

Kingdom Mufhandu

Integrative Learning Experience (Capstone Project)

International Master of Public Health

University of Haifa

18 August 2017



Table of Contents

	Page
i. Executive Summary	3
1. The Problem and Context	5
1.1. Maternal deaths	5
1.2. Child deaths	5
1.3. The role of global health	7
1.4. Structure of the South African health care system	8
a. Health care facility types	9
b. Access to health care facilities	9
2. The Solution: Mpilo Radio	10
2.1. Mpilo Radio Unique Selling Proposition	11
a. Delivery methods	13
b. Components of Unique Selling Proposition	14
2.2. The role of the WHO	15
2.3. Health promotion	16
2.4. M-Health	17
2.5. Human rights and health policy	18
a. Stuart Mills harm principle – loopholes	18
b. The global health legislations	19
c. The South African context	19
3. How Mpilo Radio Works	20
3.1. The leadership and management profile	20
a. Leadership and management	20
b. Organization and management	21
3.2. Areas of implementation	23
a. Maternal and child health	23
b. Vaccines	24
c. HIV/AIDS and STI's	24
3.3. How will Mpilo Radio be implemented	25
a. Sociology and illness in preventing diarrhea in children	25
b. Theoretical framework: Theory of reasoned action	26
c. Research methods and biostatistics	29
d. Intervention program outline	31
4. Mpilo Radio Impact	32
5. What are Current and Future Activities?	33
6. References	34

i. Executive Summary

Globally, maternal and child deaths are on the increase, particularly in the developing world. Major causes of death in children include pneumonia and diarrhea. However, in mothers, major causes of death include; bleeding, infections and eclampsia the alarming global death statistics are best addressed within a global health perspective, as various global diseases and their prevalence in the world and threat to decrease life in the present day. All global health efforts are associated with the World Health Organization (WHO). The WHO introduced Sustainable Development Goals (SDGs) in 2015 to replace the Millennium Goals (MDGs). Also, child deaths can be prevented through mother education. In recognition of the high maternal and child deaths rates in Sub-Saharan Africa, Mpilo Radio will operate in South Africa – a country with major health disparities and inequality. Mpilo Radio is to operate from antenatal clinics located at primary healthcare clinics in Alexandra Township.

Mpilo Radio is a pre-recorded health promotion program, delivered on podcasts at antenatal clinics in a radio-show format and mobile application (app) that broadcasts messages using edutainment. Mpilo Radio's Unique Selling Proposition (USP) is that; unlike posters and banners on clinic walls or television sets and literature placed at waiting rooms, Mpilo Radio reaches more people, harnessing the power of sound by using radio as a medium of communication to a captive audience in a cheaper, dynamic, customized, entertaining and jargon-free manner. Mpilo radio is at the intersection of radio, health promotion (using components of the Ottawa Charter) and mother and child health. Mpilo radio is compliant to the human rights and health policy of South Africa and internationally.

For Mpilo Radio to function effectively as an organization and intervention, it would require assertive, innovative and productive leadership. On operational aspects,

Mpilo Radio will require a leader who is able to understand employees' expectations vs. reality of the resources available. Therefore it is the role of management to narrow the gap between employees' expectations and reality. The gap can be narrowed by a) building trust, b) building consensus, c) strength based leadership and d) creating liberating structures.

Mpilo Radio will be implemented mainly in the area of maternal and child health as these populations is the focus in the SDG 3. The focus of the intervention will be on promoting breastfeeding to prevent diarrheal diseases in children. In addition, childhood vaccinations schedule notifications and visit dates will be communicated to the mothers attending antenatal clinics via a mobile cellular phone application (app) and face-to-face session with the clinic staff. However, HIV/AIDS and STIs information will also be included in the communication strategy to the mothers.

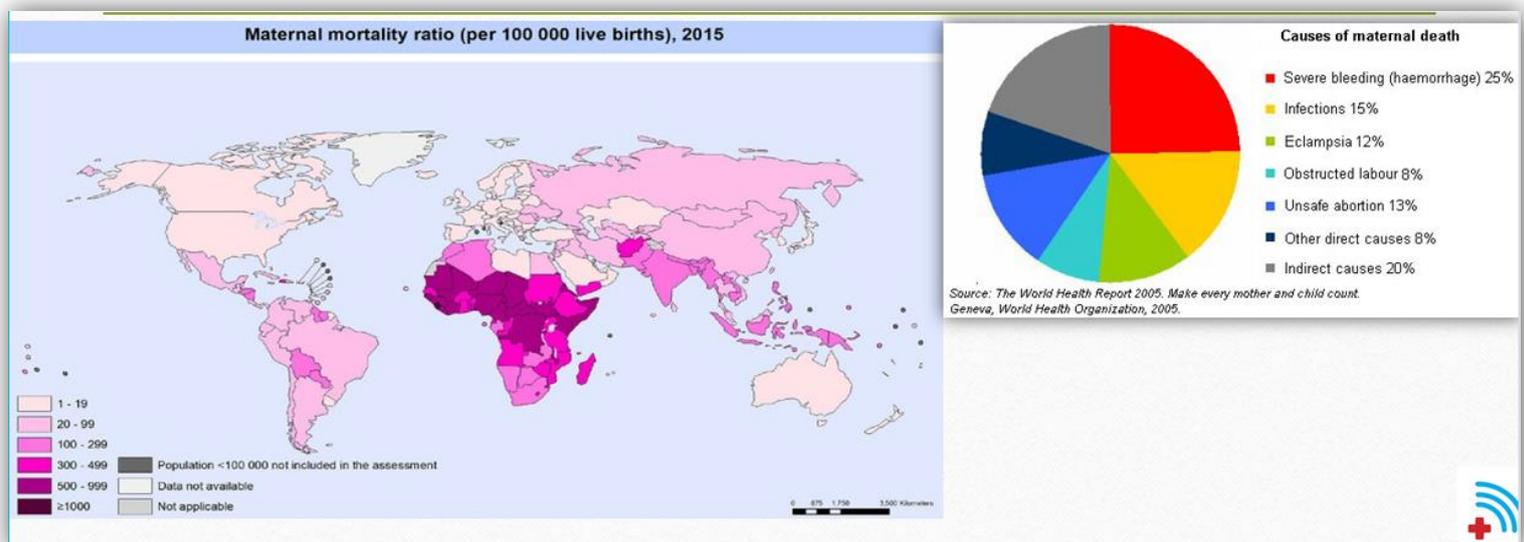
Mpilo Radio will also be implemented by using the theory of sociology of health and illness in preventing diarrhea in children. Mpilo Radio will approach diarrheal diseases from a combination of biomedical and sociological perspectives. The biomedical model will focus on the biological causes of diarrheal diseases and their biological solutions. Likewise, the sociological model will focus on the sociological causes of diarrheal diseases and their sociological solutions. Theoretical framework of Mpilo Radio is the Theory of Reasoned Action (TRA) which focuses on the mother's breastfeeding, suggesting that intention is the direct precursor of voluntary action. Data will be collected via a random sample method and pre- and post-tests will be used to measure the mother's knowledge gained from participating in a breastfeeding training course. Mpilo Radio's impact will be modest as it aims to supplement existing prevention strategies. Mpilo Radio aims to begin with a pilot project, wherein, communities will be sought to provide manpower and buy-in of Mpilo Radio's vision.

1. The Problem and Context

Globally, more mothers and their children die from diseases. This phenomenon poses several questions: Why care? Which diseases are causing these deaths? In which countries are mothers and children dying the most? What is the role of the World Health Organization (WHO)? What is the role of global health? What intervention can be used to address the problem? Will this intervention change anything?

1.1. Maternal deaths

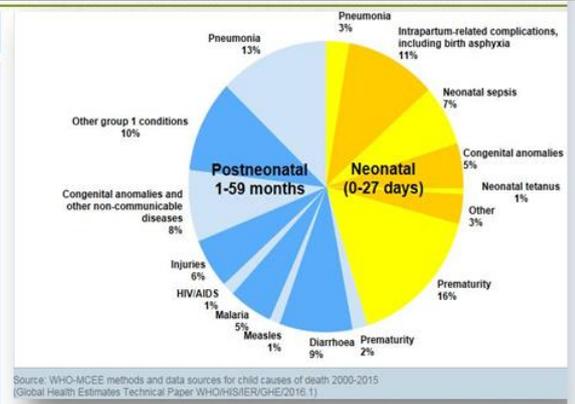
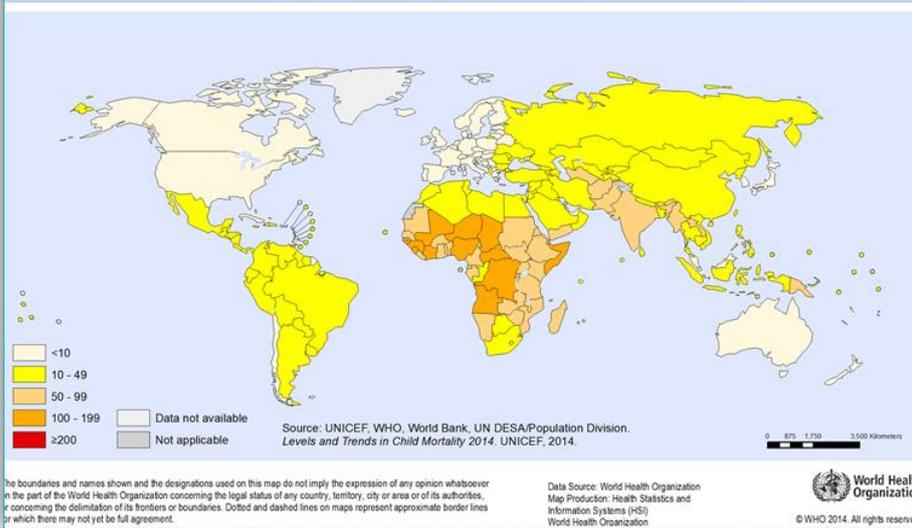
The majority of maternal deaths occur in the developing world, in particular, sub-Saharan Africa. The major causes (52%) of maternal deaths are severe bleeding (25%), infections (15%) and eclampsia (12%).



