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UNDERSTANDING HEALTH CARE REFERRAL CHAIN CHALLENGES IN KWALE COUNTY, KENYA

Creating an Optimized Referral Chain Model to a Community Clinic

ABSTRACT

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Understanding healthcare referral chain challenges in Kwale County, Kenya – Creating an optimized referral chain model for a community clinic
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Master of Social Services
Global Change and Community Development

The purpose of the research and development study is to understand the referral chain challenges and vulnerabilities in Kwale County, Kenya. The study aims to improve the referral chain and reduce the risk of double medication or other harmful treatment errors by creating an optimized referral chain model. The study was implemented with a non-profit organization, Home Street Home, and its community health clinic project.

The study was structured by following the Donabedian's Quality Framework (1988). The research part of the study was implemented by using qualitative methods with two surveys as the main data collection method. Twenty-four healthcare workers from eleven facilities and nine patients from three facilities responded. The data was analyzed by using content analysis method.

The result of the research shows that there is a clear need for improving the current and existing systems around the referral chain in Kwale County. The value of a well-structured and effective referral chain is recognized by both healthcare workers and patients. However, there is no common referral chain system or guideline that is followed by the different level facilities. Every facility has its procedures occasionally, and it is in the healthcare workers' hands to decide how to proceed with the referral. As a result of the research, the challenges and vulnerabilities, that are affecting the referral chain process in Kwale County, were identified. The findings are categorized into three by using Donabedian's model: structures of healthcare, processes of patient care, and outcomes of an ineffective referral chain.

In the development part of the study, two co-creation workshops were organized in Home Street Home's community center in Kenya. As a result, a referral chain model, referral form, and community awareness poster were created.

Learning more about the challenges and vulnerabilities in the healthcare referral chain has shown the critical part the referral system plays in individuals' health. In the context of rural health, where poverty often forces people to seek healthcare services late, where the transportation system is unreliable, and where the healthcare system is still lacking common guidelines, the ideal outcomes of the care are not ensured. When a person from a vulnerable background is seeking help from healthcare, an unstable referral chain can cause severe outcomes.

Keywords: Healthcare, Referral, Kenya, Rural Health, Africa

Contents

1 INTRODUCTION

Kenya, like other developing countries, has its health care system concentrated in cities, in urban areas. At the community level, small clinics or dispensaries provide basic outpatient services and work as primary facilities. Primary healthcare providers work closely with community health volunteers to ensure the well-being and health of the community. (Ministry of Health Kenya a. 2020.)

In the area of Kwale County, a poor referral system is critically affecting people's health and well-being. Patients are not signposted well in the process of referral and in many cases, there have been treatment errors, duplicated-prescribed medicines, and other harmful or even dangerous mistakes. (Home Street Home b. 2023.)

The study was implemented in collaboration with Home Street Home (HSH), a youth-led non-profit community-based organization located in Makongeni village, Kwale County, Kenya. The organization was founded in 2014 and registered in Finland (2014), Kenya (2015) and Switzerland (2020). It runs numerous projects with the main aim of empowering and supporting youth, children, and families in distress. HSH's focus is on well-being, education, healthcare, and gender equality. (Home Street Home a. 2023.)

Home Street Home opened a health clinic in Makongeni village in 2020. The clinic project aims to provide high-quality outpatient services to the most vulnerable families in Makongeni and surrounding villages. The project is targeting in particular those living in extreme poverty and most often not accessing public health care services. All the services are provided free of charge. (Home Street Home b. 2023.)

The purpose of this study was to learn more about the referral system and its challenges in Kwale County and to create a new referral chain protocol model and guidelines for HSH Health Clinic, in alignment with the Kenyan Ministry of

Health strategies and guidelines. The aim was to improve the referral process and follow-up care in the area in referral levels 1 and 2 in community health programs and reduce the risks of treatment or medicine errors.

The research part of the study was implemented by using two surveys. Partner organization was actively following the process of the study. After the research part was implemented and the data analyzed, the referral chain model and guidelines were created together with the members of the organization and the staff from the HSH Health Clinic. The newly created referral chain model can be used in other similar small clinics or dispensaries operating in similar environmental contexts.

This thesis is modified and it includes both research and development studies. Therefore, the order of the sections is modified to fit the needs of this study.

2 THEORETICAL FRAMEWORK AND CENTRAL TERMINOLOGY

Access to affordable and good quality health care services is a basic human right. However, globally the current situation is still inequal. Especially in developing countries poverty, lack of healthcare structures, and competitive healthcare professionals lead to poor access to quality care (The United Nations a. 2023).

However, it can be noted that there have been significant steps in the development of health services in developing countries in the past decades. We can verify this simply by looking at increasing life expectancy and reducing infant mortality rates, for example. WHO has stated that smallpox has been obliterated globally. Polio is no longer found in Western countries and in developing countries, the number has significantly decreased. New findings and innovations are helping people to solve global health challenges. However, globally, health research is mainly focusing on developed countries. This is a major challenge since most of the dangerous and fatal diseases are remain to be a burden in developing countries. (Sun. 2019.)

While looking at the achievements, we must also notice that the health sector and services in developing countries are far from perfect. Many countries have a lack of educated health workers and high-tech equipment. When there are not enough resources, the quality of the care is affected (The United Nations. 2023). In many countries, the best infrastructure, equipment, educated professionals, and drug suppliers are located in the capital or large cities or other urbanized areas, while rural areas lack the most essential resources. (Sun. 2019.)

United Nations Sustainable Development Goals (SDGs) focus on 17 areas of development to transform our world by ending poverty, protecting the environment and planet, and ensuring, all people are accessing health, justice, and prosperity. SDGs are divided into 17 goals and 169 targets. (The United Nations a. 2023.)

Goal number 3, Good Health and Wellbeing, aims to improve global health outcomes. For example, the target of goal 3 is to reduce the maternal mortality ratio globally, end epidemics of AIDS, and improve access to reproductive healthcare services. (The United Nations a. 2023.)

Target number 3.8 aims to achieve universal health coverage. Universal health coverage (UHC) aims to ensure that everyone has equal access to health care services globally. To achieve this goal, UHC believes that the key is to promote equality within different groups (e.g., gender, age, income level, immigration, ethnicity). (Sun. 2019.)

UHC is a link to a healthier and more capable population. Access to health care can ensure economic productivity. Healthier people can contribute more to their families and communities, which will reinforce the development. (The United Nations b. 2019.) UHC is an important component that can lead to sustainable development and poverty reduction (Sun. 2019).

To achieve universal health coverage (UHC) in developing countries, it needs to be recognized how different parts affect the health system. This can include for example transportation, education, accessibility, culture, or different policies. (Sun. 2019) Since it is argued, that to achieve UHC we must investigate all parts of the healthcare system, as a process, also the referral procedure must be optimized and secured in a way that the patient will be able to follow it and the patient will receive the treatment or care she/he needs.

2.1 Theories in Rural Health

Place and context affect healthcare. The gap between urban and rural health is recognized but still, there is no common definition of how to define rural areas. The definitions can vary even inside of one country. Population density, distances, and access to services are mostly used to measure and define rural areas.

Rural health can be defined as the health of people living in rural areas. This includes people who are living at further distance from health facilities or service providers. People who are living in rural villages or areas are at higher risk of getting sick or dying from an illness that could be treated. In addition, people who live in rural contexts are likely to have multiple conditions affecting their health. (Luchuo Bain et al. 2022.)

Rural context is often presented as bringing negative impacts to one's health. However, rural areas have also positive impacts on people. Close social relations family ties and, life close to nature contribute positively to people's mental and general wellbeing.

The quality of health services is contributing to the sustainability of rural communities. Jane Farmer et al. (2021) reviewed theories and frameworks from several different disciplines. It was found that the key challenges in rural health care are access, lack of competitive staff, relationship-based service provision, and the general role of healthcare services in community sustainability. To address these challenges, it is important to move beyond the current stage and view rural health care as a unique phenomenon. (Farmer et al. 2012.) It was concluded that there is still a high need for additional research in these fields. This could help us in the future to focus on improving rural health as separate priority and to develop innovative solutions to solve problems related to it, as well as seeing it as a whole healthcare system issue. It is important to understand how different relations such as cultural context, socialization, and environmental differences can affect health and its challenges. (Farmer et al. 2012.)

To achieve the SDGs and to ensure, everyone can access good quality healthcare, health interventions, and development should be implemented with a profound understanding of health in a rural context. In 2016, Kulig proposed that there is an urgent need for setting a common rural health research agenda. His framework for rural health composes three areas: places matter to health, diversity in rural places, and rural places are dynamic. (Kulig. 2016.)

Places matter to health describes how the physical and social space of the person affects his/her health (Kulig. 2016). These can be positive or negative effects on one's health. This can mean geographical location or someone's social status.

Diversity in rural places includes different ethnic and racial groups, historical contexts, and sociopolitical dynamics (Kulig. 2016). By looking at the topic from the point of view of refugees or indigenous people, the findings of rural healthcare research should be differentiated. Rural places are dynamic is the final part of Kulig's framework and it notices that rural areas and communities are constantly changing (Kulig. 2016). My study will contribute to Kulig's identified theme of assessing the existing care systems in rural areas.

2.2 Rural Health in Kenya

Inequalities in accessibility to healthcare services are common in Kenya (Ilinca et al. 2019) and most relate to the geographical location of the person or funds available to pay for the service. According to the World Bank in 2022, 71% of people in Kenya live in rural areas, which amounts to over 37 million people. (The World Bank b. 2022). However, it is difficult to draw the line between rural and urban populations, which is also noted by the World Bank. (The World Bank b, 2023).

In the context of Kenya, rural health has not been studied widely. Ilinca et al (2019) viewed the Kenyan healthcare system from the point of socio-economic inequality. It was found that there are significant inequalities among the healthcare services. The results showed that the system favors wealthier populations compared to populations from lower socio-economic groups. Wealthier population groups were reported to have better health status compared to poorer individuals. It was also seen that the difference between urban and rural areas can be seen in the health of individuals. (Ilinca et al. 2019.) In Kenya,

2.3 Donabedian's Quality Framework

Donabedian's quality framework is a tool, that can be used to examine and evaluate healthcare services and the quality of care. It can be used to identify weaknesses or points that should be improved. It illustrates the relationship between three concepts: structures of health care, processes of patient care, and outcomes of medical care (figure 1). Donabedian's model is flexible and can be applied to different healthcare situations or aspects of research. (Donabedian. 1988.) Donabedian's model is old, but still actively used model in healthcare development. To mention recent applications of the model, Edwards et al. (2020) used the model to develop air ambulance outcome measures, Guta (2022) used the model to assess the quality of neonatal resuscitation and White et al. (2022) used it to evaluate the effects of burnout on quality care. Donabedian's model can be stated to be flexible for different aspects of healthcare and different environmental contexts such as the global south. In 2021, Titi-ofei et al, used the model to monitor the quality of care in the WHO Africa Region.

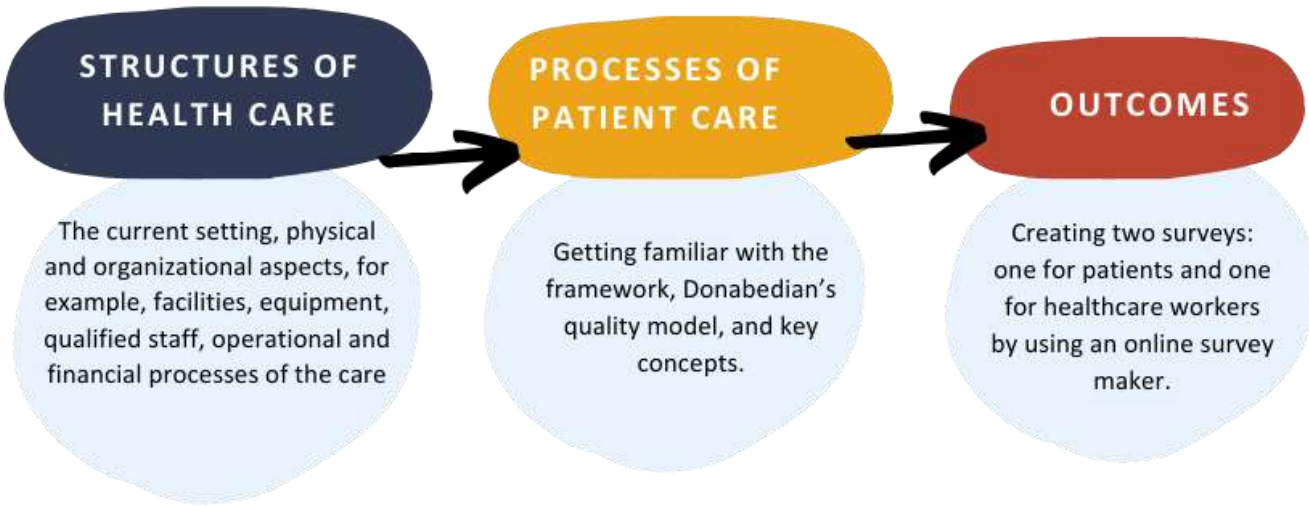

Figure 1: Donabedian's Quality Framework (Donabedian, A. 1988)

This three-part assessment is based on the view that good structures ensure well-working processes, which increases good outcomes. By assessing the relationships and linkages between these three parts, the quality of care can be improved by focusing on the weak points of the chain or possible deficiency of the essential structures and inefficient processes. Donabedian emphasized that a focus on evidence and metrics is essential in the process of improving the quality of care. He also recognized the effect of the practical cultural and social environment that can bring a new aspect to the results. (Donabedian. 1988.)

Looking at the disadvantages of the model, it does not clearly define how to define the relation between the structures and processes. Also, it might be sometimes difficult to determine whether something is strictly structural or processes or outcomes. In some situations, these three might be overlapping. (Liu et al. 2013.) However, since the model is underpinned by health development projects in various settings and environmental contexts, it is proven that the model is indeed very flexible and suitable for different projects in the healthcare sector. For this reason, I chose the Donabedian model for the study.

In this study, Donabedian's model was used to identify the challenges and vulnerabilities of the referral chain in Kwale County, as well as to find solutions to improve the current system. Also, collected survey data was analyzed by following Donabedian's model. Potentially later, the same model can be used to measure the impact of the new referral chain model and guidelines by comparing the outcomes.

3 THE PURPOSE AND OBJECTIVE OF THE THESIS

The purpose of the study is to learn more about referral system challenges in Kwale County and create a new referral chain protocol model and guidelines for HSH Health Clinic. The protocol and guidelines are based on two surveys, which were implemented in the HSH Health Clinic and the most important health facilities in the nearby area.

