

APPLYING HCD TO UNDERSTAND CAREGIVERS AND PROVIDERS AND IDENTIFY CHALLENGES AND OPPORTUNITIES FOR IMPROVING NURTURING CARE FOR EARLY CHILDHOOD DEVELOPMENT PRACTICES IN SIAYA COUNTY, KENYA.

INTRODUCTION

This report presents the insights gained from a qualitative research study on the integration of nurturing care in healthcare services in Siaya County, Kenya. The research formed the second and third phases of our 4-D human-centered design process, which we have named “Define” and “Dream”.

During the "Define" phase of the process, we aimed to synthesize and analyze the data collected during the "Discover" phase to identify key themes and insights related to the integration of nurturing care in healthcare services in Siaya County. This phase involved a rigorous analysis of qualitative data from interviews, focus group discussions, and observations, to extract meaningful findings.

Through the analysis, several themes emerged that shed light on the current state of nurturing care in Siaya County. We gained a deeper understanding of the challenges faced by caregivers, healthcare workers, and community health volunteers in providing and receiving nurturing care. These challenges ranged from limited awareness and knowledge about nurturing care practices to resource constraints and competing priorities within the healthcare system.

Furthermore, we identified opportunities and potential solutions to enhance the integration of nurturing care in healthcare services. These opportunities included strengthening caregiver-provider communication and engagement, improving the availability and accessibility of information and resources on nurturing care, and enhancing the training and capacity-building of healthcare workers and community health volunteers.

Building on these insights, the "Dream" phase of our human-centered design process focused on ideation and co-creation. We engaged caregivers, healthcare workers, community health volunteers, and other stakeholders in creative brainstorming sessions to generate innovative ideas and potential solutions. These ideas were aimed at addressing the identified challenges and leveraging the opportunities for improving nurturing care practices in Siaya County.

FINDINGS

1. HEALTHCARE WORKER MOTIVATION

Healthcare workers (HCWs) in busy and crowded facilities often face a challenging workload while striving to deliver high-quality services to clients. Despite these difficulties, dedicating just five minutes of counseling can have a profound impact on reinforcing Nurturing Care for Early

Childhood Development (NCfECD) and supporting caregivers. Several factors serve as motivators for HCWs to invest extra time and effort in their interactions with clients.

Firstly, witnessing the improvement in children's health serves as a powerful motivator for HCWs. When they observe the positive outcomes of Nurturing Care practices and see children thriving as a result, it encourages them to persist in delivering these essential messages to caregivers. The tangible evidence of their work motivates them to continue their efforts.

“I love seeing a healthy child after health education on ECD”

-HCW, Siaya County

Secondly, adequate staffing plays a crucial role in enabling HCWs to dedicate more time to discussing Nurturing Care. When facilities have sufficient staff members, HCWs can allocate their attention more effectively and reduce multitasking. This leads to improved efficiency and the ability to focus on the critical task of counseling and reinforcing Nurturing Care practices.

Thirdly, rewards and recognition hold significant importance for HCWs. Being acknowledged and appreciated for their dedication through opportunities for career advancement, such as trainings, mentorship programs, promotions, and incentives, serves as a tangible demonstration of recognition and appreciation for their efforts. These incentives contribute to their motivation and job satisfaction.

Fourthly, regular trainings and job aids are essential for HCWs. Ongoing training sessions and on-the-job refreshers on NCfECD help HCWs stay informed and up to date on the subject matter. Access to Information, Education, and Communication (IEC) materials and posters within the facilities equips HCWs with effective tools for conveying Nurturing Care messages to clients and supporting behavior change.

“I would love some recognition from County officials for example promotion or training nomination”

-HCW, Siaya County

Fifthly, timely salaries and fair remuneration are vital factors in HCW motivation. Ensuring that HCWs receive their salaries promptly and are adequately compensated for their Nurturing Care work helps to foster motivation. It instills a sense of value and prevents potential demotivation that may arise from financial concerns.

Moreover, the fulfillment of purpose plays a significant role in HCW motivation. HCWs are driven by their commitment to ensuring children's growth and thriving. When they feel a sense of purpose and fulfillment in their role, particularly when they have developed a personal

interest in Early Childhood Development (ECD), they are motivated to dedicate extra time to their clients and promote Nurturing Care practices.

Furthermore, exchange visit programs offer valuable opportunities for HCWs to enhance their knowledge and skills. By visiting other facilities, they can learn from their peers, exchange ideas, and discover new ways to incorporate Nurturing Care messaging into their services. This exposure to different perspectives and practices fosters motivation and professional growth.

Lastly, the support from the administration plays a crucial role in motivating HCWs. When the administration provides adequate support and addresses the challenges faced by HCWs, they can work more effectively. This support includes recognizing the demands of their workload, providing assistance, and creating a supportive work environment. By addressing these factors, HCWs have more time and resources to focus on NCfECD matters and provide the necessary support to clients.

By considering and addressing the needs and motivations of HCWs through factors such as adequate staffing, recognition, trainings, fair remuneration, a sense of purpose, exchange visit programs, and administrative support, we can empower and motivate them to dedicate extra time to clients and reinforce NCfECD messaging. In doing so, HCWs contribute to the overall well-being and development of the community's youngest members.