1.2. Child deaths

Similar to the maternal death statistics, the majority of child deaths occur in the developing world, in particular, sub-Saharan Africa. The major causes (22%) of child deaths (post neonatal, 1-59 months) are pneumonia (13%) and diarrhea (9%).

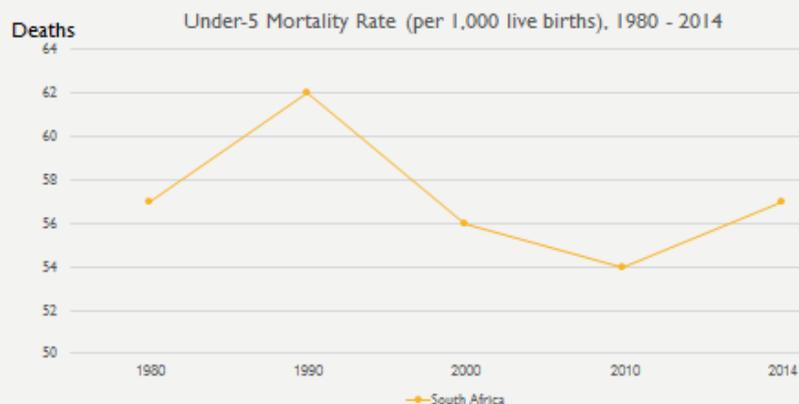
Under-five mortality rate (probability of dying by age 5 per 1000 live births), 2013



Moreover, causes of child deaths (33.8%) in South Africa are intestinal infectious diseases (17.6%), influenza and pneumonia (11.5%), and malnutrition (6.7%).

Causes of death (based on ICD-10)	Neonatal (0-28 days)			Post-neonatal (29 days to 11 months)			Infants (Less than 1 year)			1-4 years		
	Rank	Number	%	Rank	Number	%	Rank	Number	%	Rank	Number	%
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1	4 049	36,8	...	...	...	1	4 072	14,6	...	...	...
Other disorders originating in the perinatal period (P90-P96)	2	1 555	14,1	...	...	...	4	1 562	5,6	...	...	...
Disorders related to length of gestation and fetal growth (P05-P08)	3	1 210	11,0	...	...	...	5	1 337	4,8	...	...	...
Infections specific to the perinatal period (P35-P39)	4	1 060	9,6	...	...	...	6	1 090	3,9	...	...	...
Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04)	5	733	6,7	...	...	...	8	736	2,8	...	...	...
Haemorrhagic and haematological disorders of fetus and newborn (P50-P61)	6	410	3,7	...	...	...	...	...	...	...	...	...
Intestinal infectious diseases (A00-A09)	7	268	2,4	1	3 686	21,7	2	3 954	14,1	1	1 748	17,6
Other congenital malformations (Q80-Q89)	8	244	2,2	...	...	...	...	...	...	...	...	...
Digestive system disorders of fetus and newborn (P75-P78)	9	236	2,1	...	...	...	...	...	...	...	...	...
Congenital malformations of the circulatory system (Q20-Q28)	10	162	1,5	...	...	...	...	...	...	...	...	...
Influenza and pneumonia (J09-J18)	...	...	...	2	3 024	17,8	3	3 025	10,8	2	1 141	11,5
Malnutrition (E40-E46)	...	...	...	3	799	4,7	7	802	2,9	3	666	6,7
Other acute lower respiratory infections (J20-J22)	...	...	...	4	530	3,1	9	553	2,0	6	169	1,7
Other bacterial diseases (A30-A49)	...	...	...	5	475	2,8	10	478	1,7	9	147	1,5

CHILD DEATHS IN SOUTH AFRICA



1.3.The role of global health

Global health is the area of study, research and practice that places a priority on improving health and achieving equity in health for all people worldwide". The emphasis is on problems that transcend national borders or have a global political and economic impact. Thus, global health is about worldwide health improvement (including mental health), reduction of disparities, and protection against global threats that disregard national borders. Global health is not to be confused with international health - the branch of public health focusing on developing nations and foreign aid efforts by industrialized countries. Global health can be measured as a function of various global diseases and their prevalence in the world and threat to decrease life in the present day.

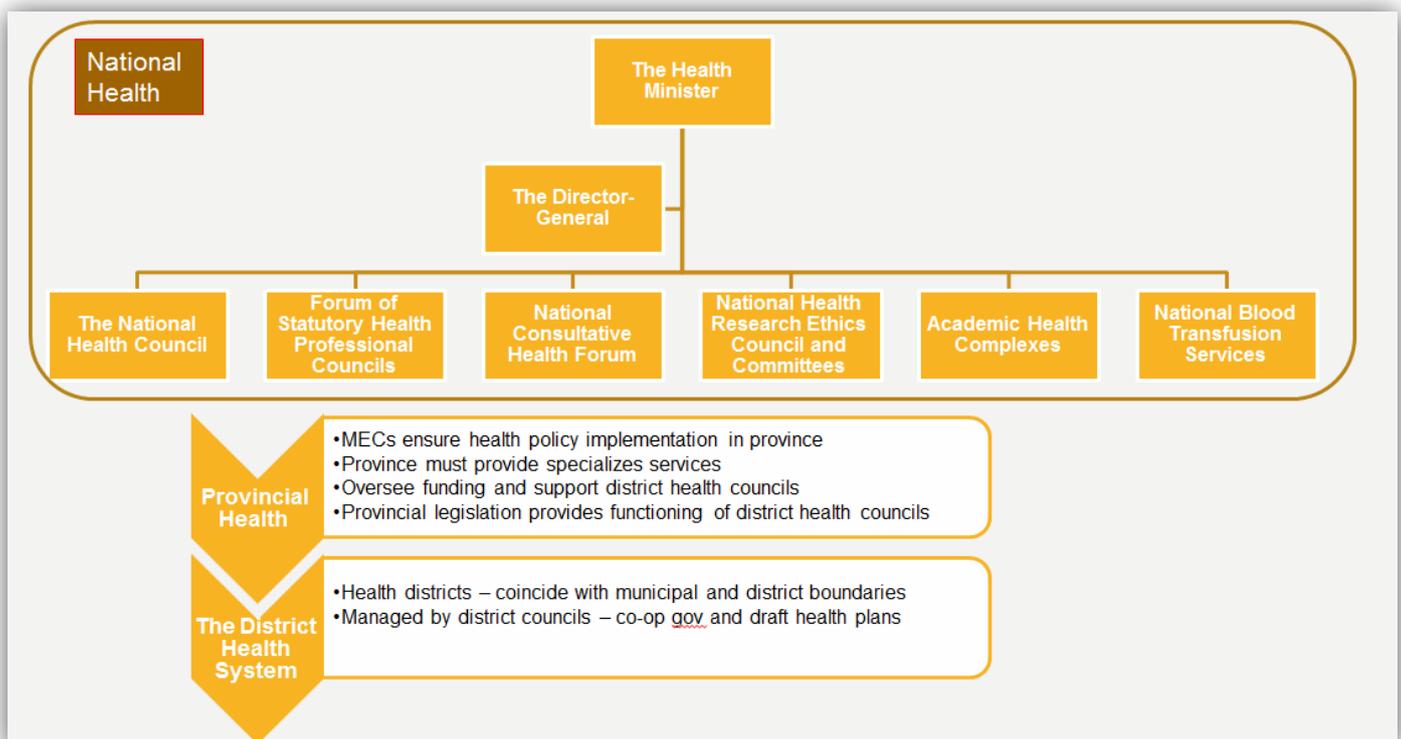
The predominant agency associated with global health (and international health) is the World Health Organization (WHO). Other important agencies impacting global health include UNICEF, World Food Program, and the World Bank. The United Nations has also played a part with declaration of the Millennium Development Goals and the more recent Sustainable Development Goals. Mpilo Radio is centered on the global health discipline in pursuit of deducing disparities, focusing on global diseases and their prevalence and threat to decrease life expectancy.

Mpilo Radio will use global interventions for improved child health and survival such as; vaccinations, hygiene interventions such as hand-washing, the promotion of breastfeeding, and treatments of severe acute malnutrition. Mpilo Radio is to initiate a pilot project in South Africa.

1.4. Structure of the South African health care system

South Africa has a two-tier health care system (wherein 8.8% of GDP is spent). The public health care sector accounts for 50% of the health spend, which caters to 80% of population. The remaining 50% is spent on private health care, which covers 15% of the population. These disparities in the distribution of expenditure between public and private health care is unsustainable, destructive, very costly and highly curative or hospicentric.