The aim is to improve the referral process and follow-up care in the area in referral levels 1 & 2 in community health programs and reduce the risks of treatment or medicine errors such as duplicated tests, duplicate medicine prescriptions and over dosages, and cases of patients missing their treatment because of poor collaboration and communication between the health facilities.

The study focused on finding answers to five research questions. Through the findings, development solutions were concluded, and a referral chain model was created.

1. What kind of referral chain model is used in Kwale County, Kenya?
2. What kind of role does the referral chain have in health care in this rural context?
3. What are the factors that make the referral chain vulnerable?
4. What are the outcomes of a vulnerable healthcare referral chain?
5. In which respects are the referral chain guidelines of the government of Kenya implemented in private health facilities in Kwale County?

4 BACKGROUND AND PARTNERS

4.1 Previous Studies

In 2019 a qualitative study was implemented in two rural districts of Maputo Province, Mozambique, aimed to strengthen referral systems in community health programs. The study included 22 in-depth interviews with Community Health Workers (CHWs), their supervisors, and community leaders and 8 focus group discussions with 63 community members. All interviews were recorded and analyzed. (Give et al. 2019.)

Results of the study showed that all stakeholders acknowledged the centrality of the referral system in a continuum of quality care. CHWs and community members identified similar challenges in the referral chain. A major common facilitator was the use and existence of referral letters or slips while reaching the health facility. Common barriers were long distances and transport costs, which were limiting the accessibility and affordability of the referral services. In addition, the lack of referral letters or slips caused failure for referred clients to receive preferential treatment at the health facility. From supervisors' opinions, they identified barriers related to the use of the referral data and communication chain. They identified that lack of feedback was enabling the improvement of the referral system in general. (Give et al. 2019.)

The study concluded that improvements in the referral chain can be achieved by strengthening communication and feedback among CHWs, supervisors, and health professionals. This will help all parties to better understand the barriers patients face while going to the health facility they have been referred to. It will also collaboratively help community members overcome the challenges and problems and improve the continuum of care at the community level. (Give et al. 2019.)

Since the environmental context in Maputo, is very similar to the study implementation environment in Kenya, some of the results can potentially be used as a base while creating survey questions.
In 2016, another interesting study was implemented in four sub-Saharan countries: Ethiopia, Kenya, Malawi, and Mozambique. This study aimed at enhancing understanding of how relationships between community health workers or volunteers and different health sector facilities were shaped, and how the unique positions of community health workers can be optimized. (Maryse et al. 2016.)

The study was focused on finding answers and solutions to “what works, in which conditions, for whom”. Each of the countries was looked at in individual country case studies. All country case studies used the same conceptual framework which was used to create topic guides for group discussions and interviews. The study findings were validated with policymakers in all four countries. (Maryse et al. 2016.)

During the analysis process, the researchers organized joint meetings where researchers from all four countries were present. This enabled researchers to evaluate similarities and differences between each of the country study findings. (Maryse et al. 2016.)

The study concluded and demonstrated how complex the influence community health workers have within their communities and health sector facilities in their area. In all four countries, the downwards accountability was weak. However, in Kenya, the program did include planned structures aiming to ensure the information flow from the health facilities back to the community health volunteers. However, this structure was not working or followed actively. (Maryse et al. 2016.) This is an interesting fact considering the referral side, where communication and information flow is one of the key elements.

To strengthen the role and performance of the community health workers, the relationships between these actors must be strong and based on trust. It was also concluded that the current socio-economic situation or other broader context should be taken into consideration while policymakers adjust or develop the CHW

programs. This could trigger mechanisms that can increase the trust between community health workers, their communities, and the nearby health facilities. As a whole, these mechanisms can improve the collaboration and work between these actors. (Maryse et al. 2016.)

4.2 Kwale County

The study took place in Kwale County, Kenya. The area of Kwale County is located on the south coast of Kenya, neighboring the border of Tanzania. (Figure 2) The county has an estimated population of 866,820 (2019). The County's capital is Kwale Town which is located 30 km southwest of Mombasa and 15km inland. It borders the Shimba Hills National Reserve. (Kwale County Government. 2022.)

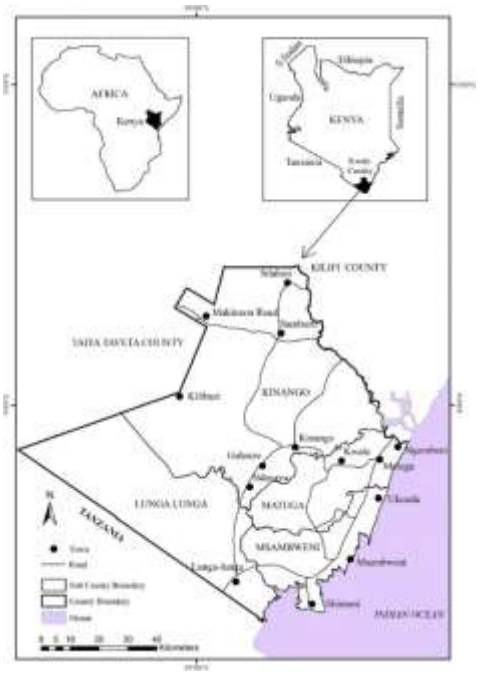

Figure 2: Map of Kwale County, Kenya (Maina et al. 2016.)

Kwale County has three main, public governmental hospitals, two private hospitals, eight health centers, and 64 smaller dispensaries or clinics. The ratio between doctors and nurses compared to the populations is 1: 76,741 and 1: 3,133. (Kwale County Government. 2022.)

4.3 Makongeni Village

Makongeni village is part of the Msambweni sub-county in Kwale County with a population of 3800 people. A major part of the population is young adults, youths, and children. The community is a mix of multiple ethnicities and religions. The most important economic activities are fishing, fish selling, small-scale farming, and small kiosk businesses.

Makongeni has its village primary school and two kindergartens. There are also mosques, churches, small food kiosks, and other small businesses. In addition,

there is also Home Street Home's Center that includes a training center, health clinic, library, and children's playgroup.

4.4 Home Street Home

The main partner of the study is Home Street Home Kenya. Home Street Home is a non-profit charity organization actively working on children's well-being, education, health, and children's rights in Kwale County, Kenya. Home Street Home is registered officially in three countries: Finland (2014), Kenya (2015), and Switzerland (2020). Most of the organization's funding is from Finland and Switzerland. Home Street Home's funding is shared with 5 categories: Company collaborations, individual donors, grants, charity events, and product selling. Most of the funds are received from companies and individual donors. (Home Street Home a. 2023.)

At the moment the main focus of the organization is to build and run a multifunctional community center in Makongeni village. So far, the center includes a training center for girls, a daycare for children with special needs, a community health clinic, a children's playgroup, and a library. (Home Street Home a. 2023.)

In the past 9 years, HSH has been implementing projects, collecting data, and evaluating processes. As a youth-led organization, HSH has been rapidly developing its work by creating systems and networks. For the two years of 2023 to 2024, the organization has set a target to focus on sustainability and moving away from programs that are increasing dependency syndrome among families and clients. HSH wants to search for better ways to support the development and base its actions on evidence. (Home Street Home d. 2023.)

Home Street Home's management and decision-making are the responsibility of HSH's board of management. The board of management is international, and it serves Finland, Kenya, and Switzerland-based organizations. The HSH board of management is there to provide leadership and support to the team members.

The HSH Board is setting a strategic direction to guide and direct the activities of the organization. It is ensuring the effective management of the organization and its activities. The board of management is there to monitor the activities ensuring they are in keeping with the funding principles, objectives, and values. (Home Street Home c. 2023.)

HSH community representative group members are active village community members, who guide and advise Home Street Home's management and its team members in the organization's work and projects. HSH community representatives present different groups and people from the village, for example, cultural and religious backgrounds, village elders, and minority groups. One of the responsibilities of a community representative is to ensure that HSH's projects are meeting the local needs and are accepted by the village community. They are also an important link between the organization and villagers. HSH community representatives are in a key position to get information about the situations in the local families. Likewise, representatives can forward direct information about the organization and its work to the villagers. HSH community representatives are expected to contribute positively to meetings, advocating a wide community point of view. (Home Street Home c. 2023.)

At the moment HSH Board has 8 volunteer members and HSH Committee has 9 volunteer members. Home Street Home has employed 22 staff members who are all working in the center in Kenya. These staff members are teachers from different fields, team leaders, clinic teams, occupational therapists, kitchen teams, program assistants, security guards, and a cleaner. In addition, the organization has 8 local volunteers and a changing number of international volunteers and interns, who are supporting the work. In Finland and Switzerland, Home Street Home is run by volunteers. (Home Street Home c. 2023.)

I am one of the founders of Home Street Home and currently, my role as a volunteer board member is focusing mostly on the international relations in-between the three countries. I am working with reporting, marketing, communication with our donors, and recruitment of international volunteers and interns. In addition, I

am overseeing the projects, monitoring the implementation, and developing the programs together with the team at the HSH Center in Kenya.

For this study, I reflected on my role as an insider researcher. Surely, it does affect one way or another my way of thinking. Since I am an insider, I have a close connection to the organization, and I believe it increases my understanding of the working environment. In addition, since I have been living in the area of Kwale County for several years, I have gained an understanding of the environment and its cultures and communities. This is positive input from my role as an insider. Furthermore, I did not research Home Street Home, I did it for the organization, but the aspect was more of a general research in the area. Hence, my insider role was not that pertinent.

However, also having a clear link to a health facility gives me an advantage: Especially while meeting with the managers of different health facilities, they seemed to take me more seriously, when they knew that I was coming from Home Street Home. Some of the facilities had already been collaborating with Home Street Home, which made it easier for them to participate in the research.

4.5 HSH Health Clinic

Home Street Home's first pilot health clinic, HSH Health Clinic was opened in April 2020. The project aims to provide high-quality outpatient services for the neediest ones in Makongeni village and nearby areas. HSH Health Clinic is registered as a level 2 health facility by the Kenya Medical Practitioners and Dentists Council. (Home Street Home b. 2023.)

The clinic provides basic outpatient services such as consultation and basic rapid diagnostic services. The clinic also provides wound care, family planning services, and emergency first aid care. In addition, the clinic aims to offer guidance and counseling on health-related issues. The target is also to Inform, educate, and empower the community on primary health issues and concerns, and how to promote wellbeing and present illnesses and other issues. The services are free

for all patients under the age of 18 and there is a nominal charge for medicine and material uses for adult patients. (Home Street Home b. 2023.)

The clinic is run by qualified clinical officer together with nurses and clinic helpers, and it serves people from Monday to Friday from 8 am to 4 pm. During the year 2022, the clinic served a total of 6865 patients. This means approximately 570 patients in a month. Out of the total number of patients, 4 721 were 5-18-years-old and 2 344 patients were under 5 years. (Home Street Home a. 2023).

4.6 Healthcare in Communities in Kenya

Health care and accessibility to health care services are often limited in rural villages and communities in Kenya. Access to high-quality healthcare services is an essential need and human right (Fransen 2017). In Kenya, especially in remote areas, getting the access to the right services on time is not granted. In rural areas, emergency response and access to emergency healthcare is still defective and slow. At the community level, the ability to respond to crises is weak and a lack of professional competence delays the seeking of treatment. (Dennis, Pullen. 2015)

The Kenyan healthcare system has six different levels of healthcare facilities. The first five are managed at the county level, the sixth level by the national government. Most of the villages or communities have a small community clinic or dispensary as a primary service provider. These are mostly level 1 and 2 facilities, and they are run by clinical officers. These small clinics or dispensaries provide basic outpatient services and work as a primary facility at the community level. (Ministry of Health Kenya a. 2020.)

Another important element of the health care system at the community level is Community Health Volunteers. Community Health Volunteers (CHVs) are trained citizens, who are voluntarily supporting their communities. CHVs deliver health information, make home visits, advise community members on health-related challenges, treat minor injuries, and guide the community in health prevention.

They also work as a link between vulnerable community members and health facilities. (Ministry of Health Kenya c. 2013.)

CHVs are not healthcare professionals, but their 3 months' training consists of basic healthcare and life-saving skills, best practices for health promotion and disease prevention, basic counselling skills, and leadership skills. (Ministry of Health Kenya c. 2013.)

Collaboration between CHVs and community health care facilities is important for the well-being and health of the community, especially the most vulnerable members of the community.

CHVs are working under or as a part of, The Community Health Service workforce. In the country's Community Health Strategy (2020-2025), the importance of this workforce is highlighted. It includes a community health committee (CHC), a community health assistant (CHA) or community health officer (CHO), and community health volunteers (CHVs). However, the strategy also admits that the number of CHAs/CHOs has been low and the motivation of the CHCs is mostly poor. (Kenya Ministry of Health a. 2020.)

4.7 Referral Chain

A referral can be defined as a process in which a health professional at one level of the health system has insufficient resources (lack of essential equipment, skills, or drugs) to manage patients' condition, seeks the assistance of a better or differently resourced facility to assist in, or take over the management of the patient's case. (Nebiyu. 2016.)

The referral process begins with the referring health worker communicating to the receiving health facility or specialist all relevant patient information. The receiving health facility will then communicate back to the referring health professional with information and a plan of care. This completes the referral process and closes the case in the referring facility. (Nebiyu. 2016.)

The purpose of an effective referral system is to ensure continuity of treatment and care, to save lives in emergencies, and to ensure further medical management. It is also present to maximize limited resources and to ensure the quality of the services. (Nebiyu. 2016.)

4.8 Referral Chain System in Kenya

The Kenyan healthcare system has six levels of healthcare facilities. It also has a referral chain strategy, that follows these six levels. (Figure 3 and 4) The strategy aims to guide health facilities and service providers to build their local referral system. (Kenya Health Sector Referral Strategy 2014-2018).