2. THE UNIQUE RELATIONSHIP BETWEEN CHVS AND CAREGIVERS IN NCFECD COMMUNICATION

In the context of NCfECD communication, the role of Community Health Volunteers (CHVs) is particularly significant. Unlike Healthcare Workers (HCWs), who primarily interact with caregivers at the healthcare facility, CHVs have a distinct advantage of living in the same village as the caregivers they serve. This proximity fosters a deeper and more intimate level of knowledge and understanding of the caregivers and their families. As a result, caregivers often place a higher level of trust in CHVs compared to HCWs.

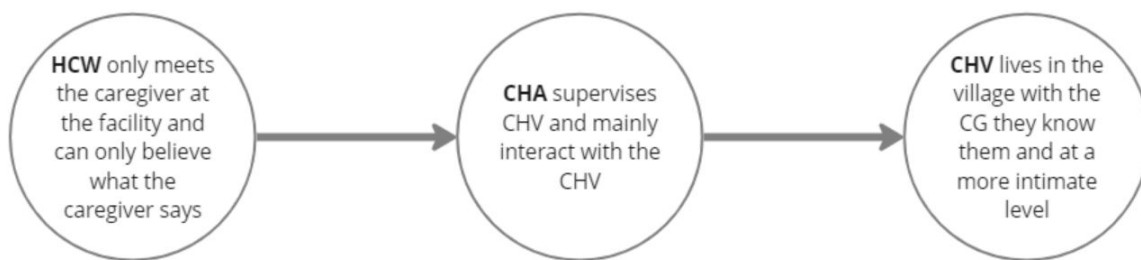
The close relationship between CHVs and caregivers enables a more effective exchange of information related to Nurturing Care practices. Caregivers feel comfortable sharing their concerns, challenges, and experiences with CHVs, knowing that they will be listened to and understood. CHVs, in turn, can provide personalized and context-specific guidance tailored to the specific needs and circumstances of each caregiver.

The trust and familiarity between CHVs and caregivers also contribute to better symptom recognition and disease awareness. Caregivers are more likely to openly discuss symptoms and seek advice from CHVs, knowing that they will be provided with accurate information and appropriate guidance. This can lead to early detection and timely intervention, reducing the risk of complications and promoting better health outcomes for caregivers and children.

Additionally, CHVs play a crucial role in supporting the supervision and mentorship of CHAs (Community Health Assistants) who oversee their work. Through regular interactions and feedback, CHVs provide valuable insights and observations from their direct interactions with caregivers, contributing to the overall improvement of the NCfECD program.

Overall, the unique relationship between CHVs and caregivers in NCfECD communication enhances the effectiveness and impact of the messaging. By living in the same village, CHVs establish trust, understanding, and a sense of community with caregivers, which facilitates open communication, knowledge sharing, and the successful implementation of Nurturing Care practices.

Figure 1: Differences between HCWs, CHAs and CHVs in Their Relationships with Caregivers



Responsibilities of a CHV

Community Health Volunteers (CHVs) play a crucial role in supporting healthcare delivery and promoting community health. They have various responsibilities that contribute to the well-being of individuals and families within their communities.

One of the responsibilities of a CHV is conducting Playbox Sessions. Playbox Sessions involve organizing interactive and educational activities for children that promote their overall development. CHVs facilitate these sessions, which may include play, storytelling, and engaging with toys or materials that stimulate children's cognitive, social, and emotional growth.

Assisting healthcare workers (HCWs) at the facility is another important task for CHVs. They provide support to HCWs in delivering services to clients. This can involve tasks such as assisting with registration, weighing children, distributing educational materials, or organizing the facility to ensure a smooth flow of clients.

Follow-up is an essential component of CHV responsibilities. After initial health talks or clinic visits, CHVs conduct follow-up visits or phone calls to monitor the progress of individuals and families. They check whether the recommended actions, such as adhering to treatment plans or practicing Nurturing Care for Early Childhood Development (NCfECD) behaviors, are being implemented. Follow-up ensures continuity of care and helps address any concerns or challenges faced by the community members.

Conducting Home Visits is another key responsibility of CHVs. They visit households within their assigned communities to assess the health status of individuals and families. During these visits, CHVs provide health education, promote healthy behaviors, and identify any health-related issues or needs. Home visits allow CHVs to tailor their interventions to the specific circumstances of each household, promoting personalized and effective care.

CHVs also participate in Group Learning and Engagement (GLE) sessions and health talks. GLE sessions involve bringing together community members to discuss health-related topics and participate in interactive learning activities. CHVs facilitate these sessions, providing information, answering questions, and promoting discussions on subjects such as nutrition, hygiene, family planning, or child development. Health talks are similar activities where CHVs deliver educational talks on specific health topics to community members, promoting awareness and empowering individuals to make informed health decisions.

Overall, CHVs are instrumental in bridging the gap between healthcare services and the community. Their responsibilities include conducting Playbox Sessions, assisting HCWs at the facility, conducting follow-up visits, conducting home visits, and facilitating GLE sessions and health talks. Through their efforts, CHVs contribute to improving community health outcomes and promoting a culture of preventive healthcare and NCFECD practices.

