	22	No	No	120	-0.94	-1.28	-0.27	
1/1/13	3042	99.94	23	No	No	115	-0.95	-2.43	0.9	
10/12/12	3123	102.6	23	No	No	123	-0.95	-1.14	-0.4	

Appendix 5. Employee Wellness Fair Committee

Trivia Questions for Wellness Fair (correct answers in red)

1. Which vitamin is known as the sunshine vitamin?
    a. Vitamin C
    b. Vitamin L
    c. Vitamin D

2. Which fruit has more vitamin C per 100 grams, orange, peach or kiwifruit?
    a. Kiwi
    b. Orange
    c. Peach

3. Which type of fat is considered “good fat” and is found in foods like avocados and olive oil?
    a. Polyunsaturated fat
    b. Monounsaturated fat
    c. Saturated fat

4. What mineral is essential for strong bones and teeth and is commonly found in dairy products?
    a. Enamel
    b. Zinc
    c. Calcium

5. Which vegetable is known for being high in beta-carotene, which is converted by the body to Vitamin A?
    a. Carrots
    b. Zucchini
    c. Bell Peppers

6. Which nutrient is primarily responsible for providing the body with energy?
    a. Fats
    b. Calcium
    c. Proteins

7. Which type of sugar is naturally found in milk and dairy products?
    a. Lactose
    b. Glucose
    c. Fructose