EXPANDING IMMUNIZATION COVERAGE IN PUNTLAND, SOMALIA : A QUALITATIVE ANALYSIS

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การศึกษานี้มีวัตถุประสงค์เพื่อ (1) กำหนดกลยุทธ์ในการพัฒนาโปรแกรมการฉีดวัคซีนสร้างภูมิคุ้มกันโรคเพื่อให้ความครอบคลุมที่สูงขึ้นและยั่งยืน (2) ศึกษาปัจจัยทั้งทางด้านอุปสงค์และอุปทานที่มีผลต่อการได้รับวัคซีนในวัยเด็ก (3) ศึกษาอุปสรรคของอัตราการได้รับวัคซีนที่มากขึ้นอย่างยั่งยืน (4) ศึกษาหาวิธีการที่ชุมชนสามารถนำไปใช้เพื่อเพิ่มอัตราการครอบคลุมของวัคซีน โดยเฉพาะอย่างยิ่งในพื้นที่ห่างไกล โดยข้อมูลเชิงคุณภาพจะถูกรวบรวมด้วยวิธีการสนทนากลุ่มและการสัมภาษณ์ในเชิงลึก

ผลการศึกษาหลัก คือ (1) รัฐบาล Puntland ในขณะนี้ยังไม่มีกลยุทธ์ทางการเงินสำหรับโครงการ EPI และทั้งหมดขึ้นอยู่กับผู้บริจาค (เช่น ยูนิเซฟและองค์การอนามัยโลก) เพื่อเป็นเงินทุนในโครงการ ในขณะที่ผู้บริจาคเริ่มมีความยากลำบากในการจัดหาเงินเพื่อช่วยพัฒนาด้านสุขภาพและสาธารณสุข อันเนื่องมาจากประเทศอื่นๆ อาทิเช่น ไนจีเรีย ซีเรีย และเยเมน ต่างก็ประสบปัญหารุนแรงเช่นกัน (2) มารดามีความเข้าใจค่อนข้างต่ำเนื่องจากขาดการมีส่วนร่วมและการตระหนักถึงปัญหา (3) การมีส่วนร่วมของชุมชนในการวางแผนและให้คำปรึกษาเกี่ยวกับโปรแกรม EPI มีจำกัด และกระทรวงสาธารณสุขไม่ได้ให้ชุมชนมีส่วนเกี่ยวข้องในกระบวนการวางแผน ดังนั้น รัฐบาลจึงมีความจำเป็นมากขึ้นในการสร้างกองทุนของตัวเองเพื่อสนับสนุนโครงการ EPI นำไปสู่ความยั่งยืนทางการเงิน รัฐบาลควรจัดสรรเงินเฉพาะกับโปรแกรม EPI และมีกลยุทธ์เพื่อเพิ่มความเร็วในการดำเนินการของโปรแกรม EPI และให้ความครอบคลุมที่เพิ่มขึ้น โดยการปรับโครงสร้างของโปรแกรมเพื่อส่งเสริมให้มารดาและชุมชนมีส่วนร่วมในขั้นตอนการวางแผน ซึ่งจะทำให้ทุกคนรู้สึกถึงความเป็นกรรมสิทธิ์ของตนเองในการมีส่วนร่วมในโปรแกรม EPI

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The objectives of this study are to (1) to identify strategies to improve the immunization program in order to achieve a higher and more sustainable coverage, (2) to study demand-related and supply-related factors affecting childhood immunization, (3) to explore (perceived) barriers to high, and sustainable immunization coverage, and (4) to identify how communities can contribute to increasing the coverage rate, especially in remote areas. Qualitative data were collected using focus group discussions and in-depth interviews.

The main findings are that: (1) the Puntland government currently does not have strategies to financially contribute to the EPI Program and is totally dependent on international donors (e.g. UNICEF and WHO) to finance the EPI program, while the donors are facing financial shortages due to ongoing crises in other countries such as Nigeria, Syria, and Yemen, for which they also provide financial support; (2) the understanding of mothers with regard to the benefits of the EPI program is relatively low, due to a low engagement level and poor awareness; (3) community involvement in the planning and consultation process of the EPI program has been limited and the Ministry of Health has not adequately involved the community in the planning process. There is a greater need for the government to generate its own funds to support the EPI program to be financially sustainable. The Government should allocate specific (earmarked) funds to the EPI program, and come up strategies to improve the EPI performance, increase coverage, as well as to restructure the program such that mothers and community members at large are encouraged to participate in the planning process in order for them to have a stronger ownership in the EPI program.

Field of Study:	Health Economics and Health Care Management	Student's Signature	.....
Academic Year:	2014	Advisor's Signature	.....

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CHAPTER 1.

INTRODUCTION

1.1. Problem Statement

Immunization is one of the most powerful and cost-effective interventions in public health. It creates a number of benefits to the society by preventing debilitating illnesses and disabilities which saves millions of lives every year. (Maurice & Davey, 2009). It is accepted worldwide as the best method which provides a high standard and effectiveness in prevention of morbidity and mortality among children under five years old (Dean, 2006, chap. 1).

In most countries, Immunizations are usually provided free of charge to households (especially children). UNICEF estimates show that, in the last two decades, more than twenty million lives have been saved due to acquired protection childhood vaccinations (UNICEF 2010). However, widespread and adequate vaccination coverage worldwide has yet to be attained. There are large variations in vaccination coverage, not only between high and low-income countries but also across and within low-income countries. This differential vaccination coverage can accumulate a pool of susceptible populations that, over time, culminate in the outbreak of vaccine preventable diseases (Holte, Mæstad, & Jani, 2012).

With a view to improving immunization coverage, in 2005, the World Health Assembly (WHA) approved and the UNICEF executive board endorsed the Global Immunization Vision and Strategy (GIVS). The primary objective of GIVS is to reduce

vaccine preventable diseases against mortality and morbidity by two thirds by 2015 compared to 2000. This is a contribution towards achieving the Millennium Development Goals (MDG's 4 – which is the strategy to reduce two thirds of the under-five mortality by 2015) (WHO, 2009).

Approximately twelve million children under the age of five years die every year, and most of these children live in developing countries. Most of these deaths occur from infectious diseases such as acute respiratory infection, diarrhea, measles or malaria, and these conditions could be prevented by getting vaccinated. Somalia is one of these developing countries that face the problem of high morbidity and mortality among children (Rice, Sacco, Hyder, & Black, 2000).

Somalia has an estimated population of around ten million, with about fifty per cent of this population being in the age range of one to fifteen years. The majority of the children lives under difficult conditions, with a high incidence of malnutrition morbidity and mortality, resulted by three decades of armed conflicts, lack of functioning government, economic collapse, fragmentation of the health system and other public services, together with recurring droughts and famines. (UNICEF, 2015; WHO, 2011) — The Millennium Development Goals (MDG four) as it relates to Somalia, aims to reduce under-five mortality to 68 per 1,000 live births by 2015, this target was based on an estimated under-five death rate of 203 per 1,000 live births in

1990. (WHO, 2011) Therefore, there appears not to have been much improvement in child health from the 1990 baseline.

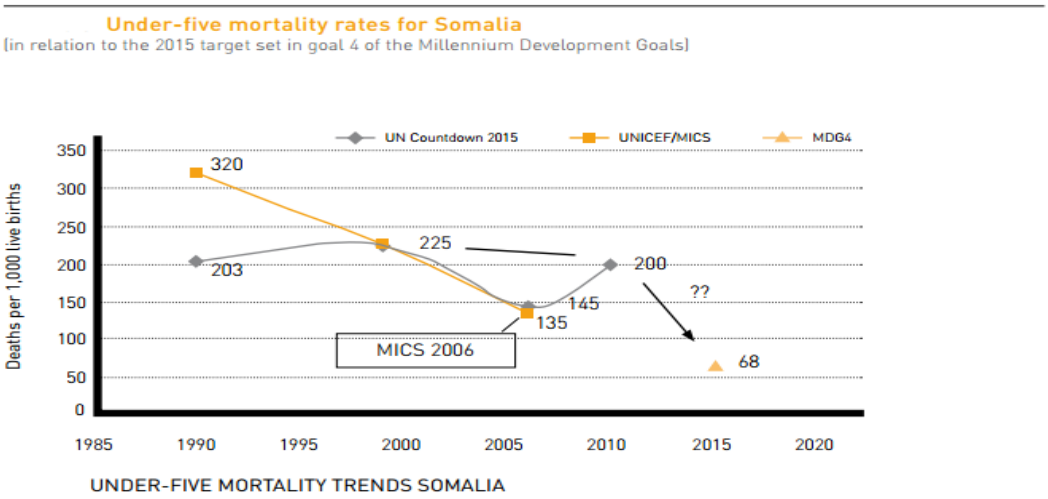


Figure 1-1 trend of child mortality
Source: (WHO, 2011)

Maternal and children's health is a challenge in Somalia. Child and maternal mortality rates in Somalia are amongst the highest in the world; one out of every ten children dies before the age of one, twenty per cent of the children die before they reach the age of five. More than one third are underweight, and almost fifty percent suffer from stunting (UNICEF, 2015; WHO, 2011).

The official child mortality rates have varied considerably over the last two decades and the under-five mortality rate was recently revised from 135 to 200 per 1000 births. While comprehensive information is not available, it is believed that leading causes of infant and child mortality are illnesses such as pneumonia (twenty-four percent), diarrhea (nineteen percent), and measles (twelve percent), as well as neonatal disorders (seventeen per cent). The overall immunization coverage is estimated at 30 -

40% of children are immunized against the six antigens of childhood diseases (the traditional six antigens of EPI vaccines, which are — BCG, OPV, DTP, Measles, TT, and vitamin A) (UNICEF, 2015; WHO, 2011).

The fact that Somalia had been without a central Government for almost three decades divided the country into three major administrative entities — Somaliland (established in 1991, self-declared state, Internationally recognized as an autonomous region of Somalia), — Puntland (established in 1998, autonomous region of Somalia) and South/ Central region (currently the Federal Government of Somalia operates in these regions and have little effect on Puntland or Somaliland). While; there is currently political instability in the south/central regions of Somalia, Puntland and Somaliland are stable and secure and have functioning local Governments.

Since Somalia is divided into three administrative entities, and south/ central region is politically unstable, Somaliland is self-declared region; the study will focus on Puntland. Moreover, Puntland hosts an estimated 3.9 million residents, and the population growth rate is quite high due to the influx of people from south/central regions and from neighboring countries, also approximately seventy percent of the population are below the age of 30.