The vital work performed by Community Health Volunteers (CHVs) in ensuring the health and safety of pregnant mothers has resulted in a significant reduction in home deliveries and related complications. This achievement has led to a decrease in maternal and infant mortality rates within the community.

By actively engaging with pregnant mothers, CHVs play a critical role in promoting the utilization of professional healthcare services during childbirth. They educate expectant mothers about the importance of seeking skilled care from trained healthcare providers and accessing appropriate medical facilities for delivery.

Through their efforts, CHVs raise awareness about the potential risks and complications associated with home deliveries, emphasizing the need for a safe and controlled environment during childbirth. They provide information on the benefits of giving birth in healthcare facilities, where skilled healthcare professionals can provide timely interventions and emergency care if required.

CHVs also support pregnant mothers by providing guidance on prenatal care, including regular check-ups, proper nutrition, and adherence to recommended health practices. They encourage mothers to attend antenatal clinics, where healthcare providers monitor their well-being and identify any potential complications or risk factors.

Additionally, CHVs actively work to reduce barriers that may hinder access to healthcare facilities for pregnant women, such as geographical distance, financial constraints, and cultural beliefs. They assist in facilitating transportation arrangements, connecting mothers with

available resources, and advocating for the provision of affordable and accessible maternal healthcare services.

Through these interventions, CHVs have successfully contributed to a decrease in home deliveries within the community. By ensuring that pregnant mothers receive appropriate care in healthcare facilities, the risks of complications during childbirth are minimized, leading to improved maternal and infant health outcomes.

The reduction in home deliveries and associated complications has resulted in a decline in maternal and infant mortality rates. CHVs have played a significant role in achieving these positive outcomes by promoting the importance of professional care during childbirth, supporting pregnant mothers throughout their pregnancy journey, and advocating for access to quality healthcare services.

The dedicated efforts of CHVs in safeguarding the health and well-being of pregnant mothers have had a profound impact on the community. The reduction in maternal and infant deaths serves as a testament to the effectiveness of their work, highlighting the vital role CHVs play in ensuring safe and healthy pregnancies, and ultimately, in building stronger and healthier communities.

Challenges CHVs Face

Community Health Volunteers (CHVs) face various challenges in their role, which can impact their effectiveness and ability to carry out their responsibilities. Some of the challenges include:

1. **Workload:** CHVs often have multiple responsibilities and tasks, both at the facility and within the community. The workload can become overwhelming, leading to the attention of CHVs being diverted from important activities, such as maintaining and managing the Play box. When CHVs are overloaded with work, it can be challenging to prioritize and allocate time effectively.
2. **CHVs face challenges related to limited support,** which can impact their ability to carry out their duties effectively. Adequate support from supervisors, coordinators, and healthcare professionals is crucial for CHVs in fulfilling their responsibilities. When there is inadequate support or a lack of effective coordination, it can hinder the CHVs' ability to provide optimal care and assistance to the community. Therefore, establishing a supportive and collaborative relationship with the relevant stakeholders is essential for CHVs to overcome challenges, receive necessary guidance, and enhance their effectiveness in serving the community.
3. **Staff shortage at the facility:** When there is a shortage of healthcare workers, such as nurses, at the facility where CHVs operate, it can significantly impact the CHVs' work. The absence or limited availability of healthcare professionals can result in increased workload for CHVs, as they may need to take on additional responsibilities or cover gaps

in service delivery. This can strain their capacity and affect their ability to fulfill their duties effectively.

4. Lack of coordination and communication: Effective coordination and communication between CHVs and healthcare professionals are essential for the smooth functioning of the healthcare system. However, challenges in coordination and communication can arise, leading to miscommunication, delays in information sharing, and difficulty in accessing necessary resources or support. This can hinder the CHVs' ability to carry out their tasks and provide timely assistance to the community.
5. Lack of monetary incentives: CHVs often face challenges related to financial compensation or incentives for their work. In many cases, CHVs perform their duties on a voluntary basis or receive minimal financial support. The lack of monetary incentives can impact their motivation and commitment to their role, as they may struggle to sustain their livelihoods while dedicating their time and effort to community service. Providing appropriate financial support or incentives can help recognize the value of CHVs' contributions and ensure their continued engagement and effectiveness in delivering healthcare services.
6. Translation and dissemination of knowledge: One of the challenges faced by CHVs is effectively translating their knowledge and sharing it with caregivers and the community. While CHVs may possess the necessary knowledge and information, effectively conveying and disseminating this knowledge can be a hurdle. Communicating complex healthcare concepts in a simple and understandable manner, considering the cultural context and literacy levels of the community, can be a significant challenge. Finding innovative and culturally appropriate methods to deliver information and engage with caregivers is crucial to ensure the effective uptake and application of knowledge.

“we have the knowledge but how we take it out is the problem”

-CHV, Siaya County.

Overcoming this challenge requires investing in training and capacity building for CHVs, equipping them with effective communication and education techniques. It is essential to provide CHVs with the necessary tools, resources, and support to convey healthcare information accurately and in a way that resonates with caregivers. This can include developing visual aids, using local languages, incorporating storytelling or community-based education sessions, and leveraging digital technologies where feasible.