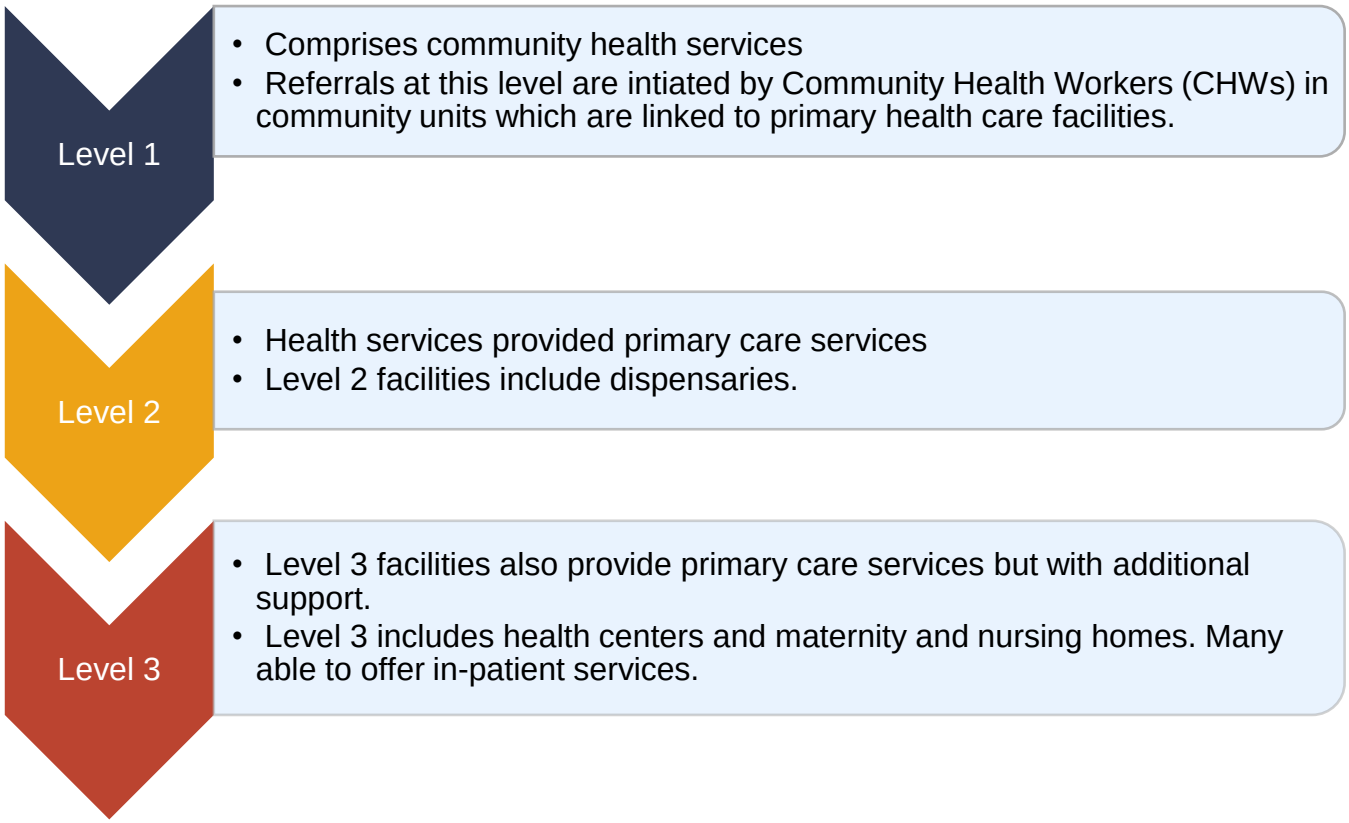

Figure 3: Integrated Health Referral Network levels 1-3 in Kenya (Ministry of Health Kenya b. 2014).

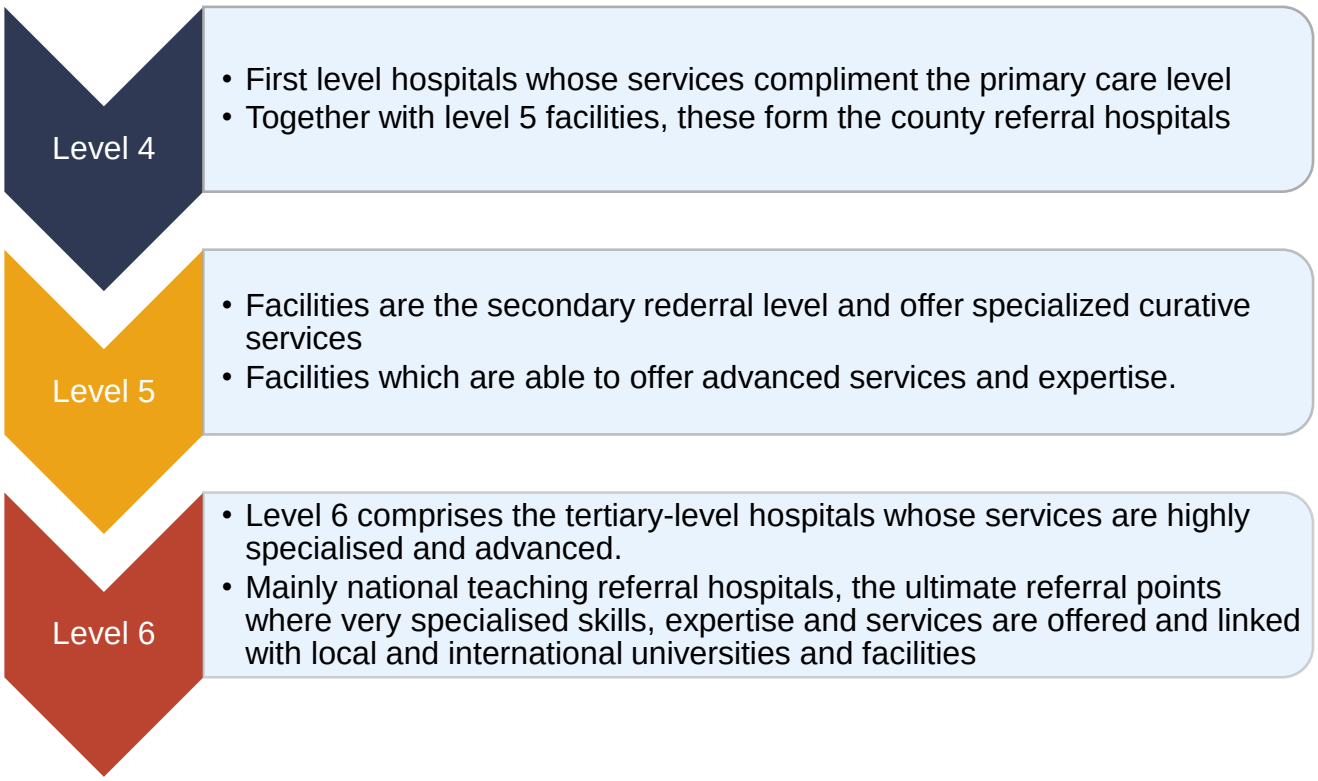

Figure 4: Integrated Health Referral Network levels 4-6 in Kenya (Ministry of Health Kenya b. 2014).

The health facility level tell the patient and to the healthcare professionals what kind of services or assistance can be expected to find from the facility in question. It also guide's the staff where to refer that particular patient next.

5 DATA COLLECTION AND ANALYSIS

The study considers the main components of strengthening the referral chain system in line with the Kenyan government's official guidelines and new referral strategy. The research part included two parts: one survey for referral patients of HSH Health Clinic and one survey for healthcare workers from the most important health facilities in the area. The study started with the research part and then development process followed after the data was analysed. The data was then discussed in co-creation workshop with aim of finding a solutions and creating a referral chain model to HSH Health Clinic. The figure below (Figure 5) illustrates the process of the research and development parts of the study.

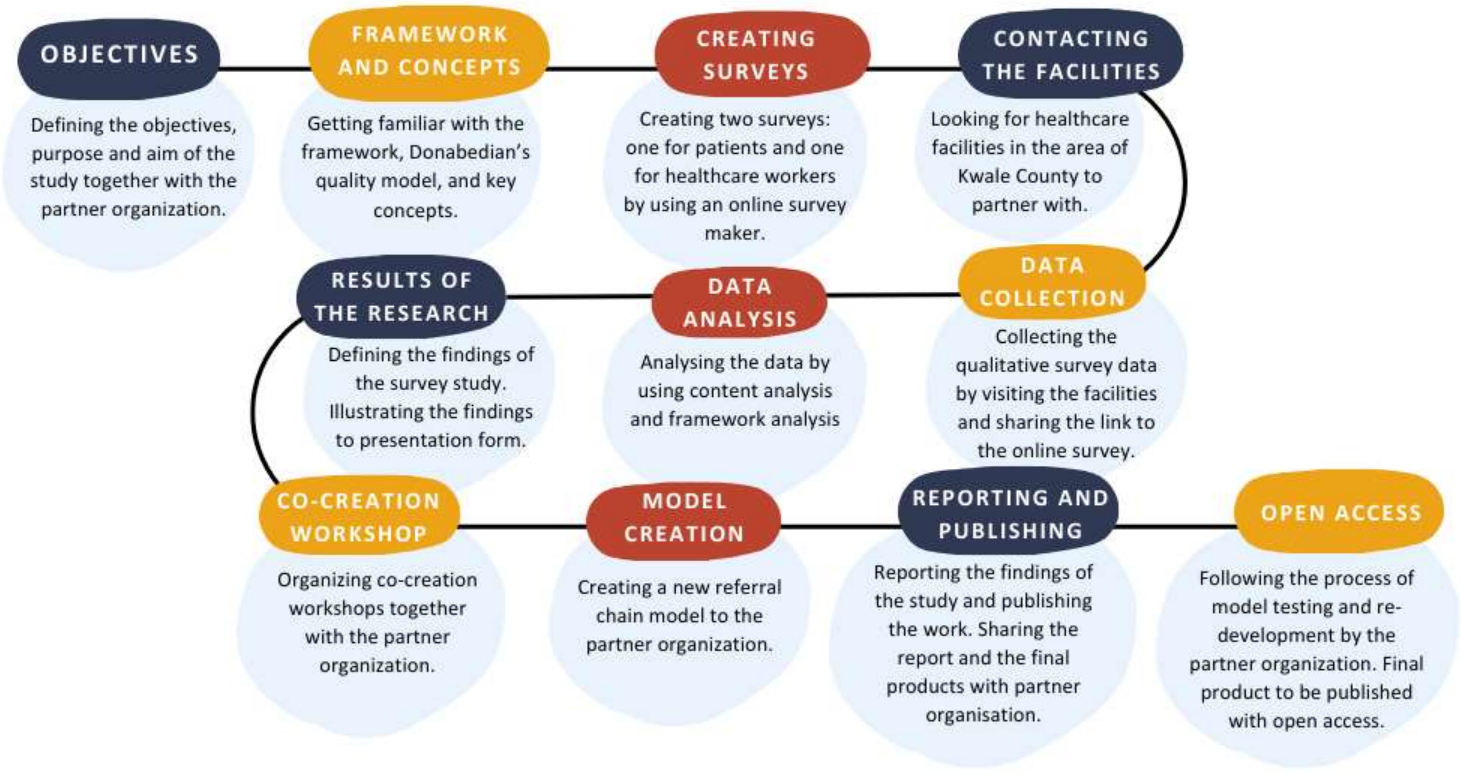

Figure 5: Research and Development Process

As a data collection method, I chose to use surveys, since it establishes a clear and accurate base for the research. By using a survey, the data collection can be implemented effectively and potentially, the impact of the created model and guideline can be tested in the future and compared to the original survey data. (Gosling. 2003.)

Survey questions were formulated to respond to research questions. In addition, the findings of previous studies and governmental guidelines were used to formulate surveys (see Appendix 1 and 2). Both surveys were tested in small-scale trials, before actual data collection.

In survey A, patient subjects included adults (18 years old or older) referred patients or parents of referred child patients, who can read and write in English. All surveys were completed anonymously, but if the participant was willing to participate in additional interviews, she/he had an opportunity to leave her contact details.

Survey B with health professionals was implemented in collaboration with the key health facilities in the area. The workers were given a survey to fill out anonymously, but like with survey A, if the participants were willing to participate in further interviews, she/he could leave her contact details.

5.1 Survey Pretesting

Survey testing is an important step of the research process. It guides the data collection process. Evaluating the survey can help to identify the potential sampling errors or possible challenges in the data collection.

Both surveys were tested in the pretesting period from 20th March to 20th April 2023. During the pretesting, survey answers were collected from two trial groups: a group of healthcare workers from multiple facilities and a group of patients from HSH Health Clinic. After completing the surveys, all participants were asked four questions:

1. Were the survey questions easy to understand?
2. Was the survey too long?
3. Was there something missing from the survey?
4. How would you improve the survey?

Survey A – Patients

In the pretesting stage, survey A was answered 3 times. It was found, that getting referral patients in the smaller facilities might be challenging since the patient cases are different every day, and referrals might not occur every day. According to the 3 respondents, the survey itself was clear and easy to understand. All of them were high school graduates and able to speak English. They all felt that it might have been more challenging to understand the questions if they had not gone to school. One of the participants commented, that since the filling was done by using a smartphone, it could have been nicer to have a bigger screen or paper version to be able to read the answers well before submitting.

Survey B – Healthcare workers

During the pretesting, Survey B was completed 12 times. The testing group included nurses, clinical officers, and health sector activists from 4 different workplaces in the area of Kwale County. It was found that the survey was clear, and the questions are easy to understand. 3 of the participants from the larger facility, hoped that the actual data collection could be implemented by using a printed questionnaire. They felt that it would be possible to get more answers if it was not limited to an internet connection. In addition, one participant commented that the survey is slightly long and time-consuming considering that the participants are busy healthcare workers.

The results of the pretesting survey can be found in Appendix 3. As a result, a paper version will be added as an optional way to fill out the surveys.

5.2 Data Collection

The survey data was collected between July and September 2023 by using two online surveys and paper versions of the same survey questionnaires.

Initially, my idea was to set a survey stand for one day in each of the participating facilities. I began process by approaching the main public referral hospital in the area. I met with the director, and I they promised to get feedback on how to proceed with the data collection. However, this waiting time took nearly 1,5 months and several trips to different offices. At this point, I decided to leave out the idea of having stands and focus on collecting the data from other facilities.

I visited a total of 15 facilities and 11 gave me the approval of collecting data. To protect the anonymity of the participants, the facility names have not been used in this report.

Survey A f(or patients) had a total of 9 participants. Participants were patients or parents of patients from 3 different facilities.

Survey B (for healthcare workers) was completed 24 times. Participants were from 11 different facilities. Out of the 24 respondents, 7 were workers from the public sector and 17 from private hospitals or health clinics in the area of Kwale County.

Out of the 24 participants, one was a doctor, 9 were clinical officers, 7 were nurses, and 7 were other healthcare workers. Most of the participants were working in consultation.

5.3 Data Analysis

The collected data was analyzed by using the content analysis method and framework analysis. The inductive content analysis method fits the needs of the research well since it is a good choice when there are fewer previous studies

implemented to provide enough background information. (Elo, Kyngäs. 2008.) The content analysis method will help to build an understanding of the vulnerabilities and challenges in the referral chain and create a conceptual description that can be used to create a new referral chain model. Nevertheless, as the objective of the study was to improve the referral chain by using Donabedian's quality framework, it was justified, that the framework has to be linked to the analysis. Therefore, I used the framework method in the categorization part of the analysis.

Collected data from the surveys was analyzed and findings were used in the second part of the study to create a new referral chain protocol and guidelines for HSH Health Clinic. The first step of inductive content analysis is, to organize the collected data (Elo, Kyngäs. 2008). After collecting the data, all survey answers were sorted and transferred into an Excel sheet that contains all questions and answers from each participant. Survey A and Survey B answers were sorted into separate sheets. Also, open questions and closed questions were sorted separately. During the process of organizing, I was familiarizing myself with the data. This allowed me to create the first impression of the data (Erlingsson, Brysiewicz. 2017).

5.3.1 Coding

After transferring the survey answers into the tables, the coding process was started. The content analysis method allows me to identify words or themes that can be used to group the answers. It is a method that helps to process the data while maintaining a previously gained understanding of the previous studies and the phenomenon. (Erlingsson, Brysiewicz. 2017.) Content analysis can also help to find patterns and similarities.

During the analysis process, I did two rounds of data coding. During the first round of coding, I went through the whole data and noted down general points about the answers and preliminary codes. I also looked at answers that were repeated to have an idea of what kind of codes I should use. According to the data, I created an initial code set and a first draft of the codes.

During the second round of coding, I coded every survey answer line by line. This allowed me to capture details, and at the same time, build my understanding of the data (Erlingsson, Brysiewicz. 2017). During the second round, I focused on consistency, by writing down every code once I used it. This was to minimize duplication and to have codes that are synonymous. Whenever I wanted to add a new code, I checked from my list if I had a code already assigned that could be used. My codes were mostly 1-3 words. I used for example “referral letter”, “communication”, “reason for referral”, etc. I also had a few longer codes for example “Lack of collaboration between facilities”. By the end of the coding, I was left with 115 codes in the analysis for healthcare workers' surveys and 32 codes in the patient survey analysis.

5.3.2 Framework Categorization

In the second part of the analysis, I categorized each code. Since the objective is to create a model by using Donabedian’s quality framework model, I decided to categorize the data by using the context from Donabedian’s model. This method is more used in framework analysis, where data is coded and categorized by using the analytical framework. In framework analysis categories can be defined before coding and they can be directly linked to the framework (Gale et al. 2013.) Using Donabedian’s model as a base of coding, gave me a way to analyze the findings from Donabedian’s point of view.

I used four main categories from the concepts of Donabedian’s Quality Framework: structures of healthcare, processes of patient care, outcomes, and background. The first three are directly from Donabedian’s Quality Framework. The fourth category “background” was added as a category for those codes that explained the background of the participators or their facilities. These were for example the level of the facility and the profession of the participator.

5.3.3 Identifying Themes

After consistent coding and categorization processes, I used a filtering tool in Excel to look at how the codes were connected and what kind of themes could be found. I filtered alphabetically by the questions and by the level of facility. I was particularly interested in level 2 and how the answers from those facilities were compared to the facilities from higher levels. I also filtered the data according to the categories. During the filtering process, I noted down similarities and tried to identify themes.

The table below (table 1) shows an example of data analysis with examples of codes, categories, and themes that were used during the data analysis process.

Table 1: Example of data analysis

Question	Answer	Code	Category	Theme
Can you describe how the normal referral procedure works in your facility?	By writing a referral letter for our patients for further investigation	Referral letter	Process of patient care	Tool
What are the most significant negative effects that the referrals are causing? (to the patient or the facility)	Delayed treatment	Delays	Process of patient care	Challenge
How could the referral chain be improved?	By communicating from the sending facility to receiving facility	Improving communication	Structures of healthcare	Method

The process of identifying themes, helped me to proceed further with the analysis. After the Excel work, I visualized the codes by writing them on Post-it notes and grouped them with different patterns, and at the same time, looking for an answer to my research questions. After re-arranging the codes a couple of times, I identified 14 initial themes. Later during the writing process, I grouped all outcome-themed themes, and I was left with 10 identified final themes.

After the analysis process was finished, I organized the main findings into a table that represented Donabedian's model. Through this, it was possible to visualize

the findings in Donabedian's model to create conclusions of the findings and guidelines for the co-creation workshop.

5.4 Creating Guidelines for a Co-creation Workshop

After finalizing the analysis, I was left with 10 themes and categories as a base. To make the presentation visual, a PowerPoint presentation was created to present the findings and to guide the co-creation workshop session. The presentation was working as a bridge to the topic and theme. The presentation included the background of the study, research methodology, a short description of Donabedian's model, and the results of the research. The deeper description about the co-creation workshops can be found from chapter 7.1.

6 RESULTS

This section focuses on the results of the survey study. These results were a base, for the development part of the study, which will be elaborated more in the coming chapters. The result of the research shows that there is a clear need for improving the current and existing systems around the referral chain in Kwale County. The value of a well-structured and effective referral chain is recognized by both, healthcare workers and the patients. However, there is no common referral chain system or guideline that is followed by the different level facilities. Every facility has its procedures occasionally, it is in the healthcare workers' hands to decide, how to proceed with the referral.

> After assessing the needs of the patient, the nurse officer on duty informs the clinician to review the patient. The clinician consults the medical officer who gives the permission for referral based on the patient's need for referral. The referral form is filled by the clinician and the referring nurse contacts the facility that the patient is being referred to. Samples are collected and labeled, the administration clears with the patient then the referring nurse accompanies the patient in the ambulance. (B10)

> The clinical officer fills out the referral management form and the patient takes it to the referred center. (B4)

> What I normally do is; write a referral letter to the specific department of the referral facility, informing them what you think your impression after clerking the patient what basic treatment or medication has been given, and the specific tests, scans, or review required. (B20)

On the side of the patients, it is confusing, impractical, and frustrating to wade through the system. It was found that patients have a significant role in carrying out the referral procedure. All the patients who were given guidance on how to proceed with the referral were told only which facility to go to next. None of the respondents had received detailed guidance on how to move on. When it is a matter of referral to a county hospital, it would be beneficial for the patients to understand, which department they are heading to, or who they are expected to meet there.

The results elaborate that the most common reason for referral is the need for specialist consultation. Another major reason for referral is the need for further examination. In the next sections, I will go through the challenges and vulnerabilities that are affecting the referral chain process in Kwale County. The findings are categorized into three by using Donabedian's model: Structures of healthcare, processes of patient care, and outcomes of ineffective referral chain.

6.1 Structures of Healthcare

The first section of the results portrays the challenges and vulnerabilities of the referral chain in the structures of healthcare. As Donabedian describes in his model, structures of healthcare are physical or organizational aspects, operational processes, and current settings where the care is being implemented.

6.1.1 Ineffective Collaboration Between Facilities

The results show that both patients and healthcare workers feel that collaboration between different levels of facilities as well as in-between public and private facilities is not effective.

> Harassment by the facility you are referring the patient to. Delaying taking the report from the referring nurse. (B3)
>
> There's no proper communication between the referring facility and the receiving facility. (B5)
>
> First, improving communication between sending and receiving facilities, will help ensure all referred patients are attended to. (B10)

Healthcare workers who had been calling in advance to the receiving facility had experienced unpleasant and cold treatment from the receiving workers. Communication in-between is deficient and there is no structured channel that could be used to maintain the link and communication while patients are in-between facilities.

6.1.2 Deficient Transportation System

Both, patients and healthcare workers, said that the lack of a proper transportation system was affecting the process of the referral chain. It was mentioned as a notable obstacle to a safe referral chain.

> Lack of meaning of transport, poor infrastructure (B3)
> Mechanical breakdown of the ambulance (B1)
> Poor equiped ambulance. Poor road networks. (A4)
> poor roads to access. (A6)

Both the healthcare workers and patients recognized the challenges and vulnerabilities in the transportation system. Lack of ambulances, distances from rural villages, poor road connections, and lack of reliable public transport are causing patients to drop out of the referral chain and not reach the next facility on time.

6.1.3 Common Delays in the Referral Process

Many healthcare workers responded that it is common for admitted in-patients to be upheld in between facilities. It happens when facility A has decided to refer the patient to another facility, but the paperwork and billing process is slow, which causes the patient to need to wait. At the same time, all treatment and care procedures are pending, since the patient is technically already referred to Facility B. Facility B is waiting for the patient to arrive, but Facility A does not release the client before the billing process is completed. During the delay, the patient's condition might get worse, or the current situation might cause permanent harm or even death.

> Patients stay too long between two facilities. This means they are still in Facility A unable to finish payment, and the treatment process has been already moved to Facility B. Sometimes this takes too long, and a patient can end up dying. (B8)

Delays were also mentioned as challenging when the patient is unable to follow the referral chain immediately. For example, when a patient cannot afford to

proceed to the next facility, she/he might end up returning home until the family has enough funds to proceed. This can mean that a referral that was supposed to continue right away is delayed by days, weeks, or even months.

6.1.4 Government's Referral Strategy Not Followed

It was found that the referral strategy and guidelines set by the Government of Kenya are not well understood by the health workers. Out of 24 healthcare workers, 8 workers did not know about the guidelines. They also did not know if their facility was following it. 6 workers skipped these questions. 10 workers stated that they know about the guidelines and that their facility is following them but couldn’t give an example of how the guidelines are used.

> No clear referral guidelines. (B14)
>
> The facility doesn't have referral guidelines because most of the referring doctors use their knowledge (B4)
>
> All hospitals I have worked with have not given any training on how to handle referrals (B15)
>
> We have a procedure that all doctors follow. There was no particular training, but everyone knew what to do. (B5)

The strategy is not introduced to the healthcare workers or in some facilities the model is in use, but the staff is not trained in how to follow it. Some of the healthcare workers stated that they had learned about the strategy either in school or in seminars.

6.1.5 Lack of Informative Referral Form

It was found that all the participants felt the importance of receiving information from the sending facility. All the facilities that participated in the survey are using referral letters or other kinds of documents when referring their patients.

However, 14% of the healthcare workers had experienced that referred patients had arrived at their facility without any referral document.

> Patient details, and diagnosis, specify whether the patient has any chronic condition and if yes where is he/she is followed up on, current medications, pre-referral treatment done, etc (B10)
>
> Detailed information. Patient biography and history, prescriptions, working diagnosis, vitals, contact details to the sending facility, and any added detail that can help on our side. (B5)
>
> Yes, patient details, impression, the reason for referral, name of health care that has referred the client, vital signs, patient condition, (B4)
>
> Nicely filled biodata of patients and well-prescribed medicines and not only the names of drugs. (B12)

When asked what kind of information the workers wish to receive from the sending facility, all respondents mentioned similar elements: Biography and history of the patient, allergies, patient's condition and working diagnosis, prescriptions and administered medication, examination results and vital signs, reason for referral, possible examination requests and contact information for the sending facility. It was also mentioned that the information should be detailed and well-recorded.

6.2 Processes of Patient Care

In this section, the challenges and vulnerabilities of the referral chain will be viewed through the processes of patient care. According to Donabedian's model, processes of patient care include activities and mechanisms that are implemented to carry out the patient's care.

6.2.1 Ineffective Communication with the Patient or Next of Kin

Some health professionals responded that the communication with the patient or his/her next of kin, is often ineffective and it is undermining the patient care. It

was also mentioned that sometimes patients, or their family members, do not listen to what the healthcare worker is trying to tell, or they are not willing to follow the procedure.

> Family members are always arguing with us about the care. (B15)
>
> It is difficult sometimes to try to do it (the referral) in the right way since the patients are not listening at all (B13)

Many healthcare workers stated that they had experienced challenges related to communication with the patient or next of kin. It was mentioned that family members can cause a scene in the hospital and create unnecessary drama. That is making the work of the nurses and doctors difficult and even frustrating.

6.2.2 Lack of Follow-up

According to the healthcare workers, there are no set follow-up procedures for referral patients in any of the facilities. Since there are no common procedures, most healthcare workers do not follow up after the patient leaves their facility. Through this, no one is aware if the patient has reached the right facility or received the right service or treatment.

> No. unless the patients bring back the results otherwise some don't think of bringing the test results back or the scans. (B10)
>
> Sometimes I call to confirm if there is a bed available in the next facility. (B3)

Every facility had its guidelines about referrals. Some healthcare workers noted that it was up to them to decide if they would do a follow-up. It was mentioned that it also depended on a lot about the timing, how busy they were at that moment, and how urgent the referral case was. However, many healthcare workers stated that since there are no set procedures by their employer, they are not doing any follow-up.

6.2.3 Negative Service Experiences

Patient's previous, negative, experiences in health facilities are affecting their commitment. Healthcare workers noted that it is very common to have a feeling, that the patients are not trusting the process or that they are refusing to be referred to a certain facility.

> Patients gave up and did not go to the referral facilities since they got a bad impression from the facilities previously of not being attended well or not attended at all. The referral facilities put down the number of referred patients thinking they were attended only to find out they were not attended to. (B5)

Healthcare workers stated that it is common for patients to refuse treatment or refuse to proceed to certain facilities since they have had bad experiences previously. In addition, one patient mentioned, that she was told to go to Facility X, but her family decided to take her to another hospital, because of previous bad experiences in the facility X.

> First I was sent to ***, but my mama decided that we go to ***. They did not want to take me there because they were treating people badly. (A2)

From the patient side, it was shown, that many people had not only had bad service experiences, but they were also afraid of getting them. They did not want to risk trying a hospital or clinic, where someone had a bad experience or the result of the care. However, this makes me wonder how to set the line between bad service and treatment which did not work, and the outcome was not what was hoped for. It might be difficult for a non-medical person to differentiate these two scenarios. Especially if the outcome was tragic and no one explained it well.

6.2.4 Poverty

Poverty is forcing patients to drop out of the referral chain. In cases where a patient cannot afford to proceed due to the cost of transportation or the cost of the

treatment, the patient ends up dropping out or searching for cheaper alternative treatment options.

> The patient doesn't have enough money to proceed with the referral (B7)

Alternatively, patients might seek treatment from non-medical personnel such as "witch doctors". Witch doctors are local healers, who treat illnesses and traumas that are believed to be caused by witchcraft.

> Because patients cannot afford the treatment, they look for help from a witch doctor. (B9)

Witch doctors were mentioned as an alternative solution, although, they might also end up being costly. It was also mentioned by healthcare workers to be a solution for many patients who come from rural villages and from families who are living in poverty. Different kinds of traditional beliefs, like witchcraft, are stronger and more commonly practiced in lower-educated communities. This can cause a patient to miss lifesaving treatment when the family decides to proceed with the traditional treatment options.

6.3 Outcomes of the Vulnerable Referral Chain

As the previous sections have presented, the outcomes of the ineffective and vulnerable referral chain can be fatal or cause permanent harm to one's health. In addition to the previously mentioned outcomes, the healthcare workers also claimed to have experienced situations where patients have received double medication or double examinations.

> Deaths of the patients while on their way (B8)

> Patients receiving double medicine from sending and receiving facilities because of not using or checking on referral forms. (B12)

> Confusions (patients going to the wrong places or getting the wrong services or treatments) (B11)

To conclude, as an outcome of the vulnerable referral chain patients are receiving the wrong services or ending up in the wrong facility, they are receiving double medication, or going through the same examination procedure multiple times, the process causes extra costs for the patient and the facility, and patients are dropping out from the chain. In the worst cases, their conditions are getting worse, or the patient dies due to long delays.

7 DISCUSSIONS

The result of the survey demonstrates that there is an urgent need for development in the referral process. Currently, the healthcare referral chain in Kwale County is vulnerable, unstable, and unreliable. In the next sections, I will evaluate the findings from the point of the research questions and findings from previous studies.

What kind of referral chain is used in Kwale County, Kenya? In which respects are the referral chain guidelines of the government of Kenya implemented in private health facilities in Kwale County?

According to the findings, the referral chain in Kwale County is vulnerable, unstable, and insecure. It is managed differently in different facilities and by different workers. There are no common guidelines or processes that are followed.

According to the Kenyan Government's referral strategy, each of the facilities is required to share information, guide the patients, and support the client through the referral process. Healthcare providers are required to educate and guide patients in the referral process (Ministry of Health Kenya b. 2014). However, according to the findings, the patients feel that they are not guided and there is no clear information provided during the referral process.

According to the strategy, every facility should have its standardized referral form in either electronic or paper format. However, currently the guidelines are not followed as they should be. Also, every facility is required to use a standardized referral feedback form, which is supposed to be filled out later by the sending facility. According to the findings, none of the healthcare workers had used the feedback form.

Furthermore, the findings also argue that in practice, the healthcare workers do not have enough knowledge about the strategy, or their facility has not set clear

guidelines of how to follow it in practice. In private facilities, the management of the facilities has not set a clear policy of how referrals should be managed.

The results are also arguing that the government's guidelines are not being followed, because the staff is lacking competence and training. In addition to that, the management of the facilities is not committed to implementing the guidelines. According to the findings, there is a clear need for educating the workers and sharing more information about the importance of implementation of the strategy.

What kind of role does the referral chain have in health care in this rural context?

In rural areas, where infrastructure is poor, distances to the nearest facility are long, and health facilities lack equipment and staff with competence, referral chain management plays an important role in patient care.

Emergency care is one of the weakest parts of health systems in rural areas in low-income countries with both quality and accessibility constraints (Hildenwall et al 2020). Poverty is forcing people to wait longer at home and have less access to care. Same time lack of diagnostic and medical resources is affecting the services. (Fanssen 2017)

In the rural areas of Kwale County, Kenya, getting help from the right health facility can be hard. Village roads are in bad condition and the availability of appropriate and affordable transport is poor. Many healthcare service providers are lacking essential materials and equipment. For example, patients might arrive at the main referral hospital and at that time, they do not have the right service or medication available. The patient will be sent to another hospital and getting the right treatment will be delayed which can lead to severe complications.

As the results are shown in the referral chain in Kwale County, the role of the patient's engagement increases. Patients are responsible for moving from place A to place B and following other directions or guidelines given by healthcare professionals. If the patient is well engaged and understands the process flow,

he/she might be able to notice possible errors or mistakes in the care. (Olayiwola et al. 2018.)

There are many potential and suitable strategies for engaging patients. Rather than having one engagement, the patient's role should be considered as a continuum. The system itself should be created and maintained in a way that patients are engaged as active actors. Enhanced patient engagement can improve communication and decision-making. (Olayiwola et al. 2018.)

What are the factors that make the referral chain vulnerable and what are the outcomes of the vulnerable referral chain?

The image below (figure 6) presents the findings of the research on the two questions: What makes the referral chain vulnerable and what are the outcomes of a vulnerable referral chain? The image presents the findings by using Donabedian's quality framework. The findings are divided into three sections: vulnerable processes of patient care, vulnerable structures of healthcare, and outcomes of vulnerable referral chains.

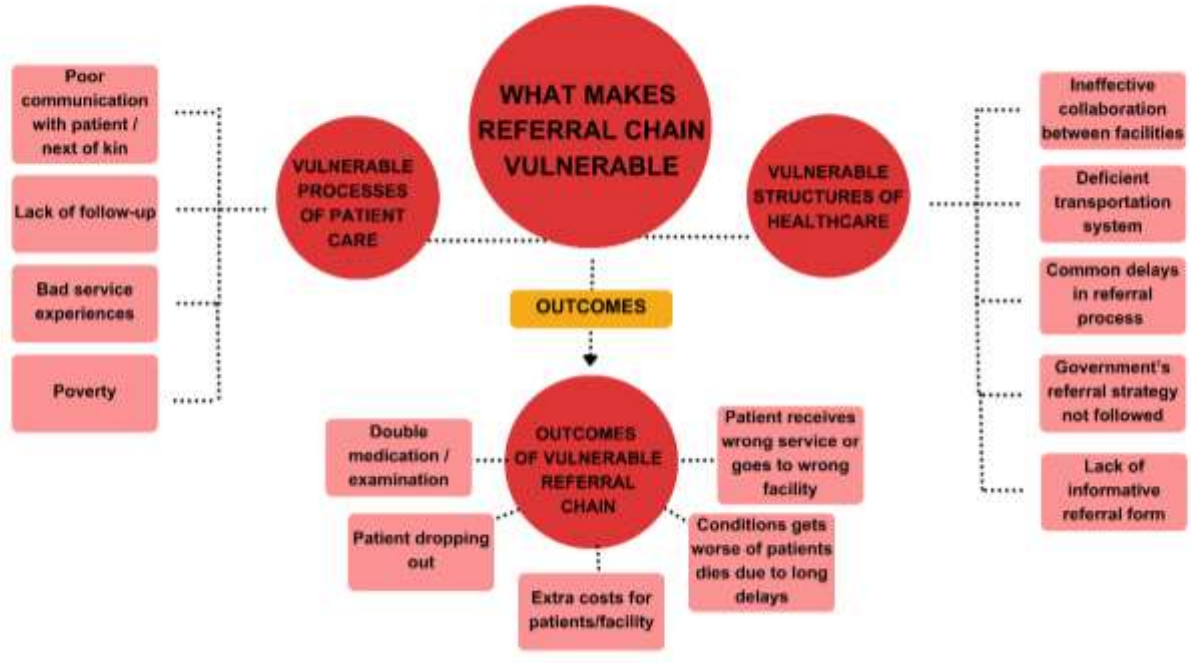

Figure 6: What makes referral chain vulnerable?

Ineffective collaboration between healthcare facilities, deficient transportation systems, common delays in the referral process, and lack of referral forms are making the referral chain vulnerable from a structural point of view. Also, since the government's referral strategy is not fully implemented, it is creating another vulnerability in the chain. On the other hand, poor communication with patients or next of kin, lack of follow-up, bad service experiences, and poverty, are making the processes of patient care vulnerable, which is affecting the referral chain.

These findings are in line with the study implemented in Maputo by Give et al. (2019) where it was concluded that the major challenge of the referral chain is the use and non-existence of referral slips. Also, they argued that lack of follow-up was enabling the development and improvement of the referral chain in general. These researchers also stated that the referral chain can be improved by strengthening communication and follow-up procedures.

As an outcome of a vulnerable referral chain, the patients can receive the wrong treatment, or they might end up in the wrong facility or drop out of the process completely. The patients can receive duplicate medication, or they can proceed through duplicated examinations. All of this is causing extra costs to both the patient and the facility. In the worst scenarios, the patient's condition gets worse, or the patient dies due to long delays.

8 DEVELOPMENT PROCESS AND METHODS

The thesis process containing research and development study started in January 2022 when the first version of the development and research study was presented to the team of HSH Health Clinic. Henceforth, the first idea paper was written.

Since I am working in the Home Street Home Center, it was easy to organize meetings with the team members and discuss the progress of the development study. We organized our first brainstorming meeting in September 2022. The first discussion aimed to set the target and timeframe for the work. It was agreed that HSH Health Clinic's clinical officer Cecilia Charo will be following the progress of the study and that the target would be to finalize the work by December 2023.

Between September 2022 and January 2023, I worked on the proposal and studied more about the government's referral strategy and previous studies. I gained a deeper understanding of the topic. After finishing the proposal writing, the final version of the proposal was shared with the team members in January 2023.

Furthermore, I proceeded to continue the work by creating survey questions by using the SurveyMonkey online license. Same time, I wrote letters to the main healthcare facilities around Kwale County. In April, another meeting with Home Street Home's team members was held, to go through the survey questions and discuss possible improvements.

In May 2023, I visited the first facility and started to collect approvals for the data collection process. I waited for the response from the first facility long, which ended up delaying the entire process. Finally, I collected the survey data actively between July to September 2023.

After my data was analyzed, we set another meeting with the HSH team, to go through the results together. During the meeting, we discussed every theme and visualized the findings on a whiteboard.

Finally, in October 2023, we organized our co-creation workshop and created a referral chain model for HSH Health Clinic.

8.1 Co-creation Workshops

The aim of the co-creation workshop was to create a new referral chain model to HSH Health Clinic. Two co-creation workshops were organized in Home Street Home's Center in Makongeni village, on the 4th and 17th of October. Eight team members participated in the workshops. The participants were workers from the clinic and members from the management of the organization. In addition, a couple of organization volunteers joined the workshops.

The workshops were organized by following the impact co-creation model from Sitra. The model was an ideal choice of method, for system-level solutions and processes where the aim is to develop a solution that targets social impact. It portrays the importance of collaboration and how multiple stakeholders can work together successfully. (Sitra. 2019.)

The first workshop was started by defining the base of the co-creation. First, the findings of the research study were presented to the participants. Everyone had a chance to comment and share their own experiences or views on each of the findings. Some of the participants were healthcare professionals and some were looking at the themes from the viewpoint of patients or next of kin. They all felt that the findings were presenting the referral situation well. They had experienced similar situations, however, earlier there was no data to support the experiences.

After the participants understood the findings of the study it was time to start the process of co-creating together. Sitra's impact co-creation has four phases (Sitra. 2019).

First, the outcomes of the workshop were identified. After analyzing the vulnerabilities of the current referral chain, it was clear that improvement is needed. The

impact goal was that HSH Health Clinic is handling its referral chain patients with care and a high understanding of the possible negative outcomes of a vulnerable referral chain. HSH Health Clinic should be working as an example and show how procedures can create a larger, positive, impact on the outcomes of the healthcare referral chain.

In the second phase, the outcomes were identified. This means the needed concrete changes in the behaviors and structures were identified. The participants identified three behavioral changes and three structural changes. Behavioral changes identified were open communication, collaboration, and guidance. The structural changes identified were proper referral procedure, documentation, and record keeping.

The third phase of the workshop was focused on framing the system. The idea of creating a referral chain model was an already existing idea. However, the participants also noted that a new referral form would be an ideal addition. Also, it was concluded that to start using the new model and referral form tool, the team has to be trained. It was also mentioned that it is going to be important to evaluate the implementation of the model once it has been used for a certain period. This was agreed to be the responsibility of the HSH Health Clinic team.

And finally, in the fourth phase, the participants start the process of modeling the new system. The final part was implemented by using a large whiteboard. The participants illustrated the referral chain process and identified the steps of the process. Each step was analyzed according to the vulnerabilities and critical points, where the healthcare provider could be directing the patient's behavior by providing the right guidance.

As the discussion and modeling moved on, it was also noted that sometimes patients struggled to understand the guidance. In the area of Makongeni village, a major part of the population is not (highly) educated. There are still elderly people who are not able to read and youths, who have dropped out of school at an early stage. Due to these challenges, the participants decided to add a visual client's guidance board which is the last section of the model. Also, an awareness poster

was added as an additional tool, to create awareness among the patients about the referral chain. (See appendix 6)

Once the content of the model was created, I continued to combine the model package, referral form, and awareness poster. Later, the participants gathered in a second workshop where the created tools were presented for comments and evaluated together.

Finally, the final version of the referral chain model, referral form, and awareness poster were created.

8.2 Presenting the Model

The new model was presented to the whole team of Home Street Home in weekly meetings. During the meeting 21 staff members, 8 local volunteers, and 13 international volunteers were present. I started the presentation by presenting the results of the research study and then continued to present the final products. The presentation was done by using a TV screen to show the PowerPoint presentation and printed versions of the products were shared with participants.

Every member had a chance to comment, and the group had a deep conversation about the challenges and vulnerabilities of the referral chain and, to possible improvements that the new model can bring. It was also discussed, how this study could be continued later and what kind of recommendations could be shared forward.

9 FINAL PRODUCTS

As a result, after the co-creation workshops, a new referral chain model was created. The model has 6 sections, and it was visualized in slide-show format, whereby every slide has its theme. (See appendix 4) These slides can be printed into a file or poster format. Secondly, a new referral form was created for the clinic's use. In addition, an awareness poster was created to educate the patients about the referral procedures.

All the creations were designed to match Home Street Home’s branding by using the organization's logo and brand colors. All producst were licensed under creative common (CC) licenses. The chosen copyright allows users to use the model as long as the attribution is given. They can adjust the model to fit to their organisations needs under the same license. It does not allow people to use the model to commercial use. The licensing was implemented by using Creative Commons license chooser (Creative Common. 2024).

9.1 Referral Chain Model Slide Package

This referral chain model was created (Appendix 4) to be used as an assisting tool for the healthcare workers who are working with referrals in lower-level clinics in Kwale County Kenya. Potentially parts of the model could be used in other similar environmental contexts in rural areas. The model was created as a result of co-creation workshops that were held in Home Street Home’s center in October 2023. The workshops were based on qualitative survey research findings.

The idea of the package in a slide format was to combine the new model into a simple format that is easy to use. The sections and content of the package were found in the co-creation workshop. Later, the package was put together in visual form by using the Canva Pro platform.

The package includes 6 sections. Each of the sections is formatted in a way, that can be used in multiple different ways. The entire model can be either printed out to a file or laminated as information cards, that can be used to help the staff and the client to understand the flow of the referral chain. In addition, the most important or needed pages can also be printed out in poster format. These posters can be stuck to the wall of the clinic or notice board.

The model can also be used for staff training. Pages can be presented as slides, and the content can be gone through together with the team.

9.2 Referral Form

In addition to the slide package, a new and optimized referral form (see Appendix 5) was created for HSH Health Clinic. The form is branded according to the organization's brand. It includes Home Street Home’s logo, contact details, and brand colors. The form is fitted into one page, and it should be filled by the healthcare provider.

The content of the form was taken directly from the results of the research study. The form includes information that the healthcare workers believed was important to know while receiving a referred patient. It includes the biography of the patient: name, date of birth, gender, address, phone number, name of next of kin, and medical history. Medical history includes chronic conditions, allergies, and other essential background information.

After the biography, the form focuses on the referral. It covers the current condition and vital signs, reason for referral, working diagnosis, the examination done and results of the examination, and lastly, medication or other treatment given.

At the end of the form, both the patient and the healthcare worker will sign. Also, the facility stamp will be added.

9.3 Awareness Poster

During the co-creation workshop, the group discussed a lot about how to guide the patients in the referral process. Due to the need for proper guidance materials, first, an additional section was added to the slide show. Visual guidance board includes simple images that can be used while explaining to the patient or next of kin, how to move on with the process. Secondly, an awareness poster was designed (see Appendix 6). The content of the poster is a combination of findings from the research and discussions from the co-creation workshop. The poster was then visualized by using a Canva Pro license. The poster is created in a simple and colorful format. Ideally, the poster could be placed in a waiting area where patients have time to read. In addition, the poster can also be used as a support tool while giving guidance to the patient or next of kin. Later on, the team of Home Street Home will translate the poster into Swahili and possibly other tribal languages as well.

10 ETHICAL PERSPECTIVES AND TRUSTWORTHINESS

The study was implemented in two parts: the research part and the development part. The relationship between development work and research goes hand in hand: in the development practice, there is an increasing demand for better knowledge and updated approaches to development. (Mikkelsen. 2004.)

The research and development study was implemented by using qualitative research methods. The qualitative research method was selected since it is used to find answers to questions that seek answers that are usually not numerically measurable. These kinds of questions can be about experiences and perspectives. (Hammarberg, Kirkman, de Lacey. 2016.) In this study, the use of qualitative methods was an obvious choice. The qualitative method helped to find a description of the challenges around the referral chain.

Before starting the process of the research part of the study, I reflected on my role as an insider of the Home Street Home organization. Since the research was not focusing on the organization itself, but an activity with which the organization is associated, my role as insider was not affecting the study negatively, but rather bringing positive impact as it opened easier access to the discussions with the participatory facilities. It was easier to approach the facilities since I had a clear link to an organization that was familiar for many healthcare workers.

The research part of the study was implemented by using semi-structured surveys which were pre-tested in HSH Health Clinic. Survey questions were formulated to respond to the research questions. In addition, the findings of previous studies and governmental guidelines were used to formulate surveys. Both surveys were tested in scale trials, before actual data collection. During the trial, survey questions were modified and developed further to respond clearly to the research questions.

Before collecting the answers, all participants were informed about the use of the surveys. A full explanation about the purpose and aim of the study was given,

before asking for the willingness and consent of the participants. When participants gave their informed consent, they declared that they were informed of the purpose and intent of the research. They also declared that they were not pressured into participating. (Morina. 2020.)

The data collection was based on voluntary participation. All participants had the freedom to participate or not without any pressure. (Leung. 2015.) The study was implemented with high respect for anonymity. If the participants wanted to leave his or her contact, they had a chance to do it, but it was optional. Otherwise, all data was anonymous.

After data collection, the report was written confidentially and respecting anonymity. None of the participants will be recognized through the published report. After the publication, the collected data was destroyed.

In this study reliability and validity were assessed throughout the process. In the next chapters, I evaluate the reliability and validity of the research and development study. Reliability and validity are evaluating the quality and trustworthiness of the research. They can measure how well or badly the research methods are used. Validity in qualitative research means, that the results of the research are factually correct and answer the questions of the research. (Leung. 2015.)

10.1 Reliability

During the data collection, I was afraid that the gained data was not enough to draw conclusions and find patterns. However, as I started my analysis, I realized that the responses were similar to each other and there were similar notices that especially the healthcare workers had made. The data had clear patterns and repetition in answers which supports the credibility of the study.

All collected survey answers were combined into one Excel document. By combining all the answers, I was able to analyze the data from an objective point of view, since I did not know whose answers, I was reading. The Excel document

was analyzed from multiple angles by filtering the data. With different filtering techniques, the answers were still repetitive and similar to each other.

The confirmability of the study was ensured by presenting the findings transparently and by providing detailed information about the data collection process and quotations of the survey answers.

10.2 Validity

The validity of the study can be determined by assessing how well the study responds to the research questions (Morina. 2020). The study aimed to understand the challenges of the referral chain in Kwale County. The survey's answers gave direct answers to the research questions.

The results of the study are very close to the participants' survey answers. The selected themes were directly taken from the survey answers. The answers of the participants were not modified. This means that the study had a low-inference descriptor which increases the interpretive validity of the research. (Morina. 2020.)

Peer reviewing the entire process of the study supported dependability. The study was supervised by thesis supervisors and the process was reviewed by peer students in regular seminars.

11 CONCLUSION

The purpose of the study was to learn more about referral system challenges in Kwale County and create a new referral chain model and guidelines for HSH Health Clinic. The aim was to improve the referral and follow-up care in the area in referral levels 1 & 2 in community health programs. Learning more about the challenges and vulnerabilities in the healthcare referral chain has shown the critical part the referral system plays in individuals' health. Furthermore, in the context of rural health, the part enlarges. In a context where poverty often forces people to seek healthcare services late, where the transportation system is unreliable, and where the healthcare system is still lacking common guidelines, the ideal outcomes of the care are not ensured. When a person from a vulnerable background is seeking help from the healthcare sector, an unstable referral chain can cause severe outcomes.

Unquestionably, the topic is important. Eventually, the referral chain affects directly every person's life. In the optimal situation, a strong and effective referral chain can save a life. On the other hand, as the results show, a vulnerable referral chain can have deathly outcomes. As the topic is extremely important, it is also at the same time-sensitive: looking into the performance of government facilities and their workers, can be challenging. Especially in countries where the public sector is not yet open to criticism, it can be difficult to collect truthful data. However, I am glad that I was able to reach out to respondents who, to believe, responded frankly to the survey.

Multiple other frameworks can be used to assess the quality of care. However, Donabedian's quality framework model continues to be a dominant tool in healthcare quality assessment studies. It enabled me to assess the quality of care from three levels: structures of healthcare, processes of patient care, and outcomes. I could not find another research study that has previously used Donabedian's model to assess the quality of the referral chain. However, Donabedian's model is flexible, which makes it possible to adjust it to the needs of the research. I found the model easy to use and potential even for larger amounts of data. In

addition, as a visual learner and person who prefers to see things in images, I found it very useful to be able to visualize processes in Donabedian's table.

The collaboration with Home Street Home and particularly HSH Health Clinic was easy and practical. I got a chance to discuss the progress or possible challenges whenever it was essential. It was useful to be able to discuss and brainstorm together in different stages of the study. HSH Health Clinic team was always ready to give support. The clinic staff has taken the first version of the new referral chain model, referral form, and awareness poster to use to be tested and if essential, further developed. Later on, the organization will be sharing the model with other level 1 or 2 healthcare providers in the area.

The entire process of implementing the study and writing the report has not only taught me more about the referral chain but also, more about how to successfully implement research and development work. I learned more about data collection and analysis, and same time, it helped me to understand how different findings can be then used in practice in the development part of the study. Also using a framework model as a base of the process was not only useful for the study itself but also a valuable learning experience for me. Also, writing the report has improved my skills in academic writing in English. When I reflect on the process and my personal and professional growth during the period, I am glad for the progress.

12 RECOMMENDATIONS

I believe that the constantly changing world, significant infrastructural projects in Kenya, and the rapidly developing healthcare sector will ensure that shortly, the referral chain will take a step to another level also in Kwale County. It is the right time to develop and improve existing systems. Engaging patients and seeing patients as an important key factor is crucial when developing healthcare services. However, well-designed, and planned interventions to improve patient engagement are not yet fully established. The role of the clients, the patients, is often left to a level where the client is seen as a passive and non-participating actor. To be able to set innovations in healthcare, we must understand patients' experiences, priorities, and expectations. (Graffigna et al. 2015.)

To move ahead, we need to turn our heads toward reliable and effective referral chains and patient care. Therefore, I have listed recommendations that can be used as an inspiration for future research and development studies or projects. Most of the recommendations can be used or their relevance can be assessed also in other similar contexts of rural health.

1. **Referral chain model testing, evaluation, and re-development:** In the future, I wish that the new referral chain model will be tested, and the testing will be evaluated. The evaluation can be implemented, for example, by using Donabedian's model. Possibly, later the model can be re-developed and potentially copied into other small-scale health facilities that are working in similar environmental contexts.
2. **Focused research on the role of community health volunteers:** I was unable to collect enough data to analyze the role of community health volunteers in the referral chain, but as it is elaborated in my findings as well, there is a need for further research and understanding of how the work of the CHV's could be implemented, coordinated and supported well in the rural villages.
3. **Common communication and patient data system:** The healthcare respondents suggested multiple different solutions to improve the current

system. It was suggested that a common communication platform and a common patient data system, could make the collaboration between facilities and healthcare workers easier, and at the same time, it could reduce the risks of double medication or double examinations.

4. **Healthcare facility and service mapping:** Another recommendation is to map all the facilities and their offered services into one common platform. This could be a simple webpage, where patients and healthcare workers could easily search for where to find the needed service. At the moment most of the facilities do not exist online.
5. **Community awareness about the referral chain:** Another suggestion that was raised from both, patients, and healthcare workers' surveys, was a need for community awareness and patient education about the referral chain. This could be integrated into existing community awareness campaigns or mobile clinic programs, where many people are met at once. One healthcare worker also described the idea of having referral chain posters in every facility. Explaining the referral chain procedures to the patients could make it easier for them to follow the chain and potentially it could reduce the risk of patients dropping out of the chain.
6. **The role of community health volunteers in the referral chain:** As my study focused on finding the vulnerabilities in the referral chain in Kwale County, originally, I also had the aim to investigate the role of community health volunteers in the referral chain process and one of my research questions was focusing on the CHV's. However, I did not get enough data to conclude it. I also noticed that it is a large area to investigate, and it needs separate research, to be fully understood. I also learned that gathering data from the patients and facility workers is not enough in this matter: it is important to interview the CHVs themselves. I recommend this for the future, hence the role of the CHVs could be improved and there is a possibility to strengthen the referral chain and rural healthcare in general, through the community health volunteers.

> We must work with them (CHVs) because they will help us get firsthand information or updates on whatever is happening in the community even before we get some information/complaints from

> patients on a certain health issue eg outbreak of a certain disease. (B13)

Many health workers responded that the CHVs have an important role, but it is not well coordinated, and no one seems to know what their responsibility is or what can the healthcare workers expect from them. Out of the 8 level 2 facilities that responded to the surveys, only one of them responded that they do work with CHVs, even though according to the government's guidelines, the CHVs are acting as an important link between the lower-level facilities and communities.

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APPENDIX 1. Survey A questions

1. Gender
    a. Woman
    b. Man
    c. I prefer not to say
2. Age
    a. 18-29
    b. 30-39
    c. 40-49
    d. 60-69
    e. >70
3. Are you
    a. Patient
    b. Guardian/parent of a patient
4. What is your profession/occupation?
5. In which health facility is this survey filled?
6. Can you describe shortly the reason for your seeking health care services?
7. Is this your first time to seek help for this particular problem?
8. Who did you meet today?
    a. Community health volunteer
    b. Nurse
    c. Clinical Officer
    d. Doctor
    e. Cashier/receptions
    f. Other healthcare workers
    g. I don’t know
9. Did the referring facility give you a referral letter or other information to give to the next facility?
    a. Yes
    b. No
    c. I don’t know
10. If yes, can you specify what kind of letter/information was shared?
11. Reason for referral

a. I need to consult a specialist which specialist do you need which hospital/facility you can find the specialist?
    i. Are you able to cover the cost of the consultation and possible treatment?
        1. Yes
        2. No
        3. I don’t know
    ii. If no, what are you going to do next?
b. I need further examination (lab, test, x-ray…)
    i. What kind of service do you need? (lab, scanning...)
    ii. Where do you get the service you need?
    iii. Are you able to cover the cost of the examination? (lab, scan..)
        1. Yes
        2. No
        3. I don’t know
    iv. If no, what are you going to do next?
c. Lack of essential materials/medicines
    i. Which materials/medicines you missed in the current/previous facility?
d. Other (please specify)

12. Did someone explain to you the steps of the referral? (where to go next, who to meet, what to do...)
    a. Yes
    b. No
13. If yes, which information you were given?
14. When you arrived at the referred facility, were your documents (or possible referral letter checked?)
    a. Yes
    b. No
    c. I don’t know
    d. Not applicable
15. Did you go through the same tests (lab, scans, other examinations..) twice?

a. Yes
b. No
c. I don’t know
d. Not applicable

16. Were you given medicine or a prescription in both facilities?
    a. Yes
    b. No
    c. Not applicable
17. Were you told to return to the first facility, Yes
    a. No
18. How did you arrive at the facility?
19. Did the transportation cost you something? How much?
20. Are you able to proceed to the next facility, in case you are referred?
21. Were you satisfied that you got referred?
    a. Yes
    b. No
22. If no, why?
23. Were you happy with the service?
    a. Yes
    b. No
24. If no, why?
25. What is your overall satisfaction with the referral system?
26. How would you improve the referral system in general?
27. Any other additional information, comments, or feedback you wish to give
28. OPTIONAL: If you are available for possible extra interview, please leave your name and phone number here

APPENDIX 2. Survey B questions

1. Name of the facility
2. This facility is ... health service provider
    a. Level 1
    b. Level 2
    c. Level 3
    d. Level 4
    e. Level 5
    f. Level 6
    g. I don’t know
3. I am
    a. Community health volunteer
    b. Nurse
    c. Clinical Officer
    d. Doctor
    e. Cashier or receptionist
    f. Other healthcare worker
4. What is your area of work?
5. How many patient referrals do you process (in your facility) in one month?
    a. Less than 10
    b. 10-50
    c. 50-100
    d. More than 100
    e. I don’t know
6. What are the common reasons for referral in your facility?
    a. Need for specialist consultation
    b. Need of further examination (lab, scanning…)
    c. Lack of essential materials/medicines
    d. Other (please specify)
7. Can you describe how normal referral procedure works in your facility?
8. Does your facility have referral chain guidelines? If yes, is the staff trained in how to follow them? If yes, how?

9. Does your facility use referral slip/letter or other kind of referral document while referring patients to another facility?
    a. Yes
    b. No
    c. I don't know
10. How many patient referrals do you receive (in your facility) in one month?
    a. None
    b. Less than 10
    c. 10-50
    d. 50-100
    e. More than 100
    f. I don't know
11. Are referred patients normally coming with information (letter/note) from the sending facility? If yes, what kind of information is included?
12. What kind of information do you wish to receive from the sending facility?
13. Are you doing follow-ups for the patients you have referred to other facilities?
    a. Yes
    b. No
14. Do you normally communicate with the sending or receiving facility? If yes, how? Do you for example use a feedback form?
15. If you do follow-ups, how do you record them?
16. Is your facility working with community health volunteers?
    a. Yes
    b. No
17. If yes, how?
18. How the participation of the CHVs could be improved?
19. List three most significant challenges you have experienced while working with referrals.
20. What are the most significant negative effects that the referrals are causing? (To the patient or the facility)
21. Have you ever experienced any of the following situations? (During the referral process)

a. The patient doesn't have a referral letter, or the letter/document is unclear.
b. No communication between the sending and receiving facilities
c. Patient not knowing which service she/he needs
d. Patient being examined or tested twice due to the lack of provided patient data from the sending organization
e. Patient having unclear instructions from the sending organization
f. Receiving organization doesn't use the provided referral information
g. Patient complains
h. Patient being referred to the wrong facility
i. Patient getting double prescription or medicine (one in sending facility, and one in receiving)
j. Patient does not follow the referral
k. No follow-up made from sending facility
l. Other (please specify)

22. How could the referral chain be improved?
23. Do you know what is the healthcare referral strategy set by the Ministry of Health?
    a. Yes
    b. No
24. If yes, where and how have you learned about it?
25. Is your facility following the strategy?
    a. Yes
    b. No
26. If no, why?
27. If yes, how?
28. Any other additional information, comments, or feedback you wish to give
29. OPTIONAL: If you are available for possible extra interview, please leave your name and phone number here

APPENDIX 3: Survey Pre-Testing Results

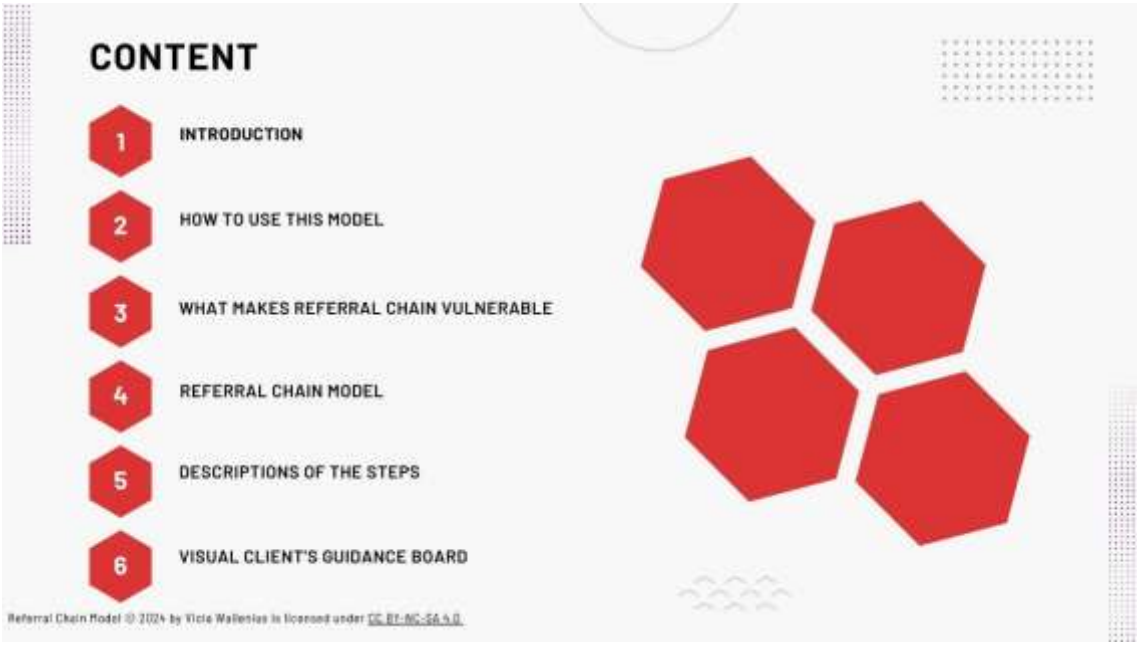
Survey A pretesting

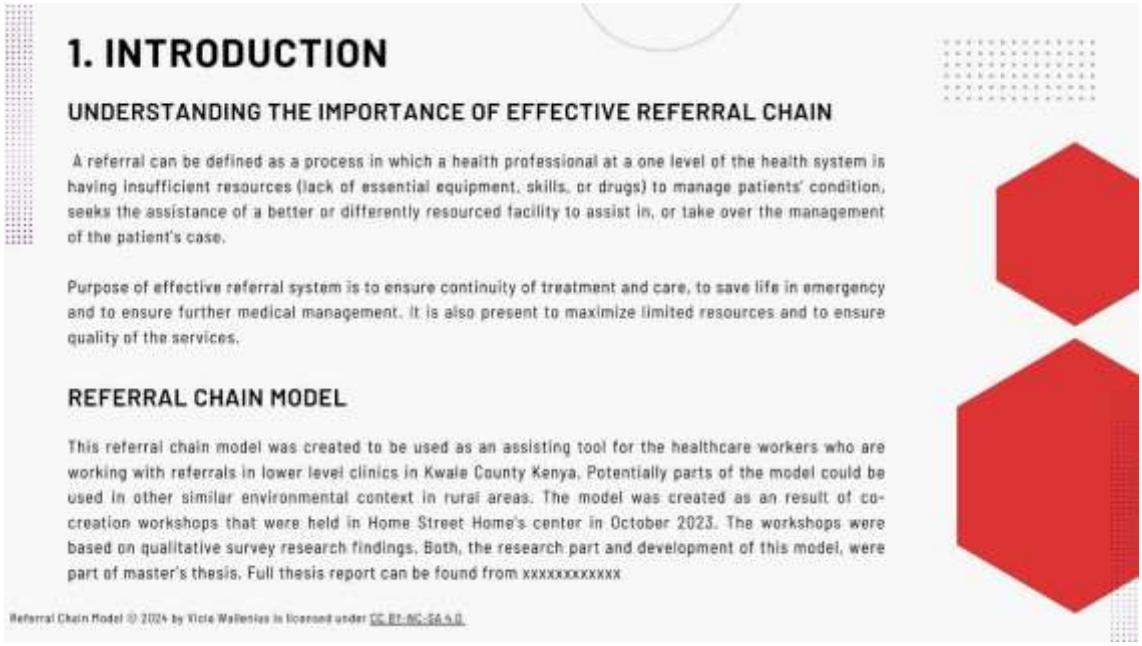
	Were the survey questions easy to understand?	Was the survey too long?	Was there something missing from the survey?	How would you improve the survey?
Patient A	For me yes.	No.	No.	Translator for those who cannot understand English.
Patient B	Yes, but maybe not for those who have not studied.	No.	No.	Bigger screen or questions on a paper to make it easier to read/write.
Patient C	Yes.	No.	No.	Someone to explain in Kiswahili

Survey B pretesting

	Were the survey questions easy to understand?	Was the survey too long?	Was there something missing from the survey?	How would you improve the survey?
Healthcare worker A	Yes.	No.	No.	It is good.
Healthcare worker B	Yes.	No.	No.	Nothing.
Healthcare worker C	Yes.	No.	No.	-
Healthcare worker D	Yes.	Yes too long.	No.	It takes a long time to fill. Nurses are busy.
Healthcare worker E	Yes.	No.	No.	-
Healthcare worker F	Yes.	No.	No.	Nice work.
Healthcare worker G	Yes.	No.	No.	A paper version would be better.
Healthcare worker H	Yes.	No.	No.	You will get more answers if you have them on paper.
Healthcare worker I	Yes.	No.	No.	Nothing.
Healthcare worker J	Yes.	No.	No.	-
Healthcare worker K	Yes.	No.	No.	It would be easier to fill on paper.
Healthcare worker L	Yes.	No.	No.	-

APPENDIX 4. HSH Referral Chain Model





1. INTRODUCTION

UNDERSTANDING THE IMPORTANCE OF EFFECTIVE REFERRAL CHAIN

A referral can be defined as a process in which a health professional at a one level of the health system is having insufficient resources (lack of essential equipment, skills, or drugs) to manage patients' condition, seeks the assistance of a better or differently resourced facility to assist in, or take over the management of the patient's case.

Purpose of effective referral system is to ensure continuity of treatment and care, to save life in emergency and to ensure further medical management. It is also present to maximize limited resources and to ensure quality of the services.

REFERRAL CHAIN MODEL

This referral chain model was created to be used as an assisting tool for the healthcare workers who are working with referrals in lower level clinics in Kwale County Kenya. Potentially parts of the model could be used in other similar environmental context in rural areas. The model was created as an result of co-creation workshops that were held in Home Street Home's center in October 2023. The workshops were based on qualitative survey research findings. Both, the research part and development of this model, were part of master's thesis. Full thesis report can be found from xxxxxxxxxxx

2 HOW TO USE THIS MODEL


2
HOW TO USE THIS MODEL
PRINT IT OUT
By printing this model, you can either create a file or laminated information cards, that can be used to help the staff and the client to understand the flow of the referral chain.
USE AS MINI POSTERS
You can pick pages that are important to you and print them out in poster format. These posters can be stickied to the clinic wall or notice board.
TRAIN YOUR TEAM
This model can be used for staff training. Pages can be presented as presentation slides, and the content can be gone through together.
VIZUALIZE THE PROCESS TO YOUR CLIENT
Use the model to visualize the process to your client. The sixth section of the model is created with simple icons, that can be used as supporting tool while guiding the patient in the referral process.
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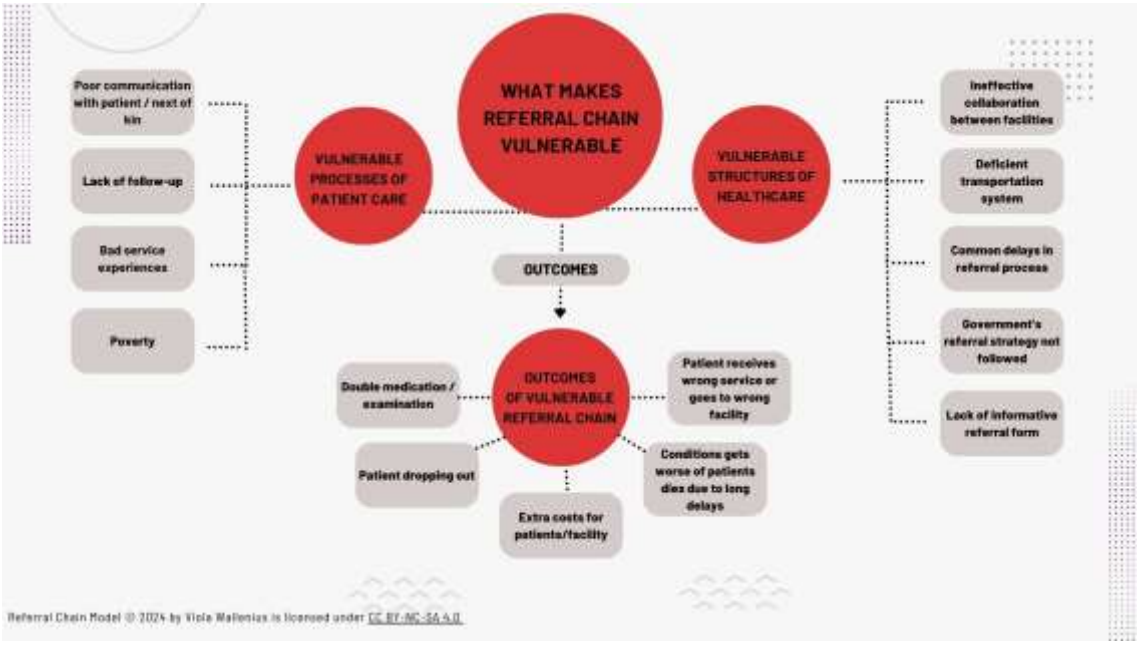
3
WHAT MAKES REFERRAL CHAIN VULNERABLE


WHAT MAKES REFERRAL CHAIN VULNERABLE
VULNERABLE PROCESSES OF PATIENT CARE
VULNERABLE STRUCTURES OF HEALTHCARE
Poor communication with patient / next of kin
Lack of follow-up
Bad service experiences
Poverty
Ineffective collaboration between facilities
Deficient transportation system
Common delays in referral process
Government's referral strategy not followed
Lack of informative referral form
OUTCOMES
OUTCOMES OF VULNERABLE REFERRAL CHAIN
Double medication / examination
Patient receives wrong service or goes to wrong facility
Patient dropping out
Conditions gets worse of patients dies due to long delays
Extra costs for patients/facility
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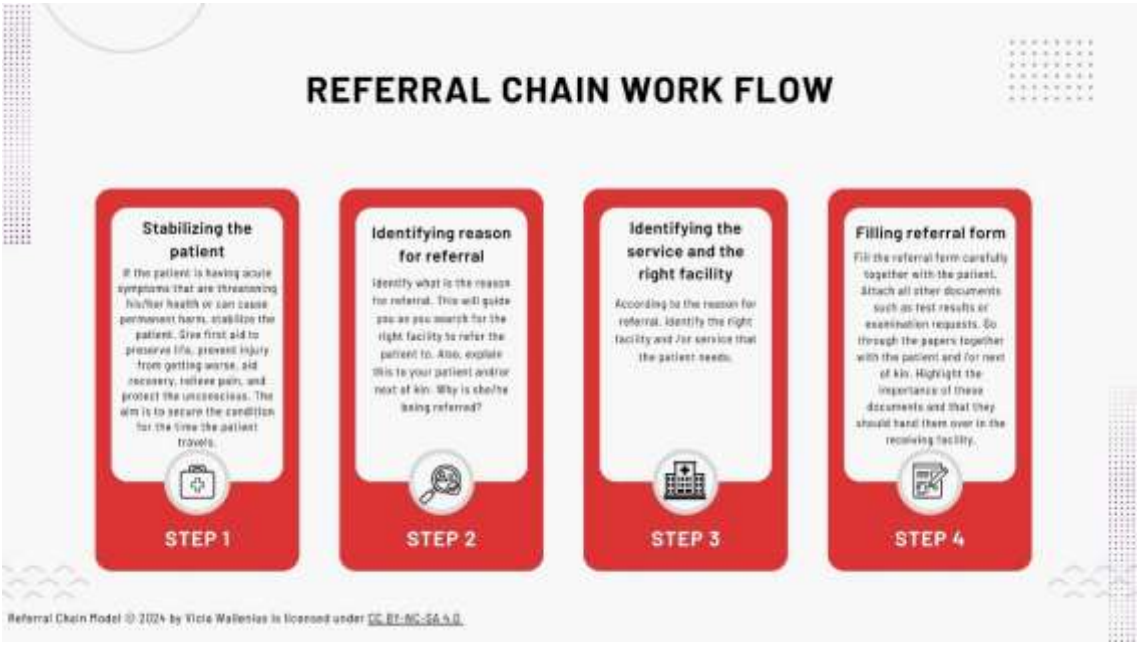
4
HSH HEALTH CLINIC
REFERRAL CHAIN MODEL


REFERRAL CHAIN WORK FLOW
Stabilizing the patient
If the patient is having acute symptoms that are threatening his/her health or can cause permanent harm, stabilize the patient. Give first aid to preserve life, prevent injury from getting worse, aid recovery, relieve pain, and protect the unconscious. The aim is to secure the condition for the time the patient travels.
STEP 1
Identifying reason for referral
Identify what is the reason for referral. This will guide you as you search for the right facility to refer the patient to. Also, explain this to your patient and/or next of kin. Why is she/he being referred?
STEP 2
Identifying the service and the right facility
According to the reason for referral, identify the right facility and /or service that the patient needs.
STEP 3
Filling referral form
Fill the referral form carefully together with the patient. Attach all other documents such as test results or examination requests. Go through the papers together with the patient and /or next of kin. Highlight the importance of these documents and that they should hand them over in the receiving facility.
STEP 4
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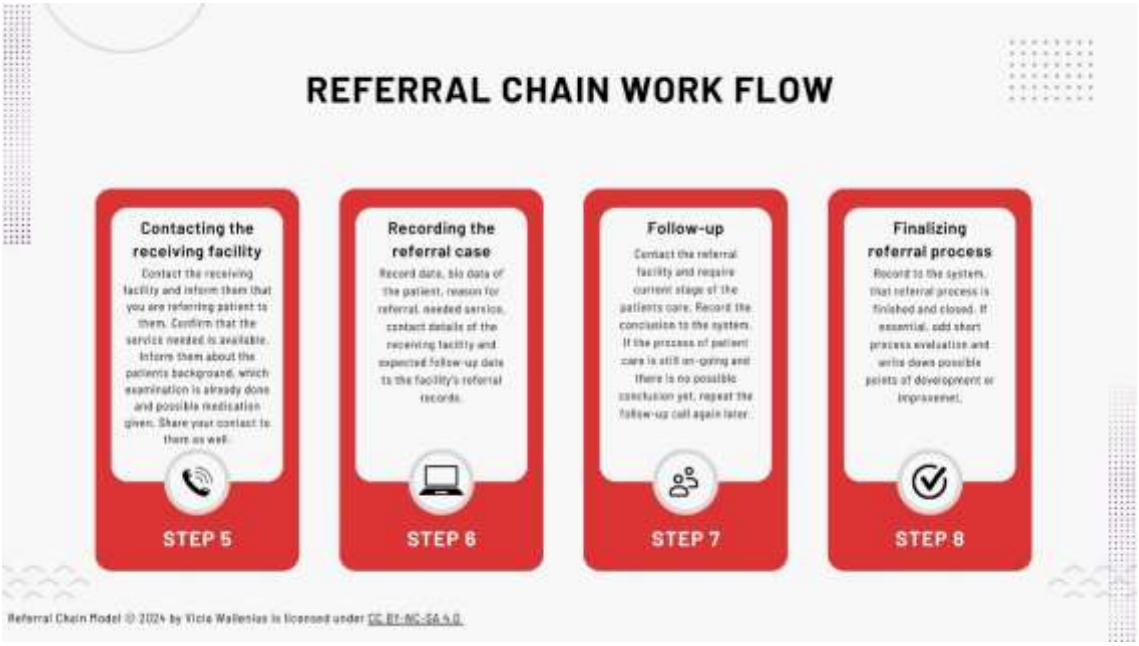
REFERRAL CHAIN WORK FLOW
Contacting the receiving facility
Contact the receiving facility and inform them that you are referring patient to them. Confirm that the service needed is available. Inform them about the patients background, which examination is already done and possible medication given. Share your contact to them as well.
STEP 5
Recording the referral case
Record data, bio data of the patient, reason for referral, needed service, contact details of the receiving facility and expected follow-up date to the facility's referral records.
STEP 6
Follow-up
Contact the referral facility and require current stage of the patients care. Record the conclusion to the system. If the process of patient care is still on-going and there is no possible conclusion yet, repeat the follow-up call again later.
STEP 7
Finalizing referral process
Record to the system, that referral process is finished and closed. If essential, add short process evaluation and write down possible points of development or improvement.
STEP 8
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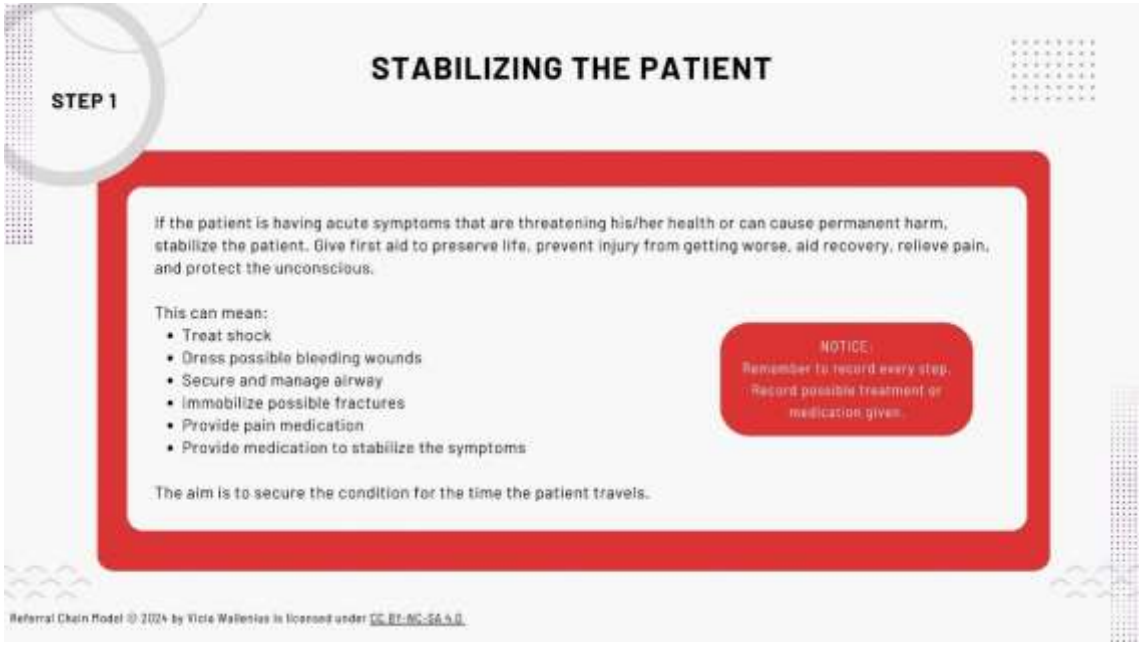
5
DESCRIPTIONS OF THE STEPS


STEP 1
STABILIZING THE PATIENT
If the patient is having acute symptoms that are threatening his/her health or can cause permanent harm, stabilize the patient. Give first aid to preserve life, prevent injury from getting worse, aid recovery, relieve pain, and protect the unconscious.
This can mean:
• Treat shock
• Dress possible bleeding wounds
• Secure and manage airway
• Immobilize possible fractures
• Provide pain medication
• Provide medication to stabilize the symptoms
The aim is to secure the condition for the time the patient travels.
NOTICE:
Remember to record every step.
Record possible treatment or medication given.
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STEP 2

IDENTIFYING REASON FOR REFERRAL

Identify what is the reason for referral. This will guide you as you search for the right facility to refer the patient to. Reason for referral can be need for specialist consultation, need of extra examination such as lab test or scanning or need of other unavailable service or medication. Reason for referral can also be situation where the facility does not have enough resources to provide services to the patient. This can be for example when the facility is full.

Remember to explain this to your patient and/or of kin:

- Why is she/he being referred?
- Why is it not possible to treat him/her here?

STEP 3

IDENTIFYING THE SERVICE AND RIGHT FACILITY

According to the reason for referral, identify the right facility and /or service that the patient needs. Needed service can be for example:

- Lab test
- Scanning: x-ray, CT-scan, MRI
- Specialist consultation
- Other, what?

According to the service, identify the right facility. Consider also what is possible for the patient. Consider:

- Distance to the facility
- Prices and affordability
- Patient's current condition

STEP 4

FILLING REFERRAL FORM

Fill the referral form carefully together with the patient. Sign the document and add the stamp of the clinic. Attach all other documents such as test results or examination requests.

Go through the papers together with the patient and /or next of kin. Highlight the importance of these documents and that they should hand them over in the receiving facility.

STEP 5

CONTACTING RECEIVING FACILITY

Contact the receiving facility and inform them that you are referring patient to them. If it is acute situation, tell them that the patient will be arriving soon. If it is not urgent case, book appointment to your patient.

- Confirm that the service needed is available.
- Confirm from which department/building the service can be found and who is the right person to look for. If available, ask for the contact of the exact person in charge.
- Inform them about the patients background, which examination is already done and possible medication given.
- Inform them that you have filled a referral form and the patient will be bringing it.
- Share the clinic contact and ask them to update you once the patient has been registered in theif facility.
- Confirm which contact you can use for follow-up later on.

NOTICE:
Keep updating your own contact list everytime you refer patients.

STEP 6

RECORDING THE REFERRAL CASE

Record date, bio data of the patient, reason for referral, needed service, contact details of the receiving facility and expected follow-up date to the facility's referral records.

TABLE EXAMPLE:

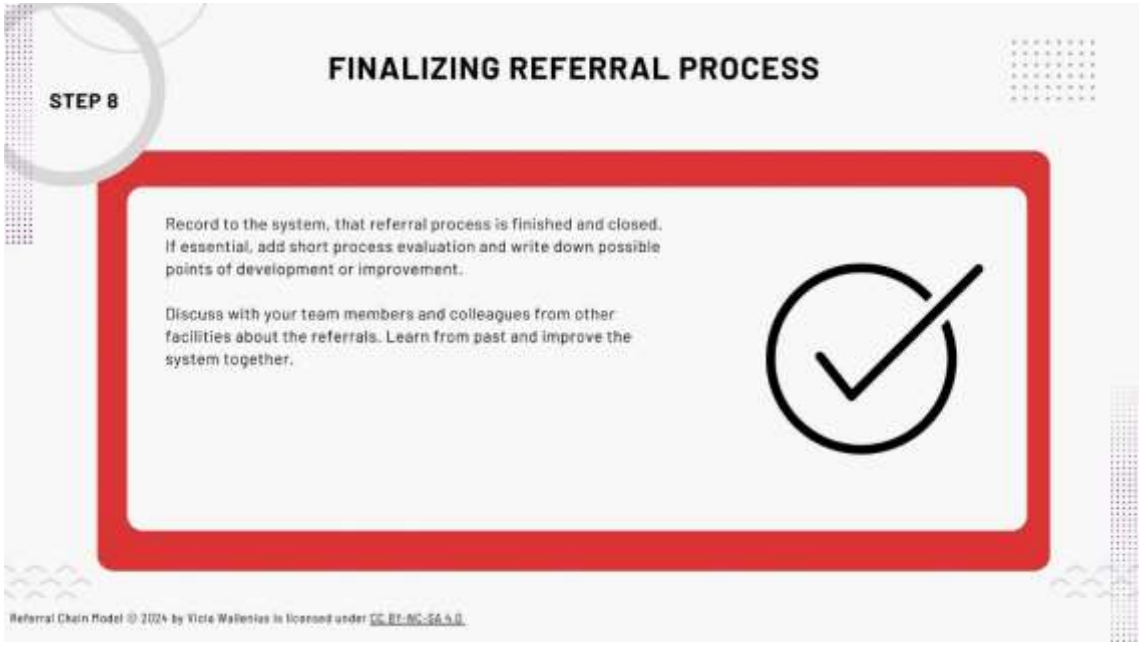
REFERRAL DATE	NAME OF THE PATIENT	CONTACT OF THE PATIENT	REASON FOR REFERRAL	SERVICE NEEDED	RECEIVING FACILITY AND CONTACT	FOLLOW-UP DATE	CONCLUSION (CLOSING THE CASE)

STEP 7

FOLLOW-UP

Contact the referral facility and require current stage of the patients care. Record the conclusion to the system.

If the process of patient care is still on-going and there is no possible conclusion yet, repeat the follow-up call again later.


STEP 8
FINALIZING REFERRAL PROCESS
Record to the system, that referral process is finished and closed. If essential, add short process evaluation and write down possible points of development or improvement.
Discuss with your team members and colleagues from other facilities about the referrals. Learn from past and improve the system together.
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6
LIST OF FACILITIES, SERVICES AND CONTACTS

LIST OF FACILITIES & CONTACTS

NAME OF THE FACILITY	CONTACTS	SERVICES OFFERED

LIST OF FACILITIES & CONTACTS

NAME OF THE FACILITY	CONTACTS	SERVICES OFFERED

LIST OF FACILITIES & CONTACTS

NAME OF THE FACILITY	CONTACTS	SERVICES OFFERED

6

VISUAL CLIENT'S GUIDANCE BOARD


STEP BY STEP GUIDANCE BOARD
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REASON FOR REFERRAL
Need of specialist consultation
Need of further examination (Lab, scanning...)
Other, what?
TRANSPORTATION
RECEIVING FACILITY
REFERRAL FORM & OTHER PAPERWORK
SERVICE NEEEDED
Laboratory test
Scanning (X-ray, CT, MRI)
Specialist consultation


HOME
STREET
HOME

APPENDIX 5. Referral Form

HOME STREET HOME
HOME STREET HOME HSH HEALTH CLINIC

REFERRAL FORM

DATE : _____

PERSONAL INFORMATION :

Name :

Date of Birth : ☐☐ / ☐☐ / ☐☐ Gender : ☐ Male ☐ Female

Address :

Phone Number : Next of kin:

MEDICAL HISTORY: (Chronical conditions, allergies, other essential background information)

INFORMATION ABOUT THE REFERRAL:

Current condition and vital signs:

Working diagnosis / reason for referral:

Examination done and results:

Medication or other treatment given:

TERM AND CONDITION :

- I confirm that all the information provided in this medical form is accurate and complete to the best of my knowledge.
- I understand that this information will be used to provide medical care and will be kept confidential.

_____
Signature of the patient

_____
Signature of the healthcare worker

Stamp

Home Street Home - HSH Center - HSH Health Clinic - Makongeni village, Kinondo location

APPENDIX 6. Awareness poster