Immunization coverage in Puntland is relatively low at about thirty per cent. Reasons for low coverage are that communities have not yet internalized the usefulness of immunization and the benefits of completing full doses for children. According to an unpublished Routine immunization non-participation survey done in Puntland July

2013 (table 1-1); show that children who reported having never received routine vaccination, the most common reasons given were that the child had not yet visited a health facility, that the health facilities were too far or vaccinator was absent, that the immunization cards were not available, and that the card was received but has since been lost. Interestingly, the survey also showed that mothers/caretakers lack motivation to take their children, and lack information on reasons why children need immunization. In addition, lack of incentives and frequent delay in salary payments for health workers in Maternal and Child Health (MCH) clinics, and timeliness of disbursement of funds to district and service delivery level all contribute to low coverage of immunization for children.

Reasons for low coverage were found based on quantitative study; however, the results from quantitative study are not sufficient to identify the behavior related factors such as demand and supply side. In this situation qualitative approach will be better to explore the possible factors for low immunization coverage in Puntland. The demand factors include perceptions of the mothers, their level of knowledge, and the community ownership of the immunization program. Whereas the supply side factors are the factors that are related to the provision of the EPI services to the community.

Table 0-1. Reasons for child non-participation in routine immunization, Puntland Routine Immunization Non-Participation Survey, 2013

Reason for not participating in routine immunization	Child Characteristic				
	Total	**Male**	**Female**	**Urban**	**Rural**
Obstacles	16.6 (7.9,31.4)	16.6 (8.5,29.7)	16.6 (6.5,36.3)	2.6 (4.4,31.5)	28.6 (11.3,55.9)
Vaccine not available	2.3 (0.7, 7.5)	2.9 (0.8, 9.6)	1.6 (0.3, 7.8)	1.0 (0.1, 8.8)	6.2 (1.4,23.8)
Place of vaccination too far	11.4 (4.6,25.3)	10.4 (4.6,22.1)	12.4 (4.2,31.5)	10.1 (3.1,28.7)	15.2 (4.5,40.7)
Vaccinator absent	1.0 (0.3, 3.6)	1.7 (0.4, 7.2)	0.3 (0.01, 2.1)	0.8 (0.1, 5.1)	1.5 (0.3, 6.1)
Long waiting line	1.4 (0.3, 7.8)	0.6 (0.01, 4.9)	2.3 (0.3,17.7)	0.4 (0.01, 3.5)	4.5 (0.5, 30.8)
Family problem, including illness of mother	0.5 (0.1, 2.5)	1.0 (0.2, 4.6)	0	0.3 (0.01, 2.2)	1.3 (0.2,10.2)
Lack of motivation	30.1 (21.4,40.4)	27.5 (18.3,39.2)	33.0 (20.0,49.3)	31.0 (20.3,44.2)	27.5 (17.1,41.1)
Mother too busy	17.7 (8.7,32.7)	17.7 (8.6,33.1)	17.7 (7.3,36.8)	20.5 (9.1,39.8)	9.2 (1.7,37.1)
Cultural/religious reasons	10.7 (4.1,25.0)	7.9 (2.2,24.7)	13.7 (5.5,30.3)	8.1 (2.2, 26.0)	18.3 (4.2, 53.5)
Postponed until another time	1.8 (0.4, 7.8)	1.9 (0.2,15.3)	1.6 (0.2,13.2)	2.3 (0.5, 10.2)	0
Lack of information	17.8 (9.9,30.1)	18.5 (8.9,34.6)	17.0 (8.9,30.1)	18.9 (9.3,34.6)	14.5 (5.8,31.8)
Unaware of need for immunization	3.9 (1.4,10.4)	3.0 (0.7,11.4)	4.9 (1.3,16.5)	3.3 (0.8, 12.2)	5.7 (1.4, 21.2)
Fear of side effects	4.7 (1.3,15.9)	5.5 (1.3,20.1)	3.9 (1.0,13.5)	6.3 (1.8, 20.2)	0
Place and/or time of vaccination unknown	1.0 (0.1, 6.8)	0.6 (0.1, 2.9)	1.5 (0.2,12.2)	1.4 (0.2, 9.0)	0
Wrong ideas about contra-indications	8.1 (3.7,16.8)	9.4 (3.8,21.5)	6.8 (2.7,16.1)	8.0 (3.1, 8.8)	8.7 (2.1,29.8)
Don't Know	4.9 (2.2,10.9)	4.0 (1.4,10.9)	6.0 (2.5,13.8)	4.3 (1.4,12.8)	6.8 (2.5,17.4)
Unknown	30.1 (20.5,41.8)	33.1 (25.7,41.1)	26.7 (13.4,46.3)	32.7 (20.9,47.2)	22.1 (12.1,36.7)
Total	100.0	100.0	100.0	100.0	100.0
Sample Size	221	118	103	140	81

Source: unpublished survey done by UNICEF, in Puntland (July 2013)

1.2. Research Questions:

How can immunization coverage in Puntland, Somalia be expanded further?

1.3. Objectives:

General Objectives

To explore strategies to improve the immunization program in order to achieve a higher and more sustainable coverage.

To identify demand side and supply side factors affecting immunization coverage.

Specific Objectives

Demand Side factors:

To study factors affecting childhood immunization.

To explore (perceived) barriers to high and sustainable immunization coverage.

Supply side Factors:

To identify how communities can contribute to increasing the coverage rate, especially in remote areas.

To identify financial challenges that contributes the program to be unsustainable in the future.

1.4. Scope of the study:

This study was conducted in Puntland state of Somalia, which is located in the northeastern region of Somalia. The researcher targeted two main regions which are Nugal and Bari each region will be selected urban and rural districts so that to know the gap between the two main areas.

The data were collected on 18 – 21 May 2015, and each location were spent a full day of data collection for making effective focus group discussion. The government officials were interviewed both Bossaso and Garoe while head of MCHs will be interviewed at their respective places. This study will be a qualitative study that focuses on the improving the expanded program immunization in Puntland Sate of Somalia.

1.5. Expected Benefits of the study:

1. The study will benefit policy makers, funders and programme manager's plan for sustainability of health based on available evidence.

2. Based on this study, the government will be able to align the resources with the needs of the community.

CHAPTER 2.

BACKGROUND

2.1. Background of the EPI program in Somalia

The Expanded Program of Immunization was established in 1978 by the former Somalia Government with the support of WHO and UNICEF. A civil war broke out in 1990, leaving the country without a central government for three decades. As a result, the health infrastructure was devastated and health workers was dispersed, which then had a negative impact on the EPI program.

By the end of 1992, the international community, led by UNICEF, gave priority to the initiation of EPI services, UNICEF and WHO took over the responsibility for the EPI program and providing its services. The contract of the EPI program is between UNICEF and WHO. Thus the EPI programme in Somalia is totally dependent on the external aid (GAVI, 2011).

2.2. Organization of the EPI system in Somalia.

Somalia is geographically and politically divided into the three administrative entities: Somali Federal Government (South/ Central zone), Republic of Somaliland (Northwestern zone — a self-declared state, internationally recognized as an autonomous region of Somalia), Puntland state of Somalia Puntland (Northeastern zone — an autonomous region of Somalia). These three entities have health authorities that provide leadership for immunization activities in their respective areas. Although

Somalia in general is in turmoil, Somaliland and Puntland have peace and stability and their local governments are functioning (GAVI, 2011).

2.2.1. Local Health Authorities:

Somaliland and Puntland have each an EPI unit organized under the Primary Health Care Department of the Ministry of Health in each state. The local health authorities provide leadership and security support data collection and Information, Education and Communication (IEC) activities (GAVI, 2011).

2.2.2. UNICEF Somalia:

UNICEF is the first major financier and partner of EPI in Somalia, its support to EPI includes: procurement and distribution of vaccines and injection equipment's of assured quality; maintenance of cold chain, production and dissemination of management tools, production and dissemination of IEC materials, provision of financial assistance to partners for implementing outreach sessions and supervision with the Reaching Every District, collection and analysis of data and coordination of activities (GAVI, 2011).

2.2.3. WHO Somalia:

WHO is the second major Financier and partner of EPI in Somalia. It provides technical assistance to Ministry of Health (MOH) in all authorities and all partners. It also provides training and management support to Ministry of Health, collects and

analyses data, supports vaccine management, delivers vaccines to vaccination sites during campaigns (GAVI, 2011).

2.2.4. NGOs

There are about 40 International NGOs (e.g. Merlin, Save the children, etc.) Supporting Immunization activities in Somalia. In total, NGOs are running more than 150 Maternal and Child Health (MCH) clinics, and are involved in the Immunization service delivery, disease surveillance, social mobilization, and training of health workers, supporting logistics and the provision of technical and financial support to local health authorizes. Most NGOs have national and international staff dedicated for immunization activities, both within the country and in Nairobi. Most partners participate in the monthly meeting of EPI Working Group partner's under the umbrella of Somalia Support Secretariat (SSS) (GAVI, 2011).

2.2.5. Coordination among EPI partners

Most immunization partners have a coordination mechanism at Nairobi level in an EPI Working Group organized under the Umbrella of Somalia Support Secretariat (SSS). The Working Group is chaired by UNICEF, co-chaired by WHO and attended by most NGOs who have office in Nairobi. Major Partners of EPI Working Group include UNICEF, WHO, SRCS/IFRC, WVI, IMC, CISP, Trocaire, Merlin, SAFUK International, Intersos, SORDES, COSV, DIAL, KISIMA, etc. At each state level coordination of EPI activities is carried out in Somaliland and Puntland under the leadership of EPI units of MOH of Somaliland and Puntland (GAVI, 2011).

Table 0-1: Summary of the Organization of the EPI program

Partners	Major EPI activities.				
	Service Delivery	Disease Surveillance	Vaccine Supply	Logistic	Social Mobilization and Communication
Local authorities	Run some MCH facilities	Supports data collection	Provides leadership	Provides security	Support IEC activities
UNICEF	Provides essential medicines and supplies to MCHs including running costs and supports training	Supports disease surveillance	Procures, stores and distributes vaccine	Runs an maintains cold chain	Produces IEC materials, training and funding for social mobilization
WHO	Provides training management support to MOH	Collects and analyses data. Conducts training	Supports vaccine management	Delivers vaccine to vaccination sites during campaigns	Training and technical inputs
NGOs	Run MCH facilities, Conduct outreach	Support Surveillance	Support request and management	Supports transport	Support IEC activities

Source : (GAVI, 2011)

2.3. Health System Organizations and Infrastructure in Puntland.

2.3.1. Primary healthcare unit (PHU)

Primary Health Care Units (PHUs) are under the central department and they have been decentralized to the district level, every district has PHU, one of the major roles of PHUs is to provide basic health promotion, and disease prevention activity as well as curative services, including maternal neonatal health, child health, communicable disease surveillance and control, environmental health promotion, first aid and treatment of common illness. Primary Health Units also provide nutrition education and utilization of vaccination service at the district and regional level (C. M. a. A. Davis).