Furthermore, collaboration with healthcare professionals, educators, and community leaders can help bridge the gap between knowledge and its effective dissemination. By

working together and leveraging their respective expertise, stakeholders can develop innovative strategies and approaches to overcome the barriers in knowledge transfer.

In conclusion, while CHVs possess valuable knowledge, effectively sharing and disseminating this knowledge to the community can be a challenge. By investing in training, providing resources, and fostering collaboration, we can empower CHVs to effectively communicate healthcare information and improve the uptake of knowledge among caregivers. This will ultimately contribute to better health outcomes and behavior change in the community.

In summary, CHVs encounter various challenges that can affect their effectiveness in providing healthcare services. These challenges include workload, limited support, staff shortages at the facility, lack of coordination and communication, and inadequate monetary incentives. Addressing these challenges requires attention and collaboration from relevant stakeholders to ensure that CHVs receive the necessary support, resources, and recognition for their crucial role in the healthcare system. By addressing these challenges, we can create an enabling environment for CHVs to excel in their responsibilities and contribute to improved healthcare outcomes in the community.

How Household Visits are Determined

CHVs play a crucial role in conducting household visits within their assigned villages. They carefully map out the households in their area and create work plans to ensure that each household is visited at least once per quarter. However, certain households receive particular attention due to the vulnerable health status of their members.

CHVs prioritize households that include women of reproductive age, pregnant mothers, newborns, and children with developmental delays. These individuals require extra care and attention to ensure their health and well-being. Newborn babies, for example, need to be visited three times within the first seven days of their birth, with the first visit taking place within 48 hours.

For households with children under the age of five, CHVs ideally aim to visit them once a month, particularly during immunization periods, especially for children aged 0-2 years. However, these households are typically visited once every three months, with follow-up calls being made in between visits, unless there are specific health concerns or issues affecting the mother or child.

Although CHVs strive to maintain regular contact with households, their workload and limited resources may impact the frequency of visits. Nonetheless, their dedication to addressing the health needs of vulnerable individuals, especially reproductive-age women, pregnant mothers, newborns, and children, remains a priority.

3. THE MOTHER- CHILD HEALTH BOOKLET (MCHB)

Caregivers are typically given the mother- child health booklet (MCHB) during their first ANC (Antenatal Care) visit, which usually occurs around 4 months into the pregnancy. The issuance of the MCHB is dependent on its availability at the facility. During this visit, a health talk is conducted where various topics are covered, including nutrition, birth plans, child stimulation, proper use of nets, supplements, and hygiene.

In two different facilities, a systematic approach to caregiver education and support is implemented, focusing on the issuance of the mother- child health booklet (MCHB), evaluation of caregiver and child health, provision of relevant services and information, and scheduling return visits for continued engagement and monitoring.

Facility 1:

1. The caregiver is provided with the mother- child health booklet (MCHB) during their first ANC visit, which usually takes place around 4 months into the pregnancy.
2. A baseline evaluation, known as the Pre-Delivery Test (PDT), is conducted to assess the caregiver's health status and gather relevant information.
3. Nurturing Care (NC) profiling is performed to understand the caregiver's current caregiving practices and identify areas that require support or improvement.
4. The facility offers various services and information, such as the provision of mosquito nets, tetanus vaccinations, and health talks on topics like nutrition and birth planning, to cater to the caregiver's needs.
5. A return date is issued to the caregiver for their next visit, ensuring ongoing support and monitoring.

Figure 2: The process for issuing MCHB at Facility 1



Facility 2:

1. A plenary health talk is organized in Facility 2, where a group of caregivers gather to receive important information and guidance on various health-related topics.
2. Each caregiver is provided with the mother- child health booklet (MCHB), emphasizing its significance as a resource for tracking and managing their child's health and development.
3. Caregivers are directed to the facility's lab for necessary tests or screenings, which may be specific to their child's health or development.

4. One-on-one health talks are conducted with individual caregivers to provide personalized advice, address specific concerns, and offer tailored support based on their needs.
5. The caregiver is issued a return date for their next visit, ensuring a follow-up appointment to monitor progress and provide ongoing assistance.

Figure 3: The process for issuing MCHB at Facility 2



These processes exemplify a systematic approach to caregiver education and support in two different facilities. The issuance of the MCHB, evaluation of caregiver and child health, provision of relevant services and information, and scheduling of return visits all contribute to comprehensive and continuous engagement and monitoring of caregivers. By following these structured processes, healthcare workers and CHVs can effectively support caregivers in their journey of caregiving, promoting optimal maternal and child health outcomes.

CHVs Use of the MCHB

Community Health Volunteers (CHVs) primarily utilize the MCHB to check whether caregivers have attended ANC visits, taken their children for immunization, and monitored their weight. These areas are the focus of their training, and they may have limited knowledge about other sections of the booklet, such as the caregivers' input page or page 25.

Caregivers Use of the MCHB

The Mother- child health booklet (MCHB) holds significant importance in supporting caregivers' understanding and practice of essential maternal and child health information. However, there are certain limitations and misconceptions surrounding its use.