As per the National Health Act, no. 61 of 2003, the South African health care system is organized through national, nine provincial and thousands of district administrations. The national administration develops health policy and is led by the Health Minister, who oversees national health councils, institutes and committees. The provincial administration is led by Members of the Executive Committee (MECs) who implement national policy at their respective province. The district administration creates and manages the District Health System (DHS). It is through the DHS where district health plans are drafted and implemented.



a. Health care facility types

The health care facilities are divided into; primary healthcare clinics, which are the first line of access for people needing healthcare, district hospitals cater for patients referred from primary healthcare clinics, and lastly, tertiary level institutions are academic hospitals where advanced diagnostic procedures and treatments are provided. Academic hospitals also train healthcare providers. Mpilo Radio will operate from antenatal clinics located at primary healthcare clinics in Alexandra Township, Johannesburg.

b. Access to health care facilities

i. Public health care sector

There are 4200 clinics in South Africa. The clinics are overburdened as serve 13,178 people per clinic (the WHO recommendation is 10,000 people per clinic). There are 376 public hospitals of which, 143 are urban and 233 are rural. Diagnostic and health research services are provided by the National Health Laboratory Services (NHLS), the largest pathology service in South Africa, comprised of 265 laboratories, serving 80% of the population.

ii. Private health care sector

The private sector is made up of healthcare professionals who provide services on a private basis. Health care delivery is funded by subscriptions of individuals to medical aid schemes. The private care sector spends around \$8.8bn annually to cover 15% of the population, many of whom have medical cover. There are more than 110 registered medical schemes, with 3,4-million principal members (and 7,8-million beneficiaries). There are 238 private hospitals (188 in urban and 50 rural areas). The major private hospital groups are; Netcare, Medi-Clinic, and Life Healthcare.

Collectively, private hospital groups own and operate more than three quarters of all private sector beds and more than 80% of all private sector theatre facilities.

2. The Solution: Mpilo Radio

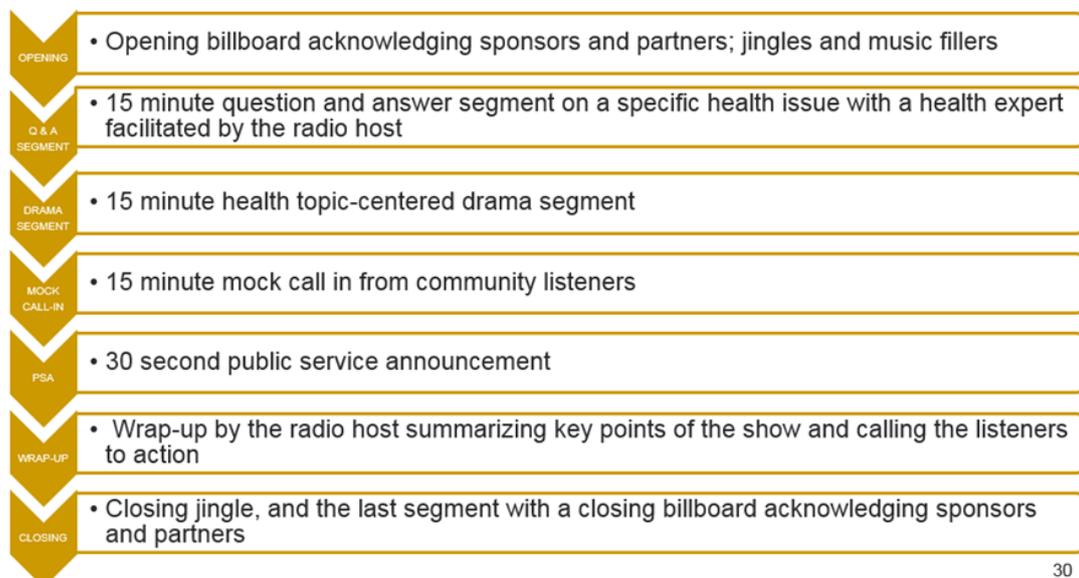
Mpilo Radio is a pre-recorded health promotion program, delivered on podcasts at antenatal clinics in a radio-show format and mobile application (app) that broadcasts messages using edutainment to save lives. Mpilo Targeted at low-income women with little or no education and seek perinatal services, Mpilo



Radio supports informed consent as participants will have the capacity to make up mind, voluntariness to act on the information and information based on the info given to take part. Unlike posters and banners on clinic walls or television sets and literature placed at waiting rooms. Mpilo Radio uses the power of sound by using radio as a medium of communication to a captive audience in a cheaper, dynamic, customized, entertaining and jargon-free manner.

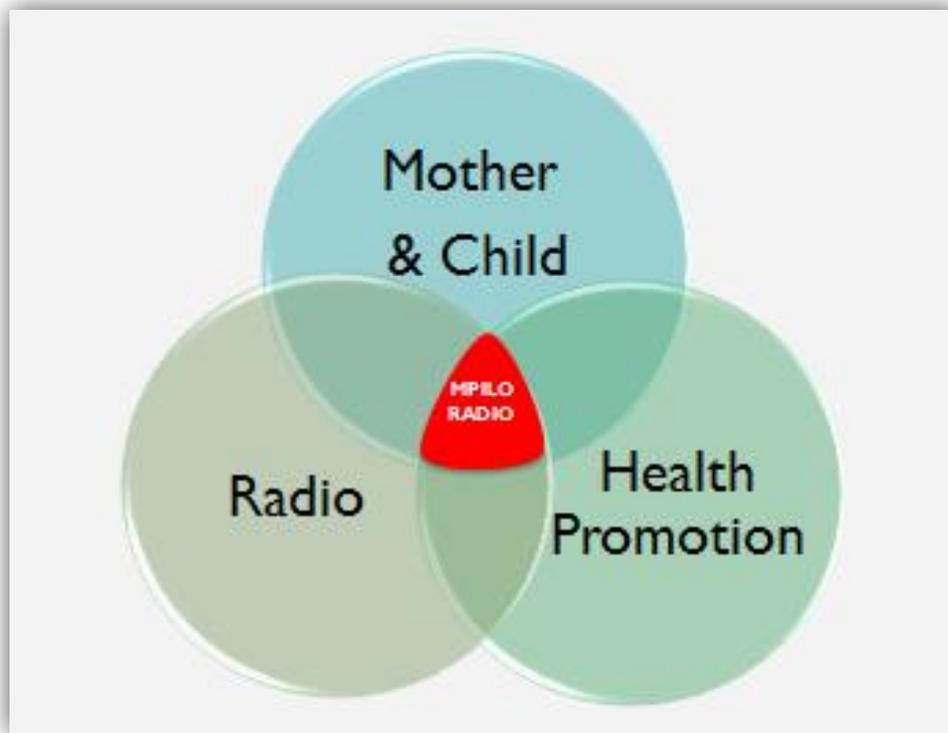
Radio show format

Standard programming during the one hour show will be as follows:



The big picture

Mpilo radio is at the intersection of radio, health and mother and child health.

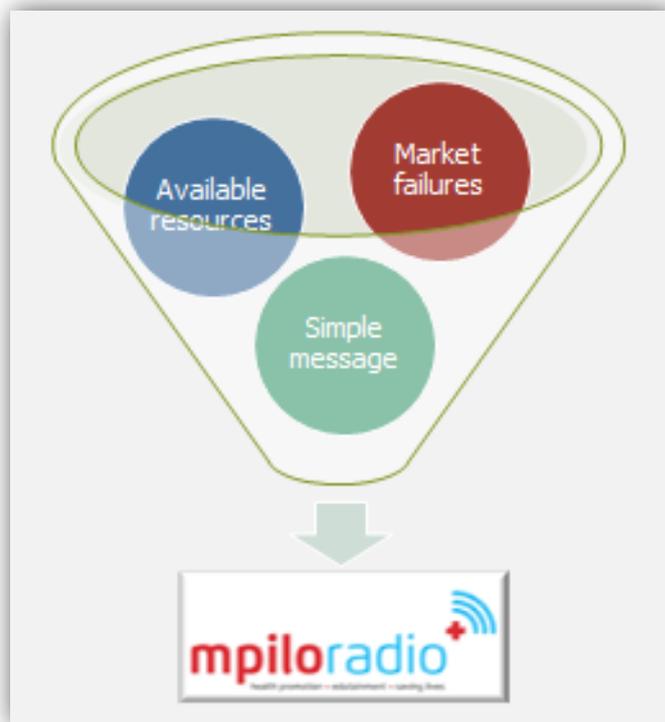


2.1.Mpilo Radio Unique Selling Proposition

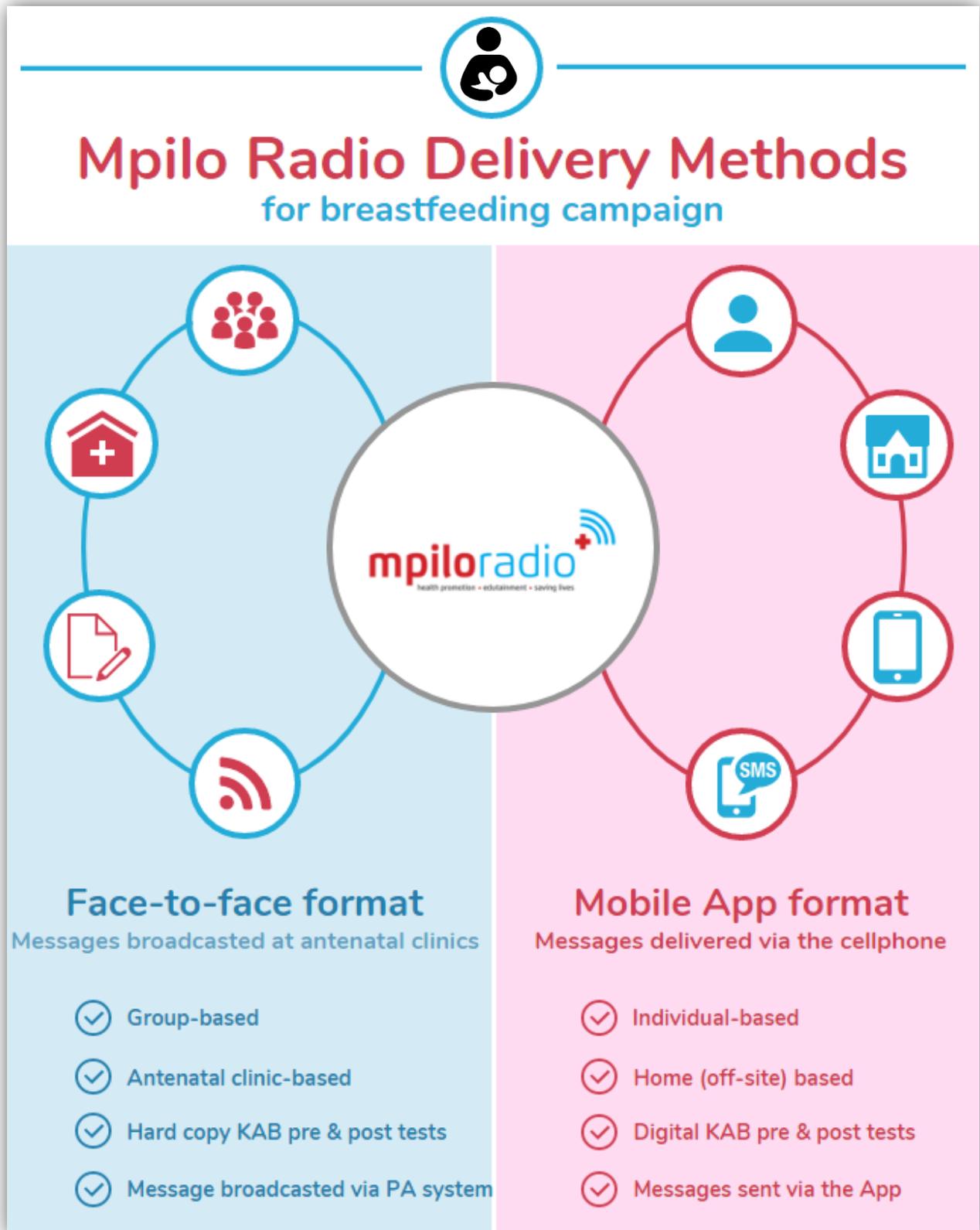
Mpilo Radio's Unique Selling Proposition (USP): Unlike posters and banners on clinic walls or television sets and literature placed at waiting rooms, Mpilo Radio reaches more people, harnessing the power of sound by using radio as a medium of communication to a captive audience in a cheaper, dynamic, customized, entertaining and jargon-free manner.



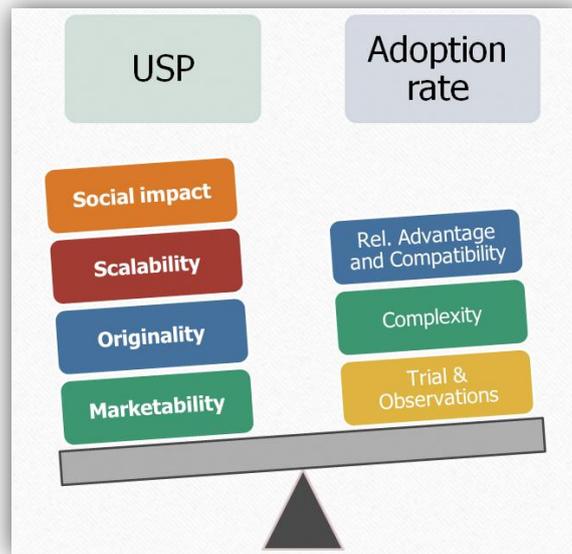
Mpilo Radio leverages on the available resources, capitalizes on market failures, and communicates and simple message.



a. Delivery methods



b. Components of Unique Selling Proposition



- *Originality*: Mpilo Radio is unique and superior in comparison with similar or alternative services in health facilities because we offer onsite health podcasts, thus offering more targeted content compared to TV, posters, leaflets, etc.
- *Marketability*: Mpilo Radio's innovation addresses the high cost i.e. an individual's resistance to behavior change, by using the "Trojan horse approach" to deliver complex and challenging health content through humour. Also, the audience is taken on a health promotion and behaviour change journey by using the transportation concept via the drama segment of the radio show. Overall, Mpilo Radio is social marketing in action!
- *Scalability*: Mpilo Radio can be easily applied to other similar health facilities beyond South Africa and also be broadcasted on multiple sites or clinics simultaneously.
- *Social impact*: Mpilo Radio aims to; prevent infant or child deaths, reduces disease burden, and empower mothers to take better care of their infants and themselves. Broadly, Mpilo Radio aims to foster civic engagement by involving community leaders and policy makers.

2.2.The role of the WHO

According to the WHO, mother's and children's lives could be improved through mother education. This is because 70% of early child death could be prevented by education and early intervention. Developing strategies to reduce child mortality through mother health education could significantly impact child survival. Maternal, perinatal and neonatal survival requires additional interventions and approaches such as health promotion. The WHO Sustainable Development Goal number 3 (SDG3) focus on "Ensuring healthy lives and promoting the well-being for all at all ages". Major advances have been made in increasing life expectancy and reducing some of the common killers associated with child and maternal mortality. Major progress has been made on increasing access to clean water and sanitation, reducing malaria, tuberculosis, polio and the spread of HIV/AIDS. However, many more efforts are needed to fully eradicate a wide range of diseases and address many different persistent and emerging health issues.

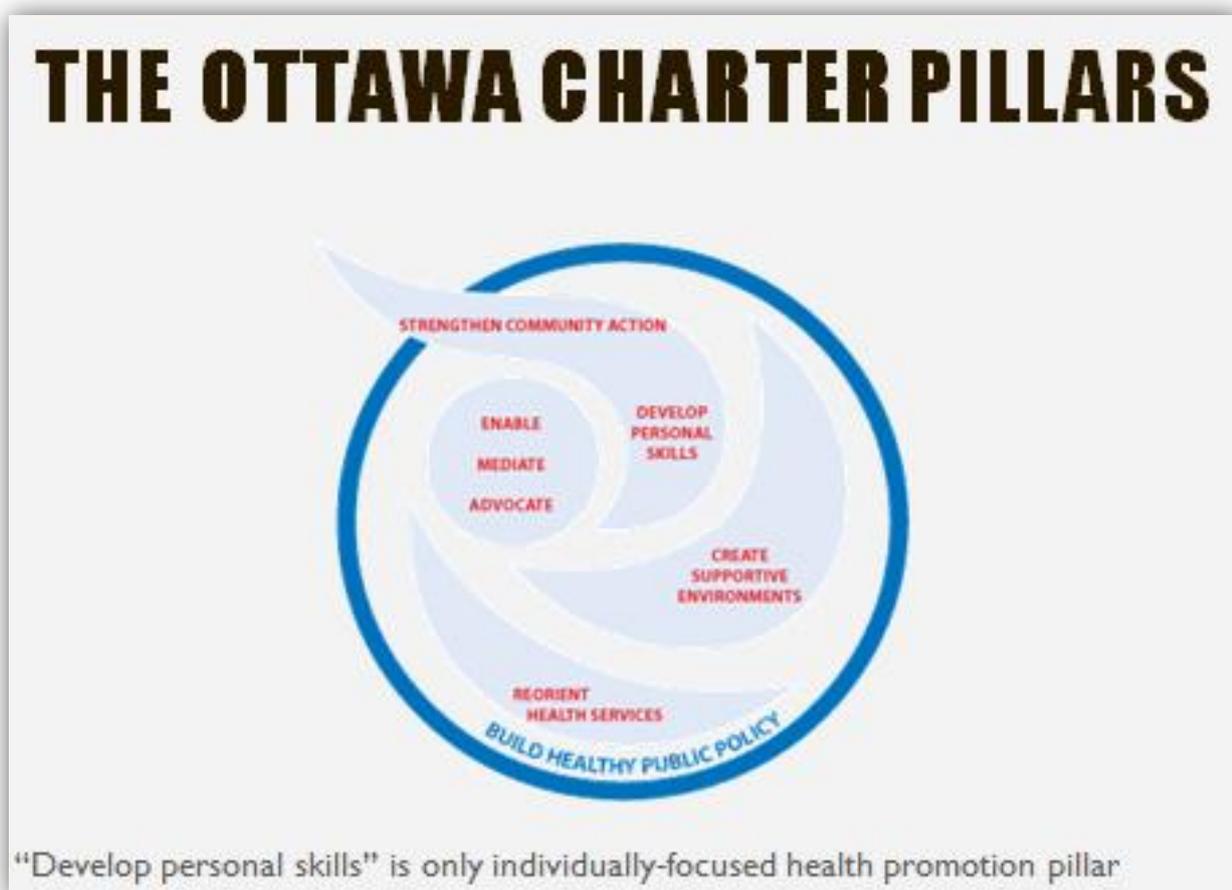
WHO Response.... Sustainable Development Goals



The SDG 3 2030 targets are: Reducing global maternal mortality ratio to <70 per 100,000 live births, ending preventable deaths children under 5 years of age, reducing under-5 deaths to 25 per 1,000 live births, and ensuring universal access to sexual and reproductive health-care services, including information and education and integration into national strategies and programs.

2.3. Health promotion

Health promotion aims to improve population-level health, and not to limit individual autonomy by dictating lifestyles. Health promotion is implemented through the Ottawa Charter for Health Promotion - an international agreement signed at the First International Conference on Health Promotion, organized by the World Health Organization (WHO) and held in Ottawa, Canada, in November 1986.



2.4.M-health

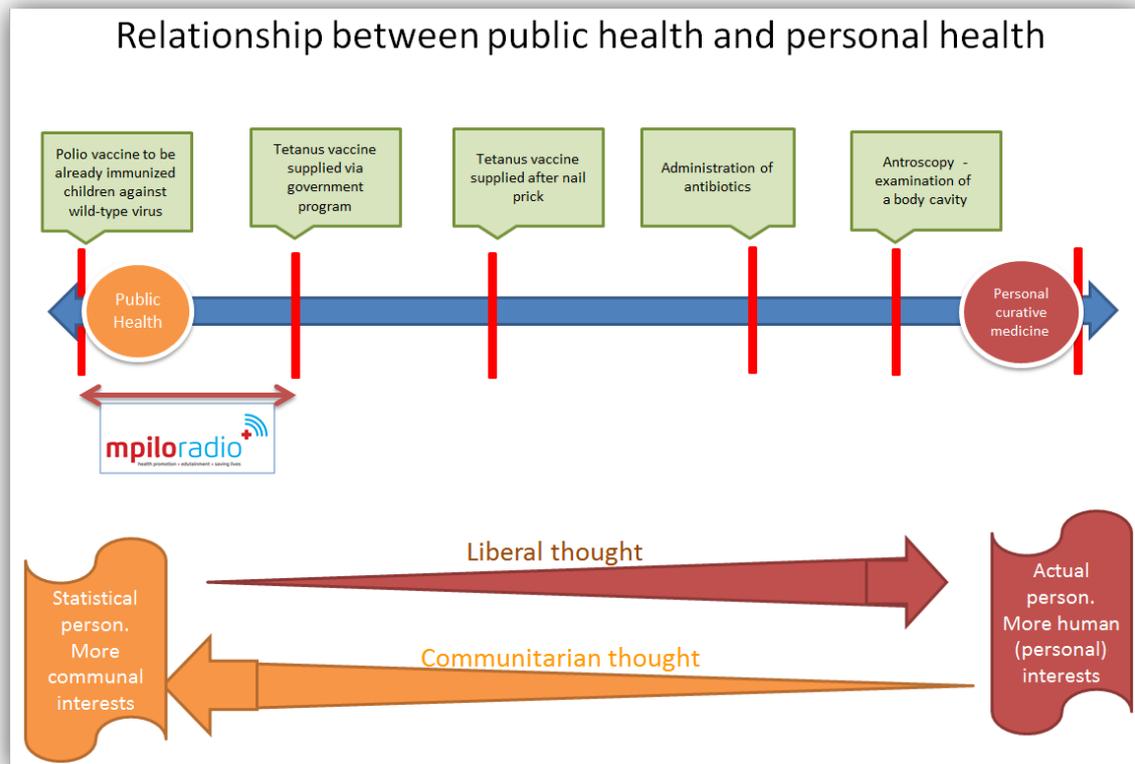
Mobile health (m-health) is the use of mobile applications for healthcare. The most common mobile device used is the mobile cellular phone. Appointment reminders and patient monitoring to emergency calling lines and raising awareness over health issues are some of the interventions used in m-health.

M-health capitalizes on existing resources rather than needing to develop new ones. Globally, there are five billion mobile cellular subscribers in the world, 65% of which are in low- and middle-income countries.



2.5. Human rights and health policy

Public health and personal health exist in dichotomous spheres: the liberal and communitarian thoughts. Therefore, health is placed on a continuum with public health and personal curative medicine on the other side of the spectrum.



a. Stuart Mills harm principle – loopholes

A pregnant woman's unhealthy behavior and or practices (smoking/drinking) may cause harm to her unborn child. A mother's unhealthy behavior and or practices (smoking/drinking) may cause harm to her young child as the child has no agency or power to do otherwise. Self-preservation: The state can protect itself from communicable disease spread by introducing: a) Hard paternalism: "Compulsory" perinatal session attendance. b) Soft paternalism: Unsolicited, edutainment-based radio health promotion program broadcasting health messages in ANC, downloading mobile application on cell phone, and subsidized cellphone and data costs.

b. The global health legislations

The global community promotes these fundamental rights: a) the world has a youthful population (third of the population under 15 years of age); therefore the health of these children needs to be a priority. b) The principle is adopted through the ratification of the 1990 United Nations Convention of the Rights of the Child. The convention contains 54 Articles. These are the articles relevant to Mpilo Radio:

- Article 3: Best interests of the child
- Article 4: Implementation of rights
- Article 6: Survival and development
- Article 19: Protection from abuse and neglect
- Article 24: Health and health services (emphasis on primary and preventative health care and public health education)

c. The South African context

South Africa is based on Communitarism, whereby Ubuntu is at the center and has a belief that society, not a transcendent being, gives human beings their humanity. A person is a person through other people. Health promotion is ethical and health is a common good - for itself and for other common food, one has to be healthy.

South African Human Rights Charter

Chapter Two of the Constitution of South Africa contains the Bill of Rights, a human rights charter that protects the civil, political and socio-economic rights of all people in South Africa. A focus on the prevention of child deaths: Section 11 states “Everyone has the right to life.” In *S v Makwanyane* this was judged to forbid the

death penalty. Section 27 sets out a number of rights with regard to health, including right to access to health care, including reproductive rights. Section 28 lists a number of rights held by children to family care or parental care ,or to appropriate alternative care when removed from the family environment” ”;to basic nutrition ,shelter ,basic health care services and social services"

The aims of Mpilo Radio can be achieved because there is a balance between individual and collective rights, namely, improving population-level health, promoting healthy public policies - ‘coercive’ policies (informed by public participation, e.g. a decrease in U5MR movements). Pregnant woman or mother’s autonomy to smoke and/or drink is contravened by policies that defend the fetus and children’s right to a healthy environment, with both evidence and popular support – a common good. Lastly, Mpilo Radio participants will differentiate between evidence and profit-driven communications using morbidity and mortality data.

3. How Mpilo Radio Works

3.1.The leadership and management profile

Mpilo Radio will be directed by Mr. Kingdom Mufhandu, a Master of Public Health graduate from the University of Haifa, Israel.

a. Leadership and management

- Myers-Briggs profile

Mr. Kingdom Mufhandu's Myers-Briggs profile is: ESFJ (Extraversion, Sensing, Feeling, and Judgment). Also a Guardian: subtype- provider. ESFJs have high expectations for others, values tradition and loyalty. In the workplace, ESFJs seek cooperation and harmony. There is no gray area. ESFJs are excellent networkers.

- **Macobby types**

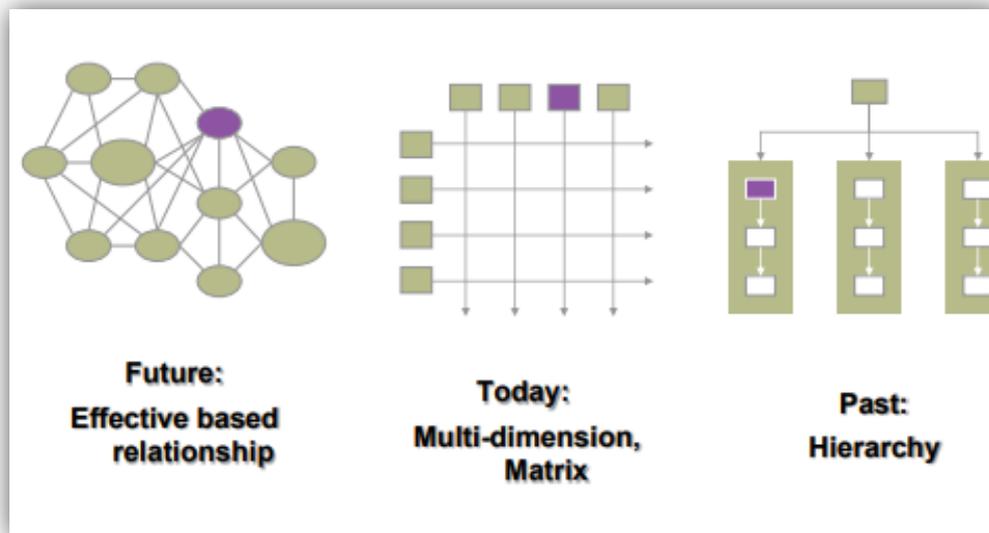
Mr. Kingdom Mufhandu's Macobby types: there are four types: Narcisictic, obsessive, erotic, and marketing. Mr. Kingdom Mufhandu is categorized as a Narcissist - independent and not easily impressed. Narcissists are innovators, driven in business to gain power and glory. The goals is for Mr. Mufhandu to be productive because a Productive narcissists are experts in their industries, but they go beyond it. They also pose the critical questions. Productive narcissists understand the vision thing particularly well, because they are by nature people who see the big picture. However, the disadvantages of Narcissists are: sensitive to criticism, poor listeners, lack of empathy. To remedy the flaws, the Narcissist must find a trusted sidekick: Many narcissists can develop a close relationship with one person, a sidekick who acts as an anchor, keeping the narcissistic partner grounded.

b. Organization and management

Expectations vs. reality

Expectations (evaluations, salary increases, people typically ask for more that they deserve) vs. reality (budgetary constraints, limited resources). Therefore, there is a gap between expectations and reality. It is the role of management to narrow that gap. The gap can be narrowed by a) building trust, b) building consensus, c) strength based leadership and d) creating liberating structures.

Building trust using organizational structure



Organizational trust is becoming more important because the organizational structure is moving from hierarchal (past) to multi-dimensional matrix (present) to effective-based relationships (future). The multi-dimensional matrix model: cons: for each employee, two managers are needed. Effective-based relationships model: pros: more collaborations, increased time-to-market. Cons: needs more trust.

Consensus building

Consensus building is not about getting everybody to agree, but to get everybody to be able to live with your decision/vision

Strength based leadership

Strength Finder and Strength-based leadership: brains are wired to improve strengths not weakness (however, it is important to acknowledge the weaknesses). Strength Finder measures talent, not strength. Most successful people start with a dominant talent and later add skill, knowledge and practice to the mix.