2.3.2. Maternal and Child health centers (MCH)

Puntland has 84 MCHs centers across the regions, located in both urban and rural areas. These MCHs receive complementary support from UNICEF in terms of providing continues capacity building and training for the health workers, supplies, human resource incentives and logistical support. The government and the health partners closely support these MCHs. The facilities carry out antenatal care services; assistance during labor and postnatal care; maternal and child nutrition promotion and care, as well as the delivery of child and maternal immunization services and the treatment of minor common diseases and conditions. In some rural areas that have limited access to immediate referral support, MCHs are the only reliable facilities that provide health services. Therefore, the specialized nature of these facilities limits the

scope of the primary health care service packages that they could provide; hence there is a need to improve these MCHs to broaden their service delivery (C. M. a. A. Davis).

2.3.3. The Health Centers (HC)

The Health centers are mandated to deliver the key programmatic intervention as envisaged in the essential package of health service (EPHS). The Health centers officers a wide facility based service with maternity beds operated by a qualified midwifes. Each HC is staffed by a qualified number of health workers and provide facility based vaccination and nutrition promotion service as well as outreach service the HC catchment area. There are closely coordination between Health centers staff and Community Health Committees, the community health committee provide support to the management of the health centers, supporting the health teams in improving the health service and ensuring the utilization of local resources (C. M. a. A. Davis).

2.3.4. Referral Health Centers/District Hospitals

The referral hospital at the districts level supports MCH and HC facilities for referral support, training and supervision, but most of the referral hospitals are not sufficiently equipped and does not meet to have a qualified health staff which provide the health necessary service in the hospital. However, the referral hospital has a six core function set in the EPHS, referral health centers/ districts hospitals carry out a number of range of medical and surgical services and provide mental health care, treatment of

chronic disease and dental and eye health. Most of the districts hospitals has at least 8 beds maternity ward and an in-patient facility for at least 20 patients. In addition to that; some of the above outlined service are executed by accessing specialist through outreach visit performed by the regional team (C. M. a. A. Davis).

2.3.5. The Regional Hospital

Puntland has 5 regional hospitals which provide maximum levels of specialist care, although the service demand overwhelmingly exceeds the capacity and the resources that these hospitals require. Regional hospitals provide medical and surgical and other basic health service to the community. The management and coordination of this health system network is directly operated by the Ministry of Health, although financial support is assisted by international health partners whose contribution is highly valued. The regional hospitals provide medical, surgical, gynecological and pediatric health care and other specialized services and are staffed by qualified nurses, midwives and doctors who are expected to conduct outreach clinics to RHCs/District (C. M. a. A. Davis).

2.3.6. The Private Sector

The private health sector in Puntland is vividly growing for the last two decades that range from the sale of pharmaceutical products through without having licenses regulating the importation and sale of these products. Moreover there was a rapidly increasing number of private clinics and private hospital’s predominantly located in

urban areas but lucking to reach beyond the reach of the poor and vulnerable communities. 75% of the population uses the private pharmacy as their first time, children may always be admitted and treated by a private clinics for a given condition , but such private clinics would not be provide the fill range of MCHs service such as EPI vaccinations, the private sector played a major role in the delivery of health care service in view of the expected significant increases in need and demand for health care service and they also improve the quality and efficiency of access to essential services. From this perspective, the government of Puntland is acknowledging the positive role of this sector in the delivery of health care services, with strong desire to engage it as essential partner, while introducing appropriate oversight and regulatory mechanisms to stream line its objectives. (C. M. a. A. Davis).

2.4. EPI service delivery system in Puntland

UNICEF and WHO are the core UN supporting organizations when it comes to immunization program in Puntland. UNICEF procures vaccines, supports the Ministry of health in building the cold chain system such as central cold rooms regional cold stores, district cold stores and health facility based cold chains. The Ministry of Health owns and handles the day-to-day management of the cold chain system at all levels from central to peripheral – health facility level or what we call MCHs and vaccination posts. (From interview with the director of EPI unit in MOH — 9 April 2015)

In addition to the vaccine procurement, UNICEF and WHO purchase the cold chain equipment and building system such as fridges, WICs, cold boxes, vaccines

carriers, injectable like syringes, and safety boxes – waste management tools. In Puntland, there are one (1) central cold room with the capacity of storing 6 months vaccine supply for the state, 6 regional cold chain centers that are supplied every three months once, 29 district cold chains supplied every three months and 96 MCHs/vaccination posts supplied on monthly basis. Through this distribution mechanism, health facilities are supplied vaccines and health facility staff/medical staff administer vaccination services on a daily basis. Delivery strategies are mainly fixed, outreach and mobile for routine vaccination that is ongoing inside health facilities while campaigns and supplementary immunization activities (SIAs) are conducted periodically. (From interview with the director of EPI unit in MOH)

CHAPTER 3.

LITERATURE REVIEW

Studies using quantitative methodology show that the major problems with immunization coverage of children's, mothers are lack of basic information and benefit about the importance of vaccines and immunization, however, parents still are lack of basic understanding of how immunization is more benefit to their children and fail to return for the required follow up doses when they bring the first time at the health facilities. (Ozciprici et al, 2006; Rahman, Islam & Mahalanbias, 1995; Smith, Kennedy, Wooten, Grust & Pickering 2006).

To bring lasting solution to the most problems, studies revealed that parental literacy and knowledge about expanding program immunization are associated to have a greater impact of the immunization status of the children. Thus a well target sources for health, education and social mobilization campaigns can increase mother's passive acceptance of immunization to a well-informed demand for better health of their children and mothers themselves and will use health services. Therefore, there is a need to address effective campaign on media for vaccination and inform mothers to provide all required health services for their children for protecting against life threatening disease.

Mothers who are illiterate will be usually restricted to have access to mass media. Most of the health care service providers are in a position to inform these

mothers through face to face events and influence their decision to vaccinate their children at the health facility.

In addition to that, when the health providers had a chance for making, interpersonal at the health facility for any illness, children, it should note to utilize, based on the missed opportunity, to educate mothers and immunize their children will increase the coverage of the immunization status.

Moreover, health workers have a great positive influence on patents whom have brought their children at health facilities and concerns about vaccine safety or fear of vaccine and reluctant to have their children vaccinated.

A credible precondition for the influence is a trusting and respectful relationship between patient and the provider. For instance; the increased concerns about vaccine safety, health care professionals have a central role in maintaining confidence and trust on childhood immunizations and in achieving high vaccination coverage rates. For that reason, Health care professionals should provide a targeted Information which addresses the concerns of the parents, particularly side effects on how safe vaccine are and how it can reduce diseases and deaths(Ismail et al., 2014; Smith et al., 2006).

Ambe et al. (2001) conducted studies on social mobilization and community mobilization in south Sudan. The study concluded that intensive and different approaches are needed to positively affect the behavior concerns among local communities. This data have been generated through target elders of the south Sudan province, which conducted by (MOHSS).

The level of education of parents in general in areas of vaccine particular, was stated in multiple studies that mothers and child immunization rates are associated, the studies suggested that education of mothers plays a critical role for immunizing their children and protecting the disease which influenced. In a cross-sectional survey conducted in Delhi, India, maternal education was found to play an important role in the use of health care services as well as full immunization of children. In another cross-sectional survey conducted in Pakistan, maternal educations, as well as parents being fully informed about vaccinations were associated with full immunization of their children. Furthermore, general health knowledge was improved among both men and women who have had access to higher education, suggesting the key role education plays in healthy behaviors including childhood immunizations. Lack of education can potentially lead to misconceptions about vaccines. In this regard, a study conducted in Uganda found that reduced participation in a National Immunization Day for polio was due, at least in part, to concerns that vaccines may cause malaria or contain contraceptives. In this regard the methodology used to find all this information was self-administer questionnaires and cross sectional survey.

Aljasir B and Alghamdi. (2009), in south and north, Ethiopia showed that, mothers' educational status, urban residence and perceived health care support are significantly associated with the complete immunization coverage. Another study results in other countries (Mozambique, India and Bangladesh) also showed utilization

of maternal health care service like the ANC, tetanus toxoid vaccination and institutional delivery is associated with a complete immunization status of children.

The study still stated that, low access to services, inadequate awareness of caregivers, missed opportunities, and high dropout rate are major factors contributing to low immunization coverage in Ethiopia, However, only few studies have assessed factors associated with complete immunization coverage, the achieved methodology of this study was qualitative research through interview with key officials and health care providers in the respective countries.

Accessibility to immunization service program will have a greater impact on the utilization by various societies. A study conducted in Yemen revealed that longer geographical distance and longer driving time will reduce the chance of immunized the child's rate. In the same studies conducted in Kenya stated that the immunization rate ratio of the pentavalent vaccine decreased with each kilometer of distance from vaccine clinic to home.

In addition to that, a study conducted in Burkina Faso revealed that mortality of children less than five years of age increased by 50% when the walking on foot distance to healthcare facilities was longer than four hours, and a study conducted in Pakistan showed that proximity to government health care centers led to increase in children's immunization coverage. Another study conducted among the Bedouin Arabs in southern Israel, many of whom have lived a nomadic lifestyle away from Maternal and Child Centers, and are thus similar to populations in low-income countries,

demonstrated low infant immunization coverage prior to the establishment of a population-specific intervention program. Therefore; the study's methodology research was the distribution of questionnaires of key practitioners of the government staff and observations of the health care facilities.

Kidane T and Tekei M. (2003); In Oromo Province in Ethiopia found mothers delivered at health facility were more likely to be fully immunized than mothers delivered at home. This data was similar to the study done in Mozambique in which children delivered at home were less likely to complete e their vaccination than children delivered at home. This analysis are relevant to this may be that, mothers who gave birth at health institutions such as hospitals are closer to the health service and most of the time receives the first dose of vaccination, which is given just after birth of the child The explanation related to this may be that, mothers who gave birth at health institution are closer to the health service and most of the time the first dose of vaccination is given just after birth in a health institution. This data were collected through the health facility documentation which is as primary data and distributed self-administered questioners to the mothers delivered their children at health clinics.