One challenge is the misconception among caregivers that the MCHB is primarily for healthcare professionals and not for their own use. This misconception, coupled with low literacy levels among some caregivers, can hinder their active engagement with the booklet. To address this, healthcare workers and CHVs should emphasize the value of the MCHB in supporting optimal care for their children. They should sensitively communicate to caregivers the importance of reading and comprehending the contents of the booklet. By addressing any misconceptions and reinforcing the use of the MCHB, caregivers can be encouraged to actively read and utilize it for gaining ECD knowledge.

Caregivers express a strong desire to learn from healthcare workers (HCWs) and Community Health Volunteers (CHVs) about the valuable information contained in the mother- child health booklet (MCHB). However, many caregivers do not regularly read the booklet and often perceive it as a mere "clinic card" used during facility visits. To address this, HCWs and CHVs play a vital role in educating caregivers about the significance of the MCHB and encouraging them to read it at home. By highlighting the wealth of information available within the booklet, including topics such as immunization schedules, growth monitoring, and developmental milestones, caregivers can better understand its importance for their child's health and well-being.

Why Caregivers Do Not Read the MCHB

There are several reasons why caregivers may not read the mother- child health booklet (MCHB), and addressing these barriers can help promote its efficient use.

1. Lack of awareness about the MCHB is a common obstacle. Caregivers are not fully informed about the booklet's purpose, content, and its potential benefits in supporting their child's health and development. Increasing awareness through education and communication campaigns can help caregivers recognize the value of the MCHB and encourage them to engage with its contents.
2. Low literacy levels among some caregivers pose a challenge in reading and comprehending the MCHB. Providing additional support and resources, such as simplified or translated versions of the booklet in local languages, can make it more accessible and user-friendly for caregivers with varying literacy levels.
3. Competing priorities and demands on caregivers' time can also limit their ability to dedicate time for reading the MCHB. It is essential to emphasize the importance of the booklet as a valuable resource that can positively impact their child's well-being. Additionally, integrating discussions and education on the MCHB during healthcare visits or home visits by CHVs can help reinforce its significance and encourage caregivers to prioritize its use.
4. Unsupportive partners or lack of involvement from family members can further hinder caregivers' engagement with the MCHB. Encouraging family participation and involvement in the child's healthcare can create a supportive environment where the MCHB is recognized as a shared resource for the family's benefit.
5. Caregivers' level of interest, attitude, and perception of the MCHB can also influence their reading habits. Some caregivers may not see the booklet as relevant or may have misconceptions about its content. Healthcare workers and CHVs can address these attitudes by actively promoting the benefits of reading the MCHB and providing personalized explanations on its relevance to their child's health and well-being.

How might we ensure the caregivers use the MCHB efficiently? To improve caregivers' engagement with the mother- child health booklet (MCHB), healthcare workers, and Community Health Volunteers (CHVs) can take several steps. First, CHVs can actively engage with mothers, raising awareness about the importance of the MCHB and explaining its contents and benefits. CHVs themselves can also benefit from having copies of the MCHB to enhance their knowledge and better educate caregivers. Additionally, providing translated versions of the MCHB in local languages can minimize language barriers and enable a wider range of caregivers to effectively use the booklet.

Furthermore, healthcare workers have observed that many caregivers do not express curiosity or seek to understand the information in the MCHB beyond the TCA or immunization sections. To address this, HCWs can assign caregivers "homework" to read specific sections of the MCHB, CHVs can guide and encourage caregivers to read the book, and sections of the book can be read and explained during health talks. Other strategies, such as creating mother clubs for ANC visits and presenting information from the book on screens at waiting areas in facilities, can also promote the effective use of the MCHB. Ultimately, by addressing barriers, raising awareness, providing support, and engaging CHVs, caregivers can be empowered to utilize the MCHB efficiently, leading to improved maternal and child healthcare practices and outcomes.

It is important to note that healthcare workers have observed variations in the utilization of the MCHB among caregivers. Some caregivers may primarily focus on the TCA or immunization sections, considering the booklet an important requirement during delivery. First-time mothers may be hesitant to ask questions, and healthcare workers have not always emphasized the importance of reading the MCHB due to limited human resources and other factors. Caregivers' level of interest, attitude, and literacy also play a role in their engagement with the booklet. However, by implementing the suggested strategies, healthcare workers and CHVs can work towards enhancing caregivers' understanding and utilization of the MCHB, promoting better healthcare practices for mothers and children.

4. PLAYBOX SESSIONS

Children are highly drawn to playboxes due to their inherent appeal and the benefits they offer. Playboxes provide a sense of novelty and exploration, offering a wide range of toys and materials that captivate children's curiosity. They provide a space for freedom and autonomy, allowing children to choose their preferred toys and engage in play at their own pace. The interactive nature of playboxes encourages hands-on exploration and imaginative play, stimulating children's creativity and engagement. Additionally, playboxes facilitate social interaction, as they attract multiple children who can engage in cooperative play and learn from one another. The sensory stimulation provided by playbox toys and materials adds another layer of enjoyment, with different textures, colors, sounds, and movements captivating children's senses. Above all, playboxes embody playfulness and fun, creating an environment where children can experience joy, laughter, and the sheer pleasure of play. Thus, playboxes hold immense importance in engaging children and fostering their development through play.

“The children like it, in some cases they even refuse to let go of the pieces. Others give the mothers a hard time when it is time for them to leave.”