Therefore: talent x investment = strength

Creating liberating structures in the organization

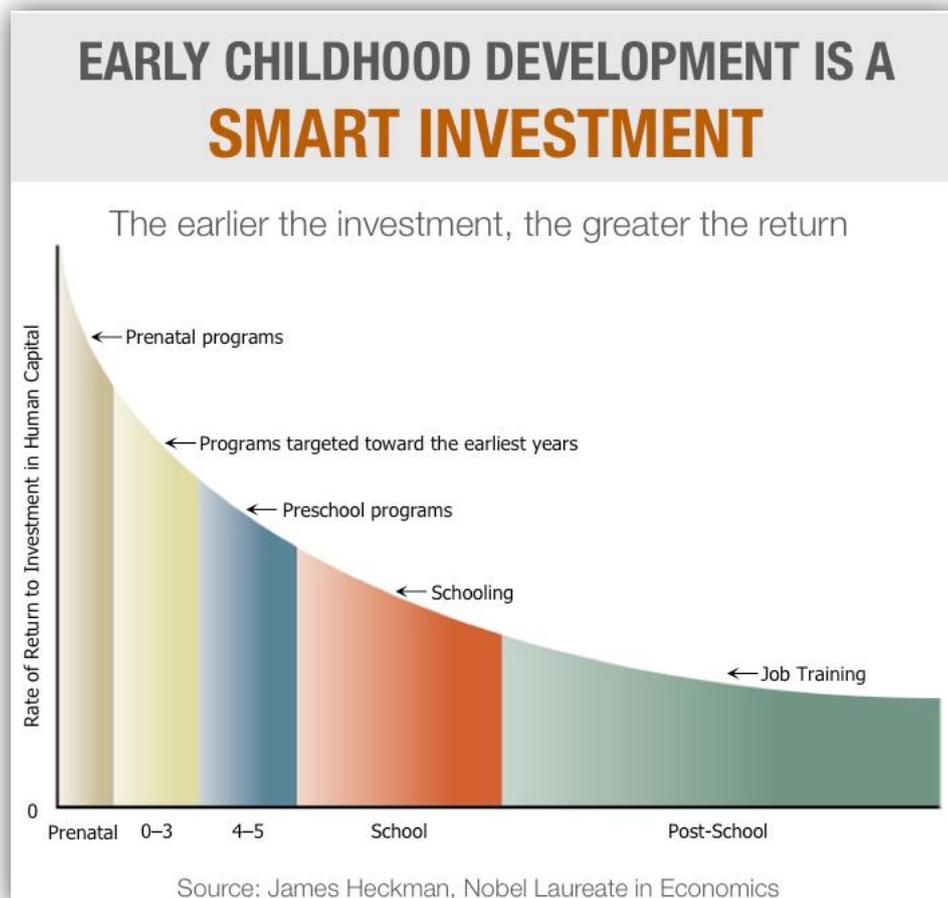
They are more informal, built on social networks and trust is built “as you go”. Liberating structures dictate how we meet, plan, decide, and relate to each other. In liberating structures, innovative power is placed in the hands of everyone employed at Mpilo Radio.

3.2.Areas of implementation

a. Maternal and child health

Well-child care

Mpilo Radio will be integrated to "Head-start programs" at the antenatal clinic as the highest rate of economic returns comes from the earliest investments in children. Mpilo Radio will leverage on the economic benefits of investing early and building skill upon skill to provide greater success to more children and greater productivity and reduce social spending for society.



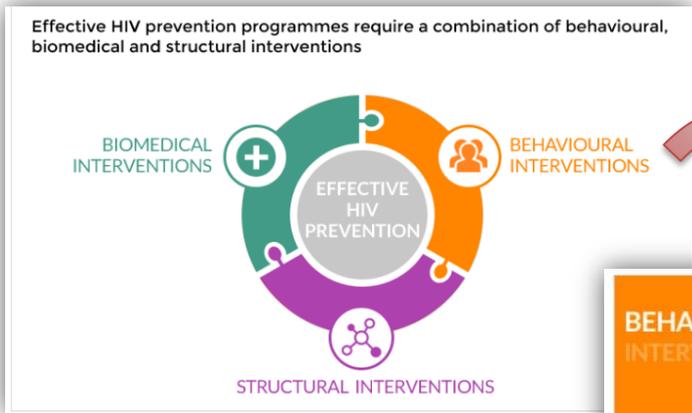
b. Vaccines

Mpilo Radio, via face-to-face interactions with pregnant women and mothers, will send reminders of the upcoming vaccination visits. These notifications will include educational information and drama components about the benefits of each vaccine.

Vaccine ▼	Age ►	7-10 years	11-12 years	13-18 years	
Tetanus, Diphtheria, Pertussis ¹			Tdap	Tdap	Range of recommended ages for all children
Human Papillomavirus ²	see footnote ²		HPV (3 doses)(females)	HPV series	
Meningococcal ³		MCV4	MCV4	MCV4	
Influenza ⁴		Influenza (Yearly)			Range of recommended ages for catch-up immunization
Pneumococcal ⁵		Pneumococcal			
Hepatitis A ⁶		HepA Series			Range of recommended ages for certain high-risk groups
Hepatitis B ⁷		Hep B Series			
Inactivated Poliovirus ⁸		IPV Series			
Measles, Mumps, Rubella ⁹		MMR Series			
Varicella ¹⁰		Varicella Series			

c. HIV/AIDS and STI's

Combination prevention is a rights-based, evidence-informed, and community-owned programs that use a mix of biomedical, behavioral, and structural interventions, prioritized to meet the current HIV prevention needs of particular individuals and communities, so as to have the greatest sustained impact on reducing new infections. Combination prevention advocates for a holistic approach whereby HIV prevention is not a single intervention (such as condom distribution) but the simultaneous use of complementary behavioral, biomedical and structural prevention strategies. Combination prevention programs consider factors specific to each setting, such as levels of infrastructure, local culture and traditions as well as populations most affected by HIV. They can be implemented at the individual, community and population levels.



Examples of behavioral interventions include: information provision (such as sex education), counseling and other forms of psycho-social support, and safe infant feeding guidelines

3.3.How will Mpilo Radio be implemented

a. Sociology and illness in preventing diarrhea in children

Mpilo Radio will approach diseases from a combination of biomedical and sociological perspectives. The biomedical model will focus on the biological causes of diseases and their biological solutions. Likewise, the sociological model will focus on the sociological causes of diseases and their sociological solutions.

Both biomedical and social models are useful and can therefore be applied concurrently. The biomedical model aids in the understanding of the pathology, laboratory diagnosis and appropriate treatment. However, the social model focuses on the underlying factors – social determinants of health. Therefore both models are

crucial in the holistic approach to diarrhea, prevention and treatment. Weaknesses of the biomedical model are that it is highly individualistic, curative and hospicentric because the "blame" is placed on the patient. In contrast, the social model considers external factors (social determinants of health) as causes and uses social imagination (making a link between personal troubles and public issues), therefore shifting the "blame" from the patient.

The biomedical and social models complement each other as diarrhea can be viewed as a massive iceberg, with only the tip visible and a much larger part immersed in water. The biomedical model addresses the tip and the social model addresses the immersed part of the iceberg. Therefore, to holistically address diarrhea, both models must be applied.

b. Theoretical framework: Theory of reasoned action

- Concept: Reasoned action

The Theory of Reasoned Action (TRA) focuses on an individual's behavioral intention, suggesting that intention is the direct precursor of voluntary action. In this model people think from the consequences of behavior.

The Constructs

Attitudes

- Behavioral beliefs: Belief that behavioral performance is associated with certain attributes or outcomes
- Evaluation of behavioral outcomee: value attached to a behavioral outcome or attribute.

Subjective norms

- Normative beliefs: Others expectations
- Motivation to comply: value attached to a behavioral outcome or attribute

Intention

- Behavioral intention: perceived likelihood of performing the behavior

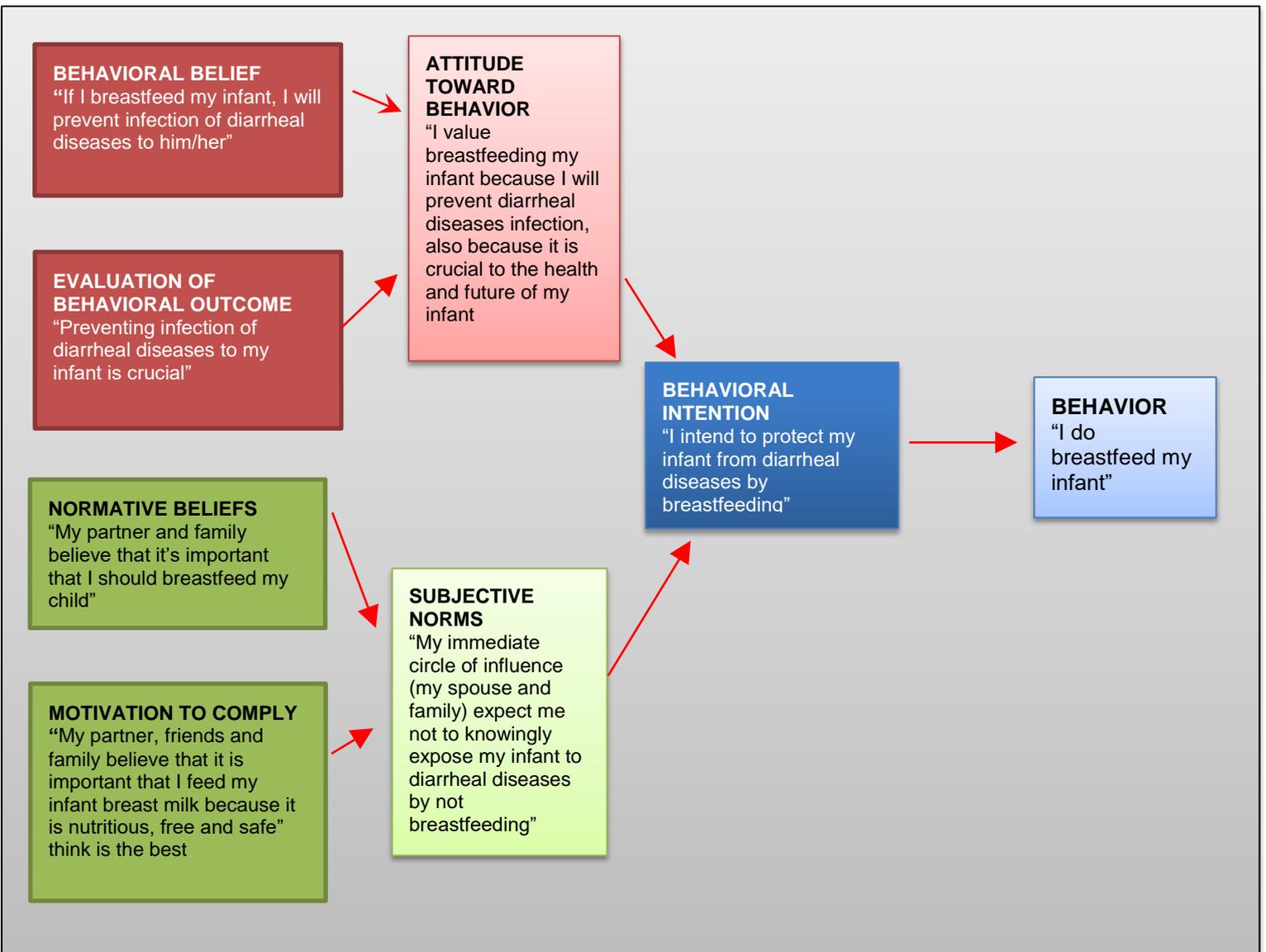
Intervention

Main Goal: Preventing diarrheal diseases through the promotion of breastfeeding

- Pre-intervention: Questionnaire: Knowledge Attitudes Beliefs (KAB)
- Design flyer with information on the benefits of breastfeeding in preventing diarrheal diseases and distribute to all women attending ANC
- Nurses/health educators lecture all women attending the ANC

TRA model to prevent diarrheal diseases

Poor sanitation can increase transmission of bacteria and viruses through water, food, utensils, hands, and flies. Dehydration due to diarrhea can be treated through oral rehydration therapy with reductions in mortality. Important nutritional measures include the promotion of breastfeeding and zinc supplementation. While hygienic measures alone may be insufficient for the prevention of rotavirus diarrhea, it can be prevented by a safe and potentially cost-effective vaccine. Using the TRA model, Mpilo Radio will use the framework to promote breastfeeding to prevent diarrheal diseases as illustrated below:



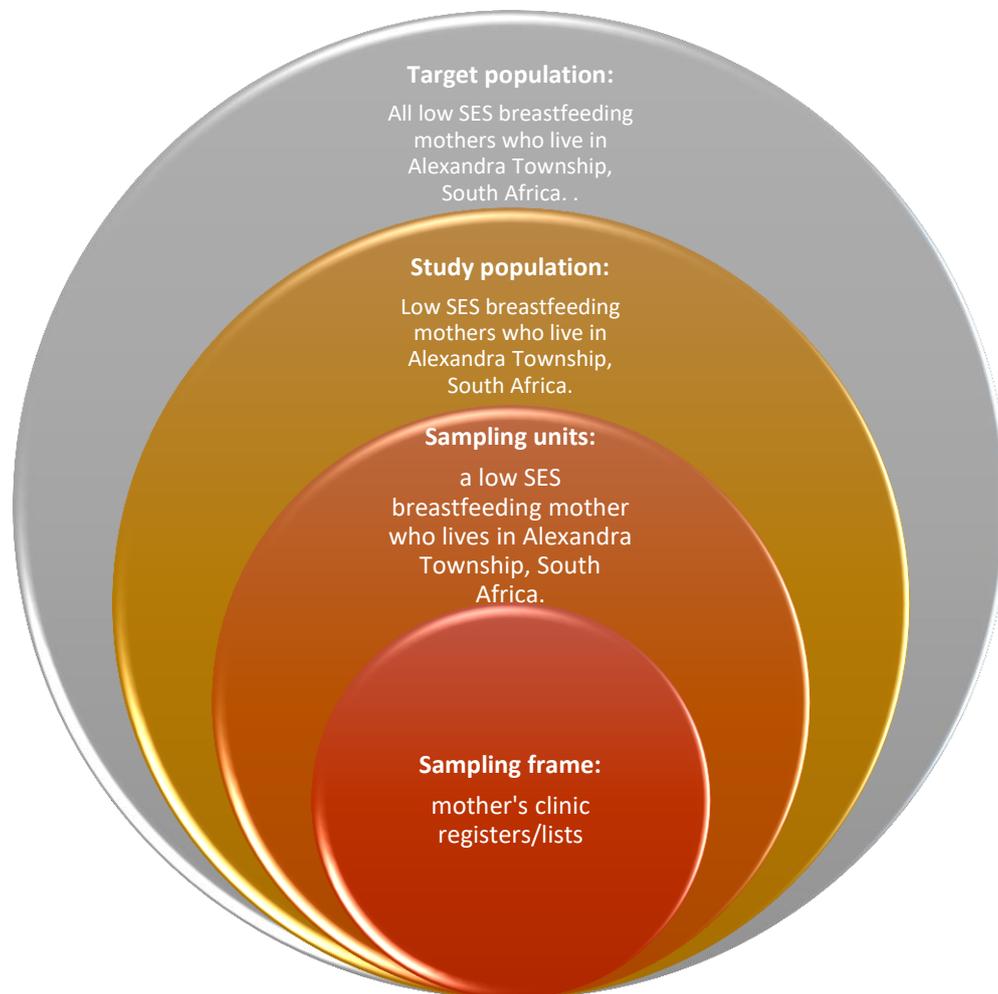
Limitations of TRA in Context

The mother could have little or no power over their behavior to not breastfeed their infant and in context of patriarchal society, a mother could believe that socially, they have little power in believing or deciding that they can choose not to breastfeed their infant.

c. Research methods and biostatistics

Sample Size

The targeted sample size is 30 participants. The sample size projection is small because the Mpilo Radio breastfeeding project will begin as a pilot project (see figure below). Sampling method: Probability sample: Stratified (select every 3rd sampling frame from each mother's age groups, repeat the process by choosing the next 3rd sampling frame until a number of 30 participants is reached).



The scope of the pilot project begins from the broad (target population) to a sampling frame (lists of breastfeeding mothers in the antenatal clinic). The Mpilo Radio breastfeeding project participants will be systematically selected from each sampling frame per group in an antenatal clinic.

Pre- and Post-Testing

Pre- and post-tests will be used to measure knowledge gained from participating in a breastfeeding training sessions. The pre-test will be a set of questions given to participants before the breastfeeding training begins in order to determine their knowledge level of the course content. After the completion of the course, participants will be given a post-test to answer the same set of questions. Comparing participants' post-test scores to their pre-test scores will enable Mpilo Radio questionnaire administrators to see whether the breastfeeding training was successful in increasing participant knowledge of the training content.

Validating Pre- and Post-Tests

All pre- and post-tests will be validated before they are considered a reliable data collection tool. If participants get a question wrong, it should be because of lack of knowledge, not because a participant interpreted the question differently than it was intended.

Implementing a Pre- and Post-Test

Mpilo Radio questionnaire administrators will match each participant's pre-test and post-test answers so they can look at an individual's change in knowledge as well as the knowledge change of the group as a whole.

Analyzing Pre- and Post-Test Results

The final step is to analyze the results of the pre and post-tests both by participant and by question. Mpilo Radio questionnaire administrators will look at the data in both of these ways will help you learn about both the type of participant that

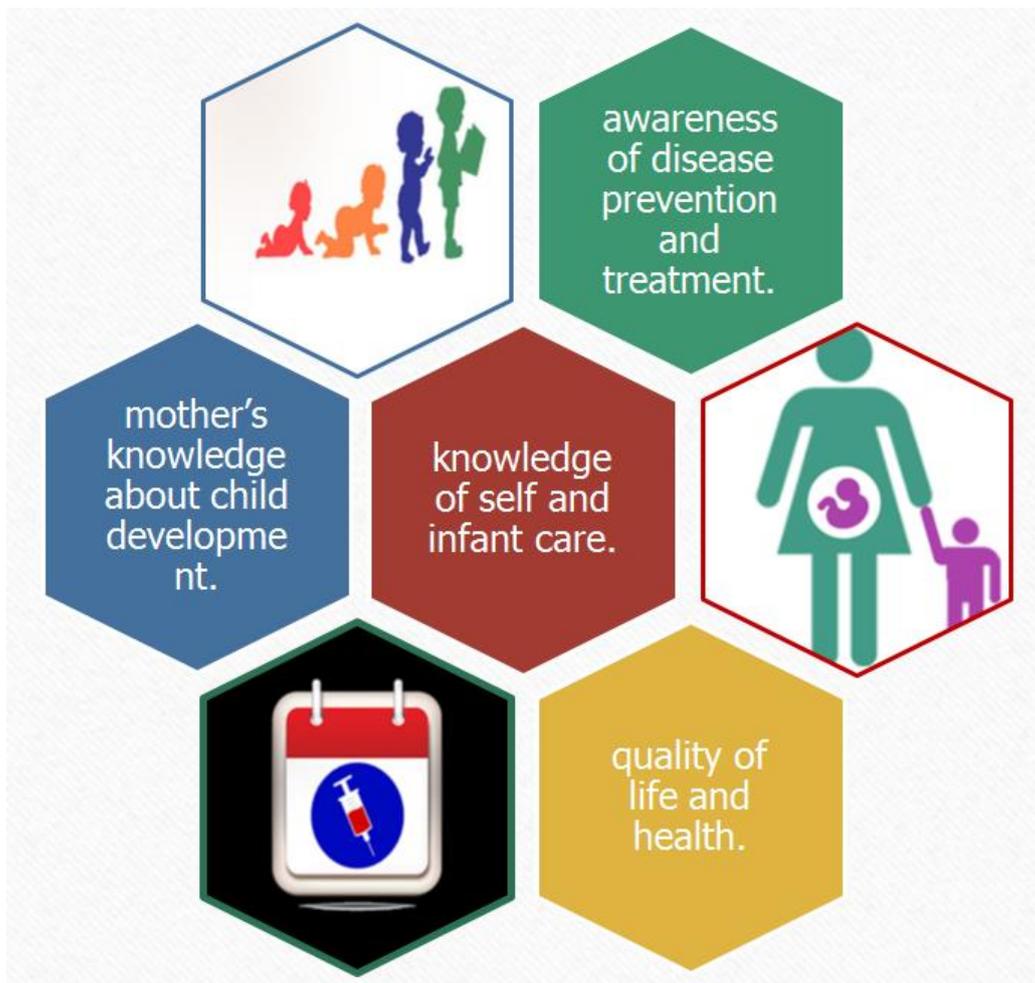
learned the most from the training and the areas of the training that were most effective for the whole group. SPSS will be used to analyze the results.

d. Intervention program outline

Aim	Field of Action (as per the Ottawa Charter)	Method of Action	Process Evaluation (metrics)	Outcome Evaluation
Increase awareness and knowledge regarding the importance of breastfeeding	Develop personal skills -health education	Health literacy via flyer/pamphlet to prevent diarrheal disease infection (including breastfeeding) <ul style="list-style-type: none"> Workshops/training for antenatal clinic attendees 	<ul style="list-style-type: none"> 40 flyers will be copied 40 flyers will be distributed to the participants via the clinic (health promoters) 2 workshops in a month with at least 15 participants 	<p><i>Did the implementation of health education result in changes in knowledge, attitudes, and skills among the members of the target population?</i></p> <p>Target: 20% increase in the knowledge, attitudes, and skills</p>
Change norms about breastfeeding	Creating supportive environments -health education	Health literacy via flyer/pamphlet to promote breastfeeding <ul style="list-style-type: none"> Workshops/training for antenatal clinic attendees 	<ul style="list-style-type: none"> 40 flyers will be copied 40 flyers will be distributed to the participants via the clinic (health promoters) 2 workshops in a month with at least 15 participants 	<p><i>Did the implementation of health education result in changes in norms about breastfeeding among the members of the target population?</i></p> <p>Target: 20% increase changes in norms about breastfeeding</p>
Integrate breastfeeding into the existing perinatal care programs	<ul style="list-style-type: none"> Creating supportive environments -good nutrition Strengthening community action -community mobilization 	Breastfeeding program for participants and community <ul style="list-style-type: none"> Integrate the existing "healthy lifestyles program" into the Mpilo Radio breastfeeding messaging 	3 health fairs in a year with at least 100 participants	<p><i>Did the integration of ADOPT Project into the existing healthy lifestyle programs result in increase in impact of the breastfeeding program among the members of the target population?</i></p> <p>Target: Integrate the Mpilo Radio breastfeeding messaging into 10% the existing healthy lifestyle programs</p>
Promote breastfeeding in the social environment of the target population	Strengthening community action -community mobilization	Interested groups (clinics, spouses, local councils and social groups) to integrate the Mpilo Radio breastfeeding messaging into their health-focused activities	The Mpilo radio breastfeeding messaging to be integrated into at least 2 organizations (clinics, local councils and social groups)	<p><i>Did the promotion/introduction of breastfeeding among interested groups result in increase in uptake of the Mpilo Radio breastfeeding messaging among individuals/organizations in the social environment of the target population?</i></p> <p>Target: uptake of the Mpilo radio breastfeeding messaging among 1 organization</p>

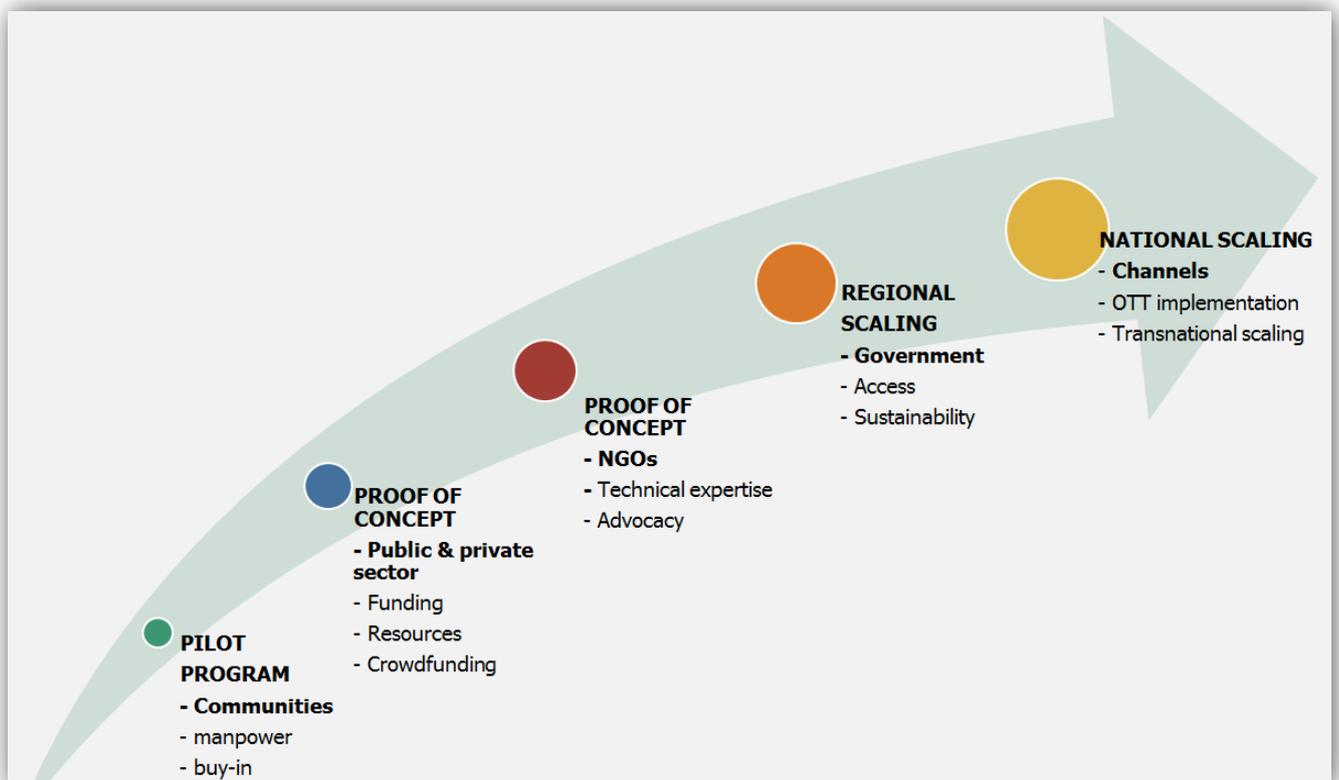
4. Mpilo Radio Impact

Albeit modest, Mpilo Radio's contribution in preventing diseases and infections will complement the existing intervention and strategies. Mpilo Radio anticipates the following impact in the target population:



5. What are Current and Future Activities?

Currently, Mpilo Radio aims to begin a pilot program, wherein, communities are sought to provide manpower and buy-in of Mpilo Radio. The next stage is the proof of concept whereby the public & private sector are solicited for funding, resources, and crowd funding. Another addition within the proof of concept stage is for Mpilo Radio to partner with NGOs to seek technical expertise and advocacy. The next stage will be the regional scaling wherein government and Mpilo Radio partner to facilitate access and sustainability. Lastly, the last phase involves national scaling wherein Mpilo Radio accesses channels to initiate over-the-top implementation and transnational scaling.



6. References

- WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. Trends in maternal mortality: 1990 to 2015
- UNICEF, WHO, World Bank, UN-DESA Population Division. Levels and trends in child mortality 2015
- http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E
- mHealth: New horizons for health through mobile technologies: second global survey on eHealth. World Health Organization. 2011
- <http://www.mrc.ac.za/bod/bod.htm>
- <https://www.theidm.com/getmedia/656ce1c8-f1a5-4ee1-b7c2-3d44e50571ba/C-5-6.pdf>
- <http://www.who.int/healthpromotion/conferences/previous/ottawa/en/>
- <https://john.do/org-trust/>
- <http://www.gallup.com/press/176429/strengthsfinder.aspx>
- www.ncbi.nlm.nih.gov/pubmed/9437964
- <http://www.who.int/bulletin/volumes/88/1/10-030110/en/>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3723344/>
- <http://www.amazingbreastmilk.nhs.uk/support/milk-banks/>
- Azjen, Icek; Madden, Thomas (1986). "Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control". *Journal of Experimental Social Psychology*.
- Colman, Andrew (January 2015). "Theory of Reasoned Action". *A Dictionary of Psychology*.
- <http://www.go2itech.org/resources/technical-implementation-guides/TIG2.GuidelinesTesting.pdf>