Studies from Pakistan shown that logistical barriers faced by health workers include vaccine storage capacity, lack of access to patient prior immunization record, other studies from Pakistan revealed that missed visits and missed opportunities for immunization when necessary vaccine are not administered at a visit level are also notable barrier to timely completion of immunization are not administered at a visit

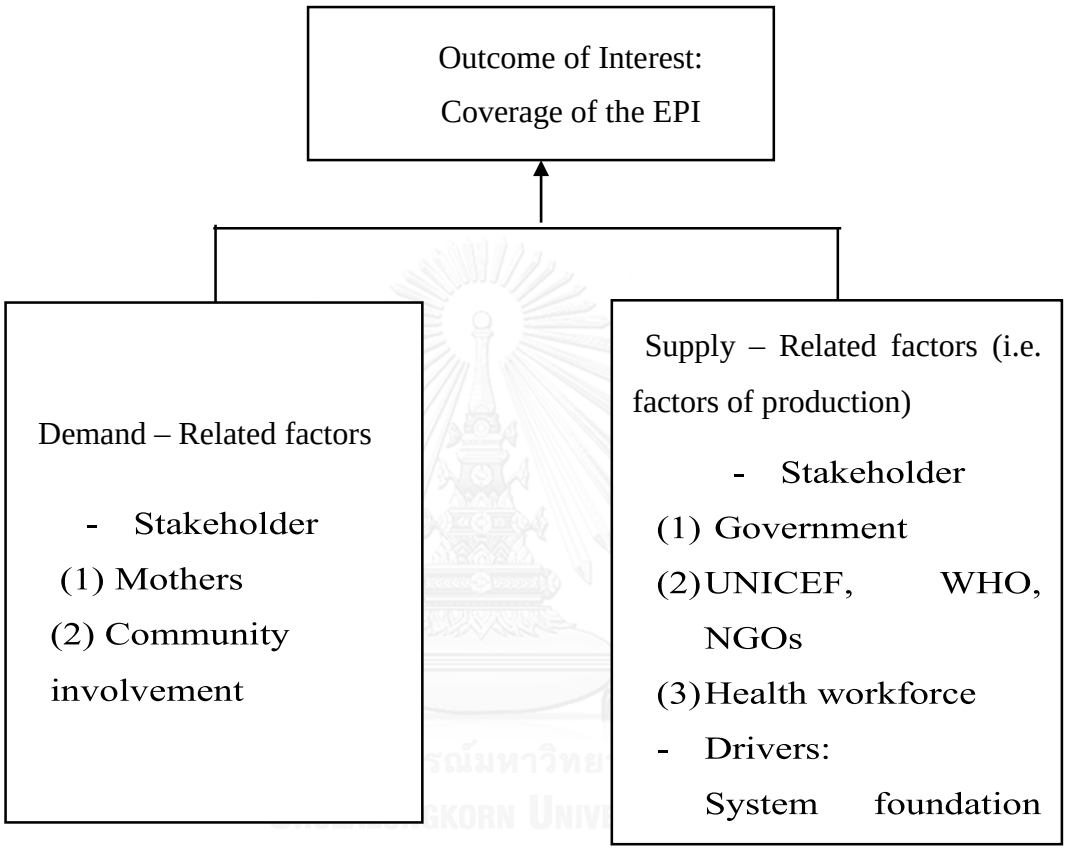
level are also notable barrier to timely completion of immunization requirement. The funding summarized that a serious and collective effort needs to address to reduce the gap, thus the information has collected through observation of health centers and distribution relevant questionnaires which provides the support to obtain applicable data regarding the factors influencing the immunization coverage.

Poverty has direct influence into the childhood mortality. Many studies have demonstrated that low coverage of immunization is highest among low income families. The poor society is unable to afford and protect themselves to all diseases and most of those society are unaware of the importance of disease prevention and care, and are the greatest risk due to the high level of malnutrition or living arrangement, low income families and less educated are less likely than those who have higher income and medical regiment, enhancing their risk of developing antibiotic resistance. This study used Qualitative research which is largely led with discussion around certain concepts or ideas with open questioning. The mothers and health facilities are encouraged to explain or describe their reasons for having not immunized their children.

CHAPTER 4.

METHODOLOGY

4.1. Conceptual Framework:



Source: Arise, Augost (2012)

The framework above shows how coverage of the EPI program is determined. Particularly, it shows the different stakeholder involved in the EPI program as well as the drivers of the program such as system foundation and service delivery. The system foundation refers to the strategies and health system resources that supports the delivery of immunization services while the service delivery refers to the types and quality of services and equipment as well as supplies of vaccines required for service provision. The framework treats the coverage of the EPI program as an equilibrium between the interactions of these components. Demand side factors include perceptions of the mothers, level of knowledge, accessibility, and community ownership of the immunization program. Supply side factors include, but are not be limited to health system resources, quality of services, and availability and knowledge of the health workforce. Suggestions on how immunization services could be improved to increase the coverage rate will be teased out from both groups of stakeholders.

4.2. Type of Study:

This study uses a Qualitative research analysis to gain an understanding of the underlying reasons for the low coverage of the immunization program in Puntland. Data are collected through in-depth and focus group interviews using a semi-structured set of questions whereby open ended questions are asked. All interviews are recorded, transcribed and analyzed.

4.3. Sampling Design

Stakeholder group definition — Four key stakeholder were identified as follows: (1) Mothers, (2) Community Leaders — Religious leaders and District mayors, (3) INGOs — UNICEF and WHO, (4) MCHs staff (5) Government Officials.

The first stakeholder is the mothers or caretakers take their children to get immunized from the Maternal and Child Health (MCH) clinics. The purpose of the focus group discussion is for mothers to share their knowledge on immunization, perception of the usefulness of vaccines and the limitation they have met.

The second stakeholder – Community leaders and district mayors were interviewed; these stakeholders were vital to know their contribution regarding improving the EPI program in Puntland and provide their support including making effective mobilization and awareness among the local people in their respective districts

The third stakeholder are International organizations and non-governmental organizations which provide support to the Ministry of Health and Health clinics; for providing vaccine delivery, training, and incentives to the health workers and assist the ministry of health for policy formulation.

The fourth stakeholder were (1) Head of the MCHs who are the most important contributors representing the entire health workers and providing information regarding the immunization process from the central to the districts level. (2) health care providers as a medical doctors who work in the MCH clinics, these target group may know closely what mothers believe about immunization and how the doctors advises mothers to

vaccine their children at health clinics and the role of the doctors for improving EPI program generally.

The fifth stakeholder interview conducted from Ministry of Health (MOH), because of the MOH responsible general service for as a whole country and provides guidelines and supports to all regional health departments, the Ministry coordinates the EPI program in the region, and leads strategies to expand coverage of the EPI program, and ensures availability of equipment to safeguard the quality of vaccines, and obstacles faced, which may include the current absence of routine immunization activities which targets every child (possibly owing to lack of funding).

Table 4-1. Number of Interviews

Interviewees	Numbers
Mothers	40
District mayors	2
Religious sheikhs	8
Head of MCHs	4
INGOS	2
MOH - Government	4
TOTAL	58

The study used purposive sampling approach for the in-depth interviews, and a convenient sampling approach for in-depth interviews. A purposive sampling where used because of these key informants knowledge of the EPI program, their roles and their contribution to the EPI program. The in-depth interview was held at the office of the interviewee for their own convenience times, interview session ranged from 30 minutes to an hour.

Government Representative of the EPI program were Director of Primary Health care, the Director of Planning and Research Policy of the Ministry of Health and the regional health officers.

Donor Representative of the EPI program were General Program managers on EPI (UNICEF) and senior technical advisor on EPI program (WHO) were interviewed.

MCHs interviewees where the Head officer of MCHs and the MCHs stuff as a health providers.

Community Representative were District mayors and religious leaders.

A convenient sampling were used because of time limitation and the MCHs officers assisted the researcher and gathered the mothers together for the focus group discussion. FDGs sessions started with the data collector welcoming the participants and briefing them on the process including that there are no right or wrong answers that it's important to speak one at a time that the interviews will be recorded, but confidentiality will be maintained. After each session the mothers were rewarded with some money as appreciation of their participation. The FDGs session took place in the meeting room of each MCHs and the timing of the session were in between sixty minutes to an hour and thirty minutes.

4.4. Data Collection:

4.4.1. Target areas:

Data for this study are collected from two major regions in Puntland; (1) Nugal region — the capital city of Puntland (Garoe), (2) is Bari region — the commercial city of Puntland (Bossaso). Both of these regions have an urban and a rural area. The Ministry of Health headquarter, WHO, UNICEF are located in Garoe. Therefore, interviews with health officials and donors are held in Garoe – Nugal region

Both Nugal and Bari regions have urban and rural areas. For Nugal, Garoe is selected as representative of an urban city, Dangronyo as rural areas. For Bari region, Bossaso is chosen as a representative of an urban city, Armo and Beyla as rural areas.

4.4.2. Data collection process:

Mr. Abshir Mohamed Abshir under the supervision of the Researcher (Hamdi Abdirahman Salad) collects the data. He has been trained to conduct interviews Related to the topic of this Research. He records the interviews and he sent to the research and in some cases that the recording audio is huge he transcribes them without omitting or including anything for the researcher.

Mr. Abshir is a graduate professional freelance consultant and completed Master of Arts in Economics, from Kampala International University in Uganda in 2011, he receives his numerous Post Graduate Certificate of Monitoring and Evaluation at Makereeri University in Uganda, Certificate of Project Planning and Management

from Uganda leadership institute, and currently he is senior advisor at Ministry of Finance on Fiscal decentralization and Public Financial Management reform and he is a freelance local expert researcher. The researcher and Abshir had couple of sessions in 1, 4 May 2015, where basically the researcher explained to Abshir the research objectives and research question, also a brief explanation on how to conduct Focus Group Discussion. Also the researcher was working closely with Abshir when he was conducting the interviews through skype.

4.4.3. Data Analysis:

Data analysis will be done manually rather than using software. By using the recorded audio and following the questions as a guideline – the data will be coded for different answers from the respondents. The in-depth interviews centered around three thematic areas Base on the questions the questions that the researcher collected. These thematic areas where the roles, challenges, and solutions of each stakeholder. While the focus group discussions had six thematic areas which were basically the knowledge of the mothers and their utilization of the service; from there on the researcher used coding to transcribe the interviews and analyze it.

CHAPTER 5.

RESULTS

5.1. Focus Group Discussion

Focus group discussion with mothers was done in both urban and rural areas of the two regions that being selected, and for the reason of interviewing mothers from urban and rural areas are to see if there are differences between the mothers of different lifestyle. The study found that mothers in the urban areas have more knowledge about immunization and have more access to the services, and the mothers in the rural areas have less opportunities but the overall study show that mostly the results were same.

The Focus Group Discussions centered around six thematic areas.

These are:

- Knowledge, attitude, and benefits
- Facilities that provide the vaccines, and the diseases vaccines prevent
- Heath workers attitude, provision of information
- Immunization booklet and follow ups
- Incentives
- Suggestions to health workers and MOH

Results Summary of data in words:

During the discussion, the participants explained their own knowledge, attitude and the benefit of the immunization.

A) Knowledge, attitude and benefits

- "*I know about vaccination and its benefits. It prevents disease from children*"*... (Mother 1 in urban)*
- *"I am an educated Mother, so I know about vaccines and I fully vaccinate my children''... (Mother 2 in urban).*
- *"I don't know about vaccination, I heard about it during campaigns, but I didn't vaccinate my children because they are not sick, and vaccination causes sickness''... (Mother 3 and 4 in urban).*
- *"I heard about the vaccines, but I don't go and vaccinate my children in the health facilities. My children get vaccinated when there are Routine immunization campaigns''... (Mother 5 Rural).*
- *"I don't know about vaccines, but I see people talk about it. My children are fine so it doesn't interest me''..... (Mother 6 Rural/Urban).*

Mostly the results received from the interviews were the same with little differences. Their knowledge and basic understanding of the vaccination were relatively less.

B) Facilities that provide the vaccines, and the diseases vaccines prevent

Most of the mothers knew where to get the vaccines from, but mostly knew only 2-3 diseases that vaccines prevent which are – measles and polio, and the reason is that there is a campaign that happens because the government and international NGOs want to eradicate both of these diseases.

C) Health workers Attitude and Provision of information

- *The health worker's behavior depends on the level of knowledge they have. I see people complaining about health workers and saying that they are not helpful. In my experience I once went to an MCH to vaccinate my child, and no one was there to serve, I waited and when a health worker came, she asked me to come back another time. Since I am a working mother and have less time, I don't go to the MCH to receive vaccination, I wait when there are routine immunization. (mother 1 urban)*
- *There are good people working in the MCH's, and we know that they don't get enough salaries but they still help us. But some of the staff are not well trained so the information they provide is very limited. (mother 1 urban)*
- *Health workers use English words when they are explaining to you something, and for me I feel they are not good at providing*

information so even if you are looking for information, you won't ask anything. (mother 3 rural)

Most of the mothers agreed that health worker's attitude toward vaccination depends on the personality of the person. There are health workers who are well-mannered and serve us well, while there are others whom their behavior is tough but they still serve us one. About the provision of information depends on the knowledge of the person and the Area.

D) Immunization Booklets and Follow-ups.

Mothers agreed that they receive immunization booklets. But there is no follow up for immunization services they receive from health workers.

E) Incentives

Most of the mothers agreed that providing incentives to them will motivate them. The Government is against providing incentives to mothers for two reasons: (1) there is lack of funds and (2) there was a time that the Government with the help of WHO was providing some food to mothers and the government had no way to differentiate between children's who took vaccination, and those who didn't due to the absence of information sharing between facilities. As a result this meant that some mothers vaccinated their children multiple times because they wanted to receive the food.

F) Suggestions to health workers and MOH

- Health workers should provide with the relevant information we required during the vaccination and to avoid speaking foreign language.
- The MOH and the other stakeholders should provide relevant training to the health staff in order to improve their ethics and conducts and the knowledge of the program.
- The health staff should serve the mothers very quickly and provide them whatever support they need during the vaccination and other service.
- They should interact with the mothers more and ask the mothers about vaccinations, provide the information, and also inform them of any side effects of the vaccination.

5.2. In-depth Interviews

5.2.1. Stakeholder II — Government

5.2.1.1. EPI - financing

The EPI program financially depends on the International NGOs and the government's contribution to the program is limited to the operational cost of the routine immunization. The overall health budget is estimated to be not more than 2%, therefore this makes the funds contributed specifically to the EPI activities very limited and unpredictable. The government is highly financially reliable to the international NGOs for their continuation of providing the funds and vaccines, and there are no clear strategies in place for the government to take the ownership of the program, but there are expectations that the government will increase the budget allocated health 6% and government develop some strategies to handle its basic primary health care services.

5.2.1.2. Coordination of the program

The Government of Puntland, through the Ministry of Health has the role of leadership and responsibility of the EPI program. The Ministry of Health initiates policies with the help of WHO and coordinates the overall EPI activities and brings together stakeholders at the central, district and community level. The stewardship function extends to the regional level whereby the Regional health officers operate at micro level on behalf of the MOH and holds the leadership and responsibility for coordinating all the EPI activities and management of the health facilities within his

respective region, and each regional health officer has a health district officer. The regional health officer's job is limited to the instructions and management plans provided for the Ministry of health and coordinates with the district health officers. Moreover; the ministry of health organizes quarterly review meetings between the Government and International NGOs, in this review meetings they discuss the challenges encountered and the progress they reached also if there is a need of new policies and planning.

5.2.1.3. Service Delivery

The ministry of health has a central cold chain with the capacity of storing vaccines up to 6 months. The MOH distributes the vaccines to 6 regional cold chains directly and provides all required support every 3 months. In addition to that, there are 29 district cold chains where vaccines are provided to them every month from their respective regional cold chains and finally each district distributes the vaccines to the MCHs. Currently the services are delivered to the urban (regional cities) and rural areas (district towns). Therefore, each regional cold chain is located in the cities and distribute the vaccines to the district town and the neighboring towns share one cold chain. At a district level the vaccines are divided to closest MCHs with cold chain, then shares with the MCHs with no cold chain in the neighboring town.

There are plans to expand the health facilities in remote areas and the discussion between the government and international NGOs mainly UNICEF is in the process — this will aid the service delivery of the vaccines into the remote and had to reach areas.

Overall each cold chain is equipped with a personnel who maintains and look after it and supports is provided by UNICEF.

5.2.2. Stakeholder III — UNICEF and WHO:

5.2.2.1. UNICEF is the major financier of the EPI program; and Its contribution to EPI includes: procurement and distribution of vaccines and injection equipment's of assured quality, logistical support, maintenance of cold chains, production and dissemination of management tools, production and dissemination of IEC materials, provision of financial assistance to the government for implementing outreach sessions and supervision with the Reaching Every District campaigns, and coordination of activities with other partners.

Moreover; UNICEF provides the largest contribution for the capacity building for healthcare providers — MOH and UNICEF estimates funds for annual training and capacity building needed for health workers, and provides financial incentives to the EPI health workers — there are different levels of EPI training models: 1st — mid level managing training for the MCH head officers, 2nd — district level trainings for the providers of Routine immunization and Red campaign's, and 3rd — trainings for health based facilities. Moreover; UNICEF contracts NGOs deliver the services with close consultation, direction and monitoring vaccines for Ministry of Health.

Furthermore; UNICEF has closely worked with the Ministry of Health with the coordination of the EPI program interventions. There is a new program which its aim

is to decentralize the health services including the EPI program to the regional level to empower communities' ownership of their health care.

5.2.2.2. WHO is the 2nd financier of the EPI program. Its contribution to the EPI includes: technical support, provides strategies for strengthening of EPI surveillance systems of MOH, supports the MOH and other partners to develop EPI policies, provides trainings in the implementation of EPI policies at the central level, support the MOH in delivering vaccines to vaccination sites during campaigns. Also WHO conducts disease surveillance and have an extensive network of polio program to eradicate polio (Puntland was polio free for a few years and there was recent outbreaks where the International NGOs and Government reacted quickly to control the disease and expect to be polio free). Overall, WHO supports the MOH in the formulation of policy issues in the ministry of health, WHO has a unit at the MOH, and facilitates WHO activities at the MOH level. Also WHO provides support to the HMIS (health management information system).

5.2.3. Community involvement

The community involvement in the EPI program is limited to the support of the routine immunizations by providing few volunteers to do the basic services of the EPI. There is no clear policies and mandates between the government and the community. the traditional and religious leaders' involvement is relatively good, the Ministry of health with the support of the international partners, provides seminars, capacity building and tear studies to improve their role in immunization activities such

encouraging the community to take the vaccinations and prove to them its acceptable Islamically, but these empowerments are limited to few known leaders rather than wider empowerment of both urban and rural areas.

The study revealed that there is a low community involvement in planning, coordination and awareness, the district mayors revealed that the ministries don't inform them during the preparation of raising campaigns and awareness's in their respective districts.

5.2.4. Challenges

The Ministry of Heath faces several challenges, these challenges were attributed lack of strategies owned by the government, which is not in place currently to support the EPI program through the increasing contribution of fund to the program, also poor communication strategies and awareness, Shortage of funds for the campaign. Other challenges will be among the lack of consultation with the district mayors, insufficient trainings and capacity building provided to the health workers feasible due to challenges in funding.

The government needs a clear intervention strategy to tackle the challenges such policies would be generate government owned revenue to support the EPI program. However, the partners are making their effort to advocate the government to generate funds and had consultation with the president, key cabinets but the plan didn't succeed. Moreover the donors are facing shortage of fund dues to other country's instability.

Therefore the sustainability of the EPI program seems infeasible due to these challenges.

5.2.5. Solution

The government need have a clear strategy to tackle these challenges such as policies that would generate government owned revenue to support the EPI program, also there were efforts made by the partners, which advocates the government to generate funds and had consultations with the president, key cabinets but the plan didn't succeed. Therefore, the Government need to take advantage of these opportunities provided to them. Also the government needs to involve the community by involving the district officials, traditional leaders and other civil societies in the planning process of the EPI program at the district level, which will improve the overall performance and the ownership of the expanded program of immunization.

Table 0-1: Summary of the in-depth interview research

Stakeholders	Activities		
	ROLE	CHALLENGES	SOLUTION
Government MOH	- Leadership and security - Coordinates with Donors - Distribute vaccine to the regional level facilities	- No clear strategy - Shortage of funds -	Government need to Generate its own funds
UNICEF	- Finance EPI program - Procure and supply vaccines - Provide equipment's - Provide IEC material - Maintain cold chains	- Shortage of funds	
WHO	- Finance EPI - Provide technical support - Conducts disease surveillance - Deliver vaccines at vaccination sites		
Community	- Provide support through providing volunteers	- Government doesn't involve the community leaders in the planning process	- Government involve district officials in to The planning process.

CHAPTER 6.

DISCUSSION AND CONCLUSION

The conceptual framework shows how the coverage of the EPI program is determined. Particularly, it shows the different stakeholder involved in the EPI program as well as the drivers of the program such as system foundation and service delivery. The framework treats the coverage of the EPI program as an equilibrium between the interactions of these components. Therefore, considering the EPI coverage as a desirable output that we want to achieve, the coverage would be a result of the interactions between demand side factors and supply side factors. Demand side factors include the mothers and the community's acceptance of the EPI program, and the Supply side factors are the agent who provide the EPI to the Community. Thus, in order to analyze the supply side factors is to look at these factors in terms of production processes.

The production process is the transformation of inputs to outputs; an input is what is used as a resource in order to produce an output. A production process shows the highest output that a firm can produce from various amounts of inputs (a physical relationship between inputs and outputs). Therefore the quantity of output produced is a function of or depends on the quantity of inputs used, and interactions among the inputs.

The production process requires four factors of production which are land, labor, capital, and entrepreneurial. Therefore, for this study, the production process is

divided into three categories: (1) factors of Production related to the EPI program (Labor — medical personnel's and health skilled workers; Land — location or accessibility of the service; Capital — facilities and equipment, Enterprise — financing agents (Government and INGOs), (2) process of transferring the inputs into outputs (reinforcing agents — Government regulation), (3) Output (EPI coverage or improving performance of EPI program). There are also demand – side effects, e.g. mothers and community involvement.

Factor of production (1): *Labor*

The EPI program is a labor intensive health service delivery, therefore Improvement of the EPI performance and increasing the coverage rate depends on the quality and the number of the health workforce injected to the health facilities. WHO stated that the health services are only as effective as the person's responsible for delivering them, and there is a great importance of the availability, accessibility, and acceptability and quality dimensions of the health workforce. Availability: refers to the sufficient supply and stock of health workers, with the relevant competencies and skill mix that correspond to the health needs of the population. Accessibility: refers to the equitable access to health workers, including in terms of travel time and transport, opening hours and corresponding workforce attendance. Acceptability: refers to the characteristics and the ability of the workforce to treat everyone with dignity, create trust and enable or promote demand for services. Quality: refers to the competencies,

skills, knowledge and behavior of the health worker as assessed according to professional norms and as perceived by users. (WHO)

Interviews with regional health Officers revealed that there is a shortage of medical staff in health facilities and there is no enough health workforce available in rural districts that provide services. This may be influenced by the shortage of economic and career incentives provided to the health workers to improve their output and performance. There is no enough training and capacity building provided to the health workforce, even though UNICEF provides a capacity building trainings to the health workforce and managers of the program, but still it is not enough; and the interview with the MCH stuff, they requested that they need to receive their salary continuously to motivate them to do their jobs well, so that they can sustain their basic life. Moreover, they suggested that the government officials need to have a regular visitations to the clinics in order for the health workers address their issues and concerns.

According to the focus group discussions the health workers in the MCHs performance were quite satisfactory and they provided the information enquired by the mothers. However, there was a lack of interactions, and encouragement from the health workforce to the mothers. Therefore, there is a greater need the government need to improve the overall quality of the workforce.

Factor of Production (2) and (3): *Land and Capital*

Location or accessibility and capital are other factors that contribute to EPI coverage and performance. Location and accessibility of the services contribute to the

performance of the program. As of 2015, there are up to 84 MCH and 315 health posts in place and there are future plans to further expand facilities in to the remote areas using Reach Every District (RED) campaign's — a strategy jointly initiated by the UNICEF and MOH to deliver the vaccines in remote areas. However, the accessibility of the services is still limited and reaches only urban and rural areas that are close to urban areas. Discussion with the mothers revealed that most MCHs are overcrowded and there is a long waiting time to be served which discourages the mothers to come and wait for routine immunizations. This has resulted in partial immunizations, and dropouts. Moreover, EPI has equipment which includes cold chains, vehicles and so on. The study revealed that there is a shortage of transportation equipment such as ambulances in district MCHs. The provision of ambulances will increase the efficiency of the program and aid delivering the services in to remote areas.

Factor of Production (4): *Enterprise*

The finances of the EPI program relies on the funds received from WHO and UNICEF. The Government's is contribution is limited only to operational cost; secure financing will aid the program to be sustainable. Interviews with the Government officials revealed that the Government is in no place to provide the funds for the EPI, because the country is still under a poor condition and will continue to rely on the funds received from the Donors. Hence there are no strategies in place for the Government to take over the ownership of the program. In contrast to this, interviews with the

international agencies shows that long-term funding the program is in a critical situation due to the donor fatigue and crises that are going into other countries.

Furthermore, to connect the input to output, inputs need to be transformed to outputs. Process/transformation is the conversion of inputs into outputs. The provision of the EPI program relies heavily on the interaction between the government and the community with the support of international NGOs. Secondly covering the cost of EPI also depends on the coordination between the government regulation and management and the international NGOs, who provide funds and vaccines. In-depth interviews with the Government and international NGOs revealed that coordination between the partners were relatively good, but need to strengthen coordination among the regions and partners, including the MOH at the central level.

Demand side factors related to the EPI coverage are mothers and community involvement. As for the community, involvement is crucial for delivering the EPI services and raising funds, providing volunteers for the routine Therefore, partnering with communities for immunization activities refers to the supportive coordination that take place between health workers and community involvement and the interaction between the community and the government. The study revealed that the interaction between the community and the Ministry of Health is weak and is limited to supporting routine immunization campaigns. The interviews with district mayors said that the Ministry of Health does not inform them about planning and preparation of campaigns in their respective districts. The international NGOs also urging the government to start

involving the community, and for the communities to take over the ownership of the EPI activities and start raising funds and manage the primary health activities once its decentralized in their respective areas.

From the outcome of the focus group discussions, there were differences with the educational level of the mothers, indicating that those who were educated had some knowledge about immunization and vaccine preventable diseases and they were more willing to accept the vaccination, but those who had less education were lacking information about the vaccine preventable disease and hesitant to vaccinate their children. Also, there were some concerns of the health workers support provided to mothers, which indicated that mothers need more support and encouragement for the health workers, there was also no follow ups therefore the mothers suggested that the health workforce need more training how to help the mothers like interacting with them, asking them about the health of the children and encouraging the mothers to vaccinate children. In addition to that accessibility of the health facilities was a problem and mothers relied more on the routine immunizations. Therefore, the government should put more emphasis on educating the mothers, providing skilled health workforce and making the health facilities more accessible to them.

Thus; to improve the EPI performance and increase the coverage rate the government need to commit to the program and provide capital, labor, land and enterprise by involving the community in the process, also put in place strategies to generate its own revenues for future sustainability of the program. Moreover, the

reliance on donor funding has made the country not be prepared to think of alternative financing to sustain the EPI program. However, the Government can mobilize additional funding from the community and the local NGOs to support the program and also to set up zakat charity that provide funds to the primary health care, especially in disease prevention.

Additionally the Government needs to come up with strategies for short and long term sustainability of the program. A number of strategies based on the needs, priorities, and resource availability is suggests as alternatives for sustaining the EPI program. These include, involving the Somali diaspora to support the EPI programs in cost that covers the operational cost of the routine immunizations, also community for raising funds for the routine immunization activities, and providing vehicles for transportation. In addition to that, there could be fees for service delivered to those mothers who afford. This could slightly take off the pressure from the Donors and they may provide the vaccines. Also the Government with the help of WHO need to continue to build policies for the government to gradually overtake the program for long term sustainability. Therefore, In order to ensure the sustainability of the program, the study recommends:

RECOMENDATIONS

- The government should ensure high levels of immunization coverage in the state. They should encourage the mayors, religious leaders at all levels, international partners, NGOs and communities to take an active role in the expansion of immunization service delivery and increased coverage through the provision of a free service to all eligible women and children.
- Since the EPI program financially depends on the International NGOs and other source of contribution to the program from the government is limited, there is great need of Government allocation budget for EPI program, and allocate specific funds to the EPI program so as to ensure the sustainability and effectiveness of the Program in the short and long run.
- Monitoring of immunization activities between regional with the coordination of the central level should be made at each health facility level on a daily basis, through immunization monitoring charts. This will strengthen regular supportive supervision and coordination between MOH and other stakeholders. There is also need to launch quarterly basis on joint supervision by major partners this will strengthen for monitoring progress.
- Communities are the main stakeholder in the routine immunization programme and other intervention of EPI activities at the district level. The Ministry of health should engage communities in support of immunization activities through; health promotion which will guide communication and social

mobilization activities , at the community level, leaders and village health committees will be empowered and directly involved in the planning, organization and mobilization for static, outreach and mobile immunization service delivery.

- Training on routine immunization will be continuous and implemented at all levels. Training includes pre-service, in-service and on-the-job training , the study will recommend as follows
  - Pre-service training on immunization will be given to health training schools including institutions for nursing, medical assistants and community health workers. The primary material used in preservice training is WHO's "Immunization in Practice" modules.
  - Regular in-service training will be given to health workers in all aspects of immunization management and service delivery: RI supervisors and RI vaccinators are i) trained using the "Immunization in Practice" modules and ii) receive a minimum of two-days refresher training two times year.
  - Cold Chain operators/assistants should receive initial training using the cold chain module (Immunization in Practice).
  - Since Mothers are lucking the knowledge of the basic understanding of the EPI there should be continues education awareness on the benefit of the immunization and disease prevention of the vaccination, this will help the mothers to be fully aware on the protection of the immunization.

LIMITATION

Possible limitations of this study are that the focus group discussions were selected by the MCH officials, therefore these mothers may have some basic understanding of the EPI program. There is lack of data in general, and access to existing data is limited.

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APPENDIX

INDEPTH INTERVIEWS WITH KEY STAKEHOLDERS

Government:

EPI Financing
1. Does the Government have a national Plan Budget? What are the challenges / bottlenecks of planning the budget at the national level? - The government has a comprehensive national budget plan. The challenges we face could be lack of enough funding for the state to finance some of the health projects. - There is a Budget ceiling for each ministry, and the Ministry of finance doesn't allow the ministries to exceed their Allocated budget. This leads to shortage of funds on covering the MOH priorities on health sector.
2. What percentage of fund is allocated to the Health Sector? How much budget has been allocated specifically to the EPI program in the Government? - Now; the percentage of fund allocated to the health sector is too low and it's estimated to be not more than 2%, but there is some strategies undergoing which the MOH plans to increase their allocation up to 6% in the near future.

- Currently; there is no funds allocated to the EPI program, the Governments minimum contribution budget to the EPI program is only limited to operation cost and salaries of the health workers which still the Government can't fully provide the funds on their own.

3. How the EPI program can be financially sustainable? Do the Government have strategies to finance the EPI program on their own in the near future?

   - We are not yet in position to finance the EPI program on our won now due to shortage of government budget contribution, but I believe that sustainability of the EPI program will be reliable for now. Because, Somalia still is under poor condition and it cannot afford to provide such service, but with the support of friendly countries and other organizations we are extremely expecting the government to come up a strategies to handle its basic services.

4. How is the community involvement for raising funds for the Routine Immunization? Do they have any involvement or a role of support? What about volunteer health workers and community transportation?

   - The community involvement is only limited to raise awareness and campaigns. They have not yet involved in the support and raising fund for the EPI program Due to social economic burdens, currently the community priority is not to finance the EPI, but to supply security personnel's and help to raise awareness.

- Community has a committee at each districts and regions that provide awareness campaigns and there is no transportation resources supplied by them, but there are volunteer health workers which work with the MCH's also support RED programs.

5. What are the current strategies to expand the EPI program?

   - First, There are plans now which the is planning to expand the health facilities in to the remote areas, as of 2015, there are up to 84 MCH which are in place in all regions and 315 health posts. This strategy initiated jointly between the government and UNICEF to reach every districts, this strategies is known RED approach , it helps every districts to have access to all vaccines and other EPI intervention

6. What are the different ways of motivating mothers to bring their children to the immunization sites? Are there financial incentives to motivate mothers to bring their children to the health facilities for immunization purpose?

   - Due to limited funds, the government will not be able to motivate mothers and provide financial incentives, but WHO provide supports to mothers such as food items, this has brought some mothers to vaccine their children twice which increases the side effects.

   - The government strongly beliefs that not to motivate mothers through food items rather than making wider awareness.

Co-ordination
A. How do the Government coordinate the immunization program in relation with key stake holders? What is the role of the Government in coordination of immunization? And how each region coordinates with the MOH? - Donors and the government have a quarterly review meetings in the ministry of Health, in this review meeting they discuss the challenges they encountered and progress they reached. Each NGO agency presents their intervention and support to the districts on EPI program. MOH conducts regional and central coordination meeting with key stakeholders to discuss the EPI performance program - Each region have a health officer who is responsible for the coordination of the EPI program with in their respective area. They coordinate on behalf of the ministry if anything happens, and the MOH is responsible at the national level and the HQ makes our consultation and inputs, but when the plan comes at regional level we coordinates with in us.
B. How the Ministry of health monitors and evaluates EPI program? Most remote areas need to be monitored quarterly, therefore does your department have Monitoring and Evaluation plan?

- each region have a health officer, who is responsible to all the districts with in his region to supply to them all vaccines, registers and receive monitoring reports weekly. - At regional level support team oversees the districts activities on EPI quarterly Central support team provides to monitor and evaluates quarterly to all health service ; also they Update communications and data sharing between districts and regional level
C. How do you engage to the local leaders to be spokes persons for immunization, especially traditional and religious leaders whom usually have high credibility and large following among community members? - There a number of workshops to train traditional leaders and religious leaders and they are trained for, to engage effectively with the community and participate the EPI program. - Ministry of health facilitates to bring together local community and well respected leaders to discuss effectively about the benefit of the immunization.
Service Delivery
1. How is the Ministry of Health distribute the vaccines to all the regions? How to the regions distribute the among each regions districts and among the health facilities within each districts?

- The MOH supplies to vaccine directly to the regional level and provides all required support once a month. when the vaccine is over , the regional request to the MOH to supply

2. Currently how far the EPI program reach? Are there plans to deliver the services in to remote areas?

- EPI program reaches urban and some rural areas currently. The remote areas is not yet reached due to funding challenges. There is a plan deliver the services in to the remote areas, and the discussion between the government and international partners is on the process.

3. What are the EPI coverage in Puntland? Why are the reasons that immunization coverage is low? Could you please specify major reasons on both the management's side and the mothers?

- EPI coverage is currently 30% to 40% in Puntland

- Major reasons

  Lack of funding to EPI program in to remote areas

  Lack of enough staff to perform the EPI activities at large

  Mothers beliefs about the immunization

  Current target on EPI is limited to urban areas

4. A) Communication is one of the best strategies for raising awareness to the public; what are the current implemented strategies? Is it effective or not? Do you use all the available

resources (e.g.: TV's Radios, distributing brochures to all the health facilities (both public and private), posters)?

- Yes we provides to all regions and districts to IC materials but is not sufficient due to fund availability Some of the districts may not have opportunity to listen radio or TVs but we provide brochure at the MCH's only.

B) What are the key challenges in relation to communication strategies?

- Lack for funding for communication awareness
- Intervention for other countries communication including some countries communities may refuse a certain vaccine and it caused our region to refuse

C) How the Mothers Utilization of the immunization program changed after the communication campaigns?

- The communication is very important and it changed the community perceives. It increases the number of mothers that vaccine their children, It makes to be fully aware about the benefit of the vaccination

5. How is the internally displaced people's utilization of the EPI program?

Internal displaced people are more effective than host community. Every IDPs area has health facility that provides vaccination service. Utilization of vaccination to the IDP is more effective due to sensitivity of their high risk to affect the diseases

6. A) How is the cold chains status? What is the capacity? And how long the vaccines are stored in the cold chains once it reached MOH's Cold chain in Puntland? How often the cold chains are monitored and the temperatures are recorded?

- We have a largest cold chain in the central which is well equipped.

  Capacity of the staff is well equipped with the sufficient knowledge. The cold chain stored in a period of 6 months and beyond. the supply vaccine is 6 month procurement

B) How do you transport the vaccines to the regions and districts? Are there any shortages?

- The MOH has a cold chain that stores the vaccine when it delivered to Puntland, as the central level. the MOH supplies to each region to the their regional cold chain
- There are shortages of transport to Bari region but other regions have supports provided by the donors. only Bari region has the challenges of logistical support but the two regions had a fully logistical support

Human Resource
1. What is the Government on HR policy? - The government has HR policy but it was established recently, but it has not yet functioning well.
2. How often do the Government provide trainings especially EPI staff training? What are the Key challenges of HR for immunization activities? - The government with the support of its UNICEF provide annual and quarterly training to the EPI staff. The government planes which districts and regions would have taken the training module for first quarter - Challenges Mobility of the staff Most of the EPI staff are females , then their families may refuse to go to job Searching a new life to abroad
3. What is the analytical capacity of the government in relation of immunization data collection? Is there any surveillance program of vaccine preventable diseases? - Every regions collects the data from district health facilities - At the central level, there is Health management information system that generates the data and makes comprehensive

report, and shares with partners and decision makers to agree harmonized interventions.

UNICEF/WHO

1. How do you support the EPI Program in Puntland

- **UNICEF**

- UNICEF provides to Ministry of Health, logistical support, drug supply, training and incentives of the health workers, also Maintenance of the cold chains.
- UNICEF has M&E plan to oversee the health service to all districts and regions.
- UNICEF is the foundation agency for the progress of the EPI program in Puntland.

- **WHO**

- Technical and financial assistance, and to conduct disease surveillance.
- Strengthening EPI surveillance system of the MOH.
- Supporting and developing EPI policy and guidelines for MOH and their partners.
- Delivery vaccines to vaccination sites during campaigns.

2. What is your role of as a donor in the EPI program and how do you coordinate with other donors and the government.

- **UNICEF**

- EPI program has a different stakeholders and each one has specific job to perform, UNICEF and WHO are advocacy for EPI program and receives the fund from the donor
- UNICEF and WHO had a contract with the NGOs to deliver the service with the close consultation, directions and monitoring for the Ministries of Health
- There is a quarterly EPI round meeting for all stakeholders to spearhead the challenges and reviewed the previous plan in order to speed up the progress

- **WHO**

- supports training staff in implementation of EPI policies, programs , plans
- WHO is the only responsible partner which provides supports to the formulation of policy issues in the Ministry of Health
- WHO has a unit at the MOH level which facilitates WHO activities at the MOH level

3. How the EPI program can be financially sustainable? Are there a sufficient fund for supporting EPI program in order to ensure sustainable funding in the long run? Are there strategies to help Puntland generate its own fund to manage the EPI program?

- **UNICEF**

- The sustainability of the EPI program will only depend on the government contribution and funding on the program.
- Currently the EPI funding is only depend on donor funding.
- There is Donor fatigue on health financing in the country due to other countries instability including, Syria, yamen, Ghad and Nigeria

- UNICEF is advocating the government to generate its own revenue to support the EPI program , this high level consultation where among president, and the key cabinets participate, but it has not yet succeeded • **WHO** - Sustainability may not be predicted for the absent of government willing and global economic crisis. - Government can be advocates to its partners to support the basic health service. - For a two decades WHO has been supporting country's health sector
4. CHD was the best practice of immunization in Somalia as well as in Puntland which covers the most target children, do you think that CHD can be redesigned in a new model of financing? Is there any opportunities that CHD can be introduced soon? • **UNICEF** - CHD will not be possible to be redesigned due to funding challenges. - CHD was only food for disease control during the campaigns. - UNICEF supports to strength the routine immunization campaigns, this is need to achieve and to think its sustainability. - CHD was initiated two year but failed to continue due to finding challenges. RED approach can be less cost intervention and areas to ensure to provide the service of the EPI at the

health centers, to reach the people in to their places, this is recommended strategies.

- **WHO**

- With the experience of the WHO, I expect it will not be feasible to redesign due to funding challenges in the region but we recommend to support on routine and fixed immunization service.
- The government may come up with a plan to request from donors to support CHD once a year, this would be possible too.

5. How does your agency provide capacity building for the health care provider?

- **UNICEF**

- Yes, UNICEF is the largest provider on capacity building for health care providers.
- MOH and UNICEF estimates annual training and capacity building for health workers, although some training would be taken outside of the country.
- There is different levels of EPI training models, 1st -mid level managing training – for the head of MCH's. 2nd - district level trainings – for Routine immunization providers. And 3rd regional health officers and EPI supervisors trainings.
- There is also a training on health based facility which provides those who are at the health facility in the districts and regions

- **WHO**

- Yes , WHO only provides the support to the HMIS (health management information system)
- In the Planning department of MOH, Training staff in implementation of EPI policies at the central level.

6. What are the current strategies for expanding EPI program in to remote areas?

- **UNICEF**

- UNICEF currently have a strategy for expanding EPI program which is to make effective to expand, the strategy would be a RED approach, this strategy integrated with EPI just and the service is delivery to fixed routine immunization, mobile team and outreach.

7. Do you support the government to link with the service delivery to the community; SDM (service deliver model) is a new program which links between service delivery and community at large, what you is best advice of localizing EPI program in Puntland.

- **UNICEF**

- Yes UNICEF piloted a new program which its aim is to decentralize the health service including EPI at the local people through empowering districts.
- District mayors need to collect the tax revenues and use it to serve to their communities, at this moment only 5% is contributed by the districts on health sector.
- UNICEF is committed to continue working with government to localize the EPI program through supporting districts mayors and providing capacity building

8. Do you engage local leaders as spokes persons for immunization, especially traditional and religious leaders, who usually have high credibility and a large following among community members?

- **UNICEF**

- UNICEF is not a direct implementer to engage local leaders to participate but through the support of the MOH , we provide capacity building and trainings to the traditional leaders

9. There are society which are marginalized or underserved communities such as IDPs which often suffers greater disease burden than other segments of society, do you support those group of people to get access of your support?

- **UNICEF**

- Yes we support those IDPs group , the health service is available to all people including host community and Internal displaced people, the mandate of UNICEF is to help those who need our service and we prefer to those underserved communities to enjoy our service because they are greater burden and risk to affect the disease

10. Currently how far the EPI program reach? Are there plans to deliver the service in to the remote areas?

- **UNICEF**

- The Program reaches all the urban cities and some rural areas, currently UNICEF is supporting the MOH to expand the health facilities in to remote areas.

11. What is the community involvement for raising fund for the routine immunization? Do they have a role of support?

- **UNICEF**

  - It's valid point but at this moment, the community don't believe that they can raise funds on their own to support the Routine Immunization. Once the primary health care is centralized, we urge the community to build strategies to come funds.

12. What are the different ways of motivating mothers to bring their children to the immunization sites? Are there a financial incentives to motivate mothers to bring her children to the health facilities for immunization purposes?

- **UNICEF**

- Financial incentives will not be a productive to the EPI program in the future. Some mothers will aim to exchange to vaccine their children for motivating food items rather than accepting the vaccination behaviorally.

Mother and Child Health clinics (MCH)

1. How do you receive the vaccines?

- Nugal region

Garoe

- Our MCH receive the vaccine from regional Nugal cold chain

Dangronyo

- This MCH received from ICRC through Ministry of health cold chain
- ICRC provides the supply of vaccine and transports to us

- Bari Region

- Bossaso
- We a regional cold chain in Bossaso and every week we receive the vaccines from the regional cold chain

- Armo

- The central cold chain received and supplies to vaccine

2. Does all the required documents for recording data available in the clinics?

- All the MCHs have all the essential required documentation of EPI which are register forms, labels, and immunization booklets and temperature equipment's.

3. Does the MCHs has a cold chain that helps to keep the vaccine in long periods? How long does it take to reorder and restock the vaccines? Are there a shortage gaps between ordering and receiving the order?

- Nugal region

- Garoe
  - We have a cold chain which works with electric and we don't have any problem with electric shortages.
  - When vaccination is over used , regional cold chain officer supplies directly to the MCH
  - Shortage cannot be noticed since our MCH is located in the head quarter of the Puntland
- Dangronyo
  - We have a cold chain which works both electric and gas.
  - Every week or two weeks we ordered our vaccine directly to ICRC which is working closely to our MCH and they collects the vaccine from MOH cold chain room
  - No shortages were identified because this districts is situated in along the road, it can transported to easily way

- Bari Region

- Bossaso
  - We have a cold chain which works with electricity
  - We restock weekly
  - We always have a backup vaccines which we use while we restocking, so we don't have any shortages.
- Armo
  - We restock each two weeks once.
  - We don't have shortages.

4. What challenges do you face in delivering the vaccines to your clinics?

- the challenges could be lack of transportation in the districts
- the MCH does not have ambulance vehicle

5. What are the key reasons for mothers not to immunize their children?

- Lack of awareness, injection phobia, and historical issues - Mothers fear of the quality of the vaccine (some believe that the Government not strong enough to assure the quality of the vaccine) - Mothers fear that the children may have fever after they are vaccinated. - Some father refuse to vaccinate their children - Beliefs that vaccines are for birth control and reduces birth rate. - Vaccines is injected with AIDs virus and this is currently the top rumor.
6. How is the mothers need for more information about the benefits of the vaccines? - They always need more information, we always inform them about the benefits taking the vaccination, we inform them about the side effects which are children's get fever and the fever slowly goes away.
7. Are there any challenges that causes not to do your own duties such training gaps, incentives and logistical berries? - Long months stay without taking a training on EPI program - Delays of salaries and incentives which has taken for a period of 5 months - Lack of having operational cost such as office administration which include printing and other office costs
8. How often does the Government or the Donors provide Performance based incentives? - First; in order the government to motivate us to do our jobs well. We need them to provide to us continuous enough salary to sustain our basic life. - The staff need to have awards rather than motivating money - Government officials to visit the MCHs and addresses our issues and concerns , this would be a great motivation by the health workers
9. How can the mothers be encouraged to vaccinate their children? Do you think providing incentives could improve it?

-

Questions

Government

EPI Financing

1. Does the government has a national plan and budget? How do you formulate? What are the challenges /bottlenecks of planning the budget at the national and local level?
2. What are the percentage of health Sector allocation? How much budget has been allocated specifically EPI program in the government budget?
3. How the EPI program can be financially sustainable? Do the government have strategies to finance the EPI program on their own in the near future?

4. How is the community involvement for raising funds for the Routine immunization? Do they have any involvement or a role of support? What about volunteer health workers.

5. What are the current strategies for expanding EPI program

6. What are the different ways of motivating mothers to bring their children to the immunization sites? Are there financial incentives to motivate mothers to bring their children to the health facilities for immunization purpose?

7. How can financial incentives improve the coverage rate of the nomadic people?

- Do you think financial incentives will improve coverage rate of the nomadic people.
- And how can you differentiate socioeconomic status of different people for incentive purpose?

8. Is there a plan for performance based incentives which is being implemented for the health workers delivering immunization service? If yes – how it has effected the EPI program performance? If no- what is your recommendation for implementing performance based incentives for the health workers?

9. What are the other possible ways to motivate mothers and healthcare workers?

Coordination

1. how do the government coordinate the immunization program in relation with key stakeholders

- what are the role of government in coordination of immunization

2. How the Ministry of health monitors and evaluates EPI program; most remote areas need to be monitored quarterly, therefore does your department have Monitoring and Evaluation plan?

3. How do you engage as local leaders as spokes persons for immunization, especially traditional and religious leaders, who usually have high credibility and a large following among community members?

Service delivery

1. The Ministry of Health distributes the vaccines to all the regions and districts, therefore; how do you distribute vaccines among the districts and regions? How do you distribute the vaccines among the health facilities?

- How often do you monitor and supervise immunization program in each level?

2. Currently how far the EPI program reach? Are there plans to deliver the services in to remote areas?

3. What are the EPI coverage in Puntland? Why are the reasons that immunization coverage rate is low, could you please specify the major reasons?

4. Communication is one of the best strategies for raising awareness to the public; how is the current communication strategy, effective or not? What are the challenges, and how the communication strategy can be improved?

- What are the key challenges in relation of communication awareness?
- How people's utilization of the immunization program changed after the communication awareness campaigns?

5. There are societies which are marginalized or underserved communities such as IDPs (internal displaced people), which often suffer greater disease burdens than other segments of society , do you support those group of people to get access of the immunization?

6. How is the cold chain status

- how do you keep/store in the vaccines dosses
- how do you transport the vaccines
- How often the cold chains are monitored and record temperature of the refrigerator for vaccine storage?

<u>Human resource</u>

1. What is the government HR policy?

2. How often do you have EPI training plan

- what are the key challenges of Human resource for immunization activities

3. what are the analytical capacity of the government in relation of immunization data

- is there any surveillance of vaccine preventable disease

UNICEF/WHO

3. how do you support the EPI Program in Puntland

4. What is your role of as a donor in the EPI program and how do you coordinate with other donors and the government.

5. How the EPI program can be financially sustainable? Are there a sufficient fund for supporting EPI program in order to ensure sustainable funding in the long run? Are there strategies to help Puntland generate its own fund to manage the EPI program?

6. CHD was the best practice of immunization in Somalia as well as in Puntland which covers the most target children, do you think that CHD can be redesigned in a new model of financing? Is there any opportunities that CHD can be introduced soon?

7. How Does your agency provide capacity building for the health care providers

8. What are the current strategies for expanding EPI program

9. Do you support the government to link with the service delivery to the community; SDM (service deliver model) is a new program which links between service delivery and community at large, what you is best advice of localizing EPI program in Puntland.

10. Do you engage local leaders as spokes persons for immunization, especially traditional and religious leaders, who usually have high credibility and a large following among community members?

11. There are societies which are marginalized or underserved communities such as IDPs, which often suffer greater disease burdens than other segments of society , do you support those group of people to get access of your supports

12. Currently how far the EPI program reach? Are there plans to deliver the services in to remote areas?

13. How is the community involvement for raising funds for the Routine immunization? Do they have a role of support?

14. What are the different ways of motivating mothers to bring their children to the immunization sites? Are there financial incentives to motivate mothers to bring their children to the health facilities from immunization purpose?

15. How can financial incentives improve the coverage rate of the nomadic people?

- Do you think financial incentives will improve coverage rate of the nomadic people.
- And how can you differentiate socioeconomic status of different people for incentive purpose?

16. Is there a plan for performance based incentives which is being implemented for the health workers delivering immunization service? If yes – how it has effected the EPI program performance? If no- what is your recommendation for implementing performance based incentives for the health workers?

MCH

1. How do you get the supply of vaccines?
2. does all required record data document are available in your health place
3. Does MCH has a cold chain that helps to keep the vaccine in longer days or moths? What long does it to order and restock the vaccines? Are there a shortage gaps between ordering and receiving the order?
4. what are the key challenges of not immunization for mother's children

5. what do you notice when the mothers brought their children at health place , do they need more explanation about the benefits of immunizing their children

6. Is there any challenges that causes not to do your own duties which includes training gaps, incentives and logistical barriers?

7. How often do the Government and Donors provide performance based incentives?

8. Which NGO's closely work with this MCH. Please name the agency that works closely with you? What are their contribution to the service delivery?

Community involvement

Mayors

1. According to the Law No 5, you are responsible all primary health care at your district level; therefore what is your contribution of effective support of immunization program? What do you think you role is; and how can you best serve the community.

2. Do you think your districts can have potential allocation resource for immunization program in order to fill the gap

3. Since the districts have villages and each section has community engagement and coordination between local people and districts

administrations ; how do you think that best practice can benefit your experience in to the immunization program

4. What is your best advice in relation to improve immunization coverage in Puntland?

Religious

1- Islamic scholars or sheikhs are the highly respected people in the society, therefore what is your take on Vaccination? What a role can you play to make effective awareness to the society to immunize their children and bring at the health centers?

Mothers

1- Do you know what vaccination is? Have you heard about vaccination? What are the benefits of the vaccination?

2- Do you know where should get vaccines for you children? Do you know how many diseases that the vaccines prevent?

3- How the health staffs treat you when you bring your to vaccinate? Are they friendly and helpful? Do they provide for you information's about the vaccine, and answer your questions when you ask them?

4- Do they encourage you to vaccinate your child and bring your child at the schedule time? After the first vaccination do the health staff made appointments with you for flow up vaccines? Do you have immunization booklet?

5- What would you suggest to the health staffs to change according the way they treat you?

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