-CHV, Siaya County

It is therefore concerning to observe that playboxes in the represented facilities are not functional, and during facility visits, empty spaces or corridors reserved for playboxes were found. In one instance, even though a group of CHVs was clearly prepared for the visit, there was no indication that the designated space was regularly used as a playbox.

This situation highlights the need for immediate attention and action to address the lack of functionality and utilization of playboxes in these facilities. Playboxes play a crucial role in promoting child development, early learning, and overall well-being. When not utilized effectively, children miss out on the benefits of structured play sessions, which can have long-term impacts on their growth and development.

How Playbox Sessions Are Conducted In The Facilities

The following processes outline the steps involved in conducting Playbox sessions in two different facilities, focusing on preparing the play items, providing education on play, facilitating playtime for children, and properly managing the playbox and its contents.

Facility 1:

1. Two CHVs conduct a health talk session, delivering relevant information and guidance on child development and play.
2. Prior to the Playbox session, the CHVs ensure the playbox items are complete and in good condition by conducting a thorough count.
3. The CHVs and participants prioritize hygiene by washing their hands thoroughly to prevent the spread of germs.
4. Children are grouped and encouraged to engage in age-appropriate play activities that promote development and learning.

Facility 2:

1. Two CHVs retrieve the playbox, conducting a count to ensure all play items are accounted for.
2. The CHVs transport the playbox to the clinic or designated play area, creating a suitable environment for the session.
3. The CHVs provide a brief educational session, emphasizing the importance of play starting from when the baby is in utero. They highlight how play supports child development and bonding.
4. Children are given the opportunity to freely play and explore the toys and materials under the supervision of CHVs and caregivers.

5. After the session, the CHVs collect the play items from the children, ensuring nothing is left behind or misplaced.
6. The CHVs conduct another count to confirm that all play items have been collected.
7. The playbox is appropriately stored, ensuring easy accessibility for future sessions and maintaining its condition.

These processes demonstrate the systematic approach to conducting Playbox sessions, involving proper preparation, educational components, interactive playtime, and careful management of the playbox and its contents.

Challenges Facing Playbox Sessions

The challenges identified for Playbox sessions, as mentioned by CHVs, are as follows:

1. **Following the duty roster:** Ensuring that the assigned CHVs or staff members adhere to the duty roster for conducting Playbox sessions. Lack of compliance can disrupt the regularity and availability of the sessions.
2. **Workload:** CHVs and healthcare staff may already have heavy workloads, making it difficult to allocate sufficient time and resources for organizing and facilitating Playbox sessions.
3. **Time management:** Effectively managing the time allocated for Playbox sessions within the busy schedules of CHVs, healthcare staff, and caregivers can be a challenge. Balancing other responsibilities and commitments while dedicating adequate time to the sessions is crucial.
4. **Loss/wear and tear of play items:** Play items can be misplaced, damaged, or lost over time, which reduces the effectiveness and availability of materials for Playbox sessions. Regular monitoring and maintenance, as well as replacement of play items are needed to ensure the longevity and appropriate use of the playboxes.
5. **Space:** Limited space or inadequate designated areas for Playbox sessions can hinder their implementation. Sufficient space should be allocated to accommodate children and their caregivers comfortably during the sessions.
6. **Unsafe play items:** Play items that are worn out or damaged may pose safety hazards to children. Ensuring the availability of safe and age-appropriate play items is essential to protect the well-being of the children participating in the sessions.
7. **Parents carrying play items:** Parents or caregivers intentionally or unintentionally taking play items home after the sessions can result in a shortage of materials for future sessions. Creating awareness and reminding parents to return the play items can help mitigate this challenge.
8. **CHV not using playbox:** In some cases, CHVs may conduct play sessions without utilizing the play items or toys, which diminishes the intended benefits of structured play for

child development. Proper training and guidance for CHVs on the effective use of play items are necessary.

9. **Children refusing to return play items:** Children may become attached to certain play items and be reluctant to return them after the session. Encouraging positive reinforcement, establishing routines, and fostering a sense of responsibility can help address this challenge.

Reviving facility Playbox sessions to full functionality requires addressing these challenges systematically. This can involve providing additional support to CHVs and healthcare staff, revising duty rosters, implementing strategies for time management, ensuring proper storage and maintenance of play items, creating safe play environments, promoting parent engagement, and reinforcing the importance of utilizing the Playbox during sessions. Regular evaluation and feedback loops can help identify areas for improvement and ensure ongoing success.

5. INFLUENCING BEHAVIOR CHANGE IN CAREGIVERS REGARDING NCFECD MESSAGES

Influencing behavior change in caregivers regarding NCFECD messages involves several key steps:

1. **Defining the desired dosage/exposure:** This entails determining the specific behaviors and actions that caregivers need to adopt to promote optimal child development and well-being. It is important to clearly outline the recommended behaviors from different stages of pregnancy to around 2 years of age, highlighting the importance of activities such as responsive caregiving, play, nutrition, hygiene, and healthcare seeking.
2. **Measurement/tracking of exposure:** It is essential to have a system in place to measure and track the exposure of caregivers to the desired behaviors and messages. This can be done through regular monitoring and evaluation, observing caregiver interactions, and documenting their adherence to the recommended practices. Measurement indicators at each point of contact between caregivers and healthcare providers can help assess the level of exposure and identify areas that require further attention or support.
3. **Empathy and praise:** Creating a supportive and empathetic environment is crucial in influencing behavior change. Healthcare providers should show empathy towards caregivers, understanding their challenges and concerns. Providing praise and positive reinforcement for caregivers' efforts in practicing the recommended behaviors can be a powerful motivator for sustaining and reinforcing those behaviors. Recognizing and acknowledging caregivers' achievements and progress can boost their confidence and encourage continued engagement.

By implementing these strategies, such as *defining the desired behaviors*, *tracking exposure*, and offering *empathy and praise*, healthcare providers can effectively influence behavior change in caregivers. It is important to provide ongoing support, guidance, and reinforcement throughout the caregiving journey to maximize the impact and ensure positive outcomes for children's development.

a) How Counselling Can Lead to Changes in Caregiving Practices

Receiving just five minutes of counseling from healthcare workers (HCWs) at the facility can greatly benefit caregivers in reinforcing Nurturing Care for Early Childhood Development (NCfECD) in various ways. Firstly, regular, and consistent counseling plays a crucial role. Even with a short duration, providing counseling sessions on Nurturing Care consistently can lead to improved long-term health outcomes for children in the community.

Secondly, targeted counseling that includes practical examples proves to be effective. When caregivers receive short, targeted messages along with real-life examples, it becomes easier for them to implement Nurturing Care practices. Moreover, ensuring HCW availability and conducting thorough follow-ups contribute to the successful implementation of NCfECD principles.

Thirdly, regular counseling enables early identification and management of poor Early Childhood Development. By regularly engaging with caregivers, HCWs can detect developmental issues at an early stage, allowing for timely interventions and better management.

Furthermore, regular counseling enhances the relationship between caregivers and HCWs. Caregivers who witness the positive effects of Nurturing Care on their children's development and health are more likely to trust and have a positive relationship with HCWs. This, in turn, facilitates the continued relay of Nurturing Care messages and reinforces its importance.

Consistent counseling also empowers caregivers, HCWs, and Community Health Volunteers (CHVs) by enhancing their knowledge and skills. As they receive regular guidance, their abilities to care for children in the community improve, leading to better outcomes.

Additionally, regular counseling brings about attitude change and behavior modification among caregivers. Consistent exposure to Nurturing Care messaging fosters a positive attitude change, aligning caregivers' behaviors with Nurturing Care principles.

Encouraging caregivers to have a sense of ownership and recognition in the Nurturing Care process further reinforces the lessons learned. This empowerment enhances the practical application of Nurturing Care practices in their caregiving routines.

Moreover, regular counseling can result in improved parental involvement, including increased engagement of fathers who may be less involved currently. Positive changes in attitudes towards NCfECD lead to greater parental participation and support in early childhood development.

In conclusion, these insights highlight the significance of regular, targeted, and consistent counseling on Nurturing Care. Even in just five minutes, it can bring about substantial positive outcomes for children's health, caregiver-HCW relationships, and community involvement in early childhood development.

b) Tracking of NCfECD Information and Guidance Provided to Caregivers

Proper documentation and tracking of the information and guidance provided to caregivers are essential aspects of ensuring effective implementation of Nurturing Care for Early Childhood Development (NCfECD). Several strategies can be employed to achieve this. One approach is to gather feedback from caregivers through exit interviews, surveys, and questionnaires. By directly involving the target clients, we can gain valuable insights into their experiences and understand the impact of the information and guidance provided.

Follow-ups can also be conducted in cohorts, grouping caregivers together based on the age of their children or the specific challenges they face, such as children with disabilities. This enables easy identification and support for children who may not be achieving developmental milestones according to their age. Additionally, forming communities where caregivers of children with disabilities can support and learn from one another can be beneficial.

Engaging caregivers in organized focus group discussions (FGDs) and community dialogues provides them with a platform to express themselves and provide feedback. This enables a deeper understanding of how well caregivers understand and implement Nurturing Care messaging while raising their children.

Establishing proper systems for record-keeping, documentation, and implementing tracking tools is crucial. These tools help gauge the extent to which NCfECD messages are being disseminated and put into practice.

Thorough monitoring and evaluation of developmental milestones among children in the community are paramount for tracking the effectiveness of Nurturing Care messaging. By observing changes from the time of the initial health talk on nurturing care to subsequent monitoring, we can evaluate the progress and impact of NC messaging.

Home visits to caregivers allow for observation of their caregiving practices in their natural environment. Additionally, conducting follow-ups demonstrates the care and concern of healthcare workers (HCWs) and Community Health Volunteers (CHVs) for the well-being of caregivers and their children. This personal touch increases caregiver interest in NCfECD and contributes to positive developmental outcomes.

Implementing targeted clinic days where caregivers receive proper health education and are asked to demonstrate their learnings can be an effective tracking method. Each clinic visit can be scheduled with specific topics tailored to the age of the child, facilitating focused documentation and assessment of NCfECD messaging implementation.

Committed support supervision is crucial for effective tracking of NCfECD messaging. Through support supervision, the knowledge levels of HCWs and CHVs can be assessed, and appropriate training or refresher sessions can be organized as needed. Introducing checklists can also aid in tracking and documenting the implementation of Nurturing Care practices.

In summary, by employing strategies such as feedback collection, cohort follow-ups, FGDs, proper documentation, monitoring and evaluation, home visits, targeted clinic days, and support supervision, it becomes possible to effectively track the extent of NCfECD messaging and ensure its successful implementation for improved early childhood development outcomes.

c) Reinforcing and Supporting NCfECD Messaging to Promote Behavior Change

To ensure behavior change and the effective implementation of Nurturing Care for Early Childhood Development (NCfECD) practices, it is crucial to reinforce and support the messaging delivered to caregivers. Several strategies can be employed for this purpose.

Opinion leaders, such as village elders, teachers, and religious leaders, play a vital role in advancing, reinforcing, and supporting NCfECD practices. The community holds them in high regard and values their opinions. Leveraging their influence and encouraging them to advocate for NCfECD can greatly reinforce and support the message, as their endorsement carries significant weight and credibility.

Another approach is to leverage the influence of Early Childhood Development (ECD) champions within the community. These individuals, who have experienced the benefits of NC practices firsthand, can serve as powerful testimonials to the community. By seeing the positive outcomes achieved by their peers through NCfECD, community members are more likely to adopt and practice Nurturing Care themselves. Encouraging male champions specifically can also help promote greater male involvement in childcare, addressing gender disparities in caregiving responsibilities.

By harnessing the influence and testimonies of opinion leaders and ECD champions, the NCfECD message can be reinforced and supported within the community. This approach taps into existing trust and credibility, increasing the likelihood of behavior change and the adoption of Nurturing Care practices.

d) Establishing Behavior Expectations and Measurement Indicators for Linking NCfECD Messages to Caregiver Behavior Change.

To link the National Curriculum for Early Childhood Development (NCfECD) messages to behavior change, it is essential to establish a clear definition of the desired dosage or exposure to these messages. This refers to the frequency and intensity with which caregivers should receive and engage with the messages. Once the dosage is defined, it is crucial to measure and track the actual exposure of caregivers to the messages to evaluate their effectiveness. Currently, Community Health Volunteers (CHVs) possess a wealth of information but face challenges in transferring this knowledge to caregivers and accurately measuring the extent of messaging received.

“We have the Knowledge but how we take it out is the problem”

In collaboration with Healthcare Workers (HCWs) and Community Health Volunteers (CHVs), we were able to define the specific behaviors expected from caregivers at different stages of pregnancy and up to the age of 2 years. These behaviors likely align with the key messages of the NCfECD. Additionally, we have identified measurement indicators that can be used to track the exposure of caregivers to these messages at each point of contact between caregivers and healthcare providers (HCP).

By establishing these behavior expectations and measurement indicators, we laid the foundation for monitoring and evaluating the impact of the NCfECD messages on caregiver behavior. This enables us to assess the effectiveness of the messages in promoting desired behaviors and make any necessary adjustments to the delivery and reinforcement of the messages.

The table below illustrates the expected behaviors for caregivers at different stages of pregnancy up to 2 years of age, along with the corresponding measurement indicators and tools.

Table 1: desired dosage or exposure to NCfECD messages from 0-24 months

| # | TIMELINE | HEALTH FACILITY (HCW) | COMMUNITY (CHV) | MESSAGES & PRACTICES | MEASUREMENT |
|---|-----------------------|---|--|---|---|
| 1 | 6 Months (or earlier) | 1 st ANC Message+practice | ANC home visit Message+practice | <ul style="list-style-type: none"> • (M)Your baby can hear you and begins learning in the womb. • (P1) Mother and father, talk and sing to your unborn baby every day, so that s/he can recognize and bond with you after birth. • (P2) Rub your belly gently and pat it | Direct report Demonstration; observation Objective assessment/ Shadowing |
| 2 | 7 M | 2 nd ANC Check & reinforce | ANC home visit Check & reinforce | | |
| 3 | 8 M | 3 rd ANC Check & reinforce | ANC home visit Check & reinforce | | |

| | | | | | |
|---|------------------------|---|--|---|---|
| 4 | 8.5 M | 4 th ANC Check & reinforce | ANC home visit Check & reinforce | when the baby kicks. | |
| 1 | 9 M (delivery) | Maternity +1 st PNC (24h) Message+practice | N/A | <ul style="list-style-type: none"> • (P1) Greet your baby as soon as s/he is placed on your chest • (P2) As you start to breastfeed your baby, talk or sing to him/her • (P3) Massage your baby and talk to her while doing it • Let the father hold, talk and massage the baby | Demonstration; observation |
| 2 | 48hours after delivery | - | PNC home visit Message+ practice | <ul style="list-style-type: none"> • Check for birth defects, abnormalities and birth trauma • Your baby can see and hear you from birth. • (P1) Start using the baby's name. Look into your baby's eyes and talk to her. Breastfeeding is a good time to talk to your baby. • P2) Put the baby skin-to- skin to help bond with your baby; caress your baby. Massage her daily, | Direct report Demonstration; observation Objective assessment/ Shadowing |

| | | | | | | |
|---|-----------------|---|---|--|---|---|
| | | | | | naming her body parts as you massage them. | |
| 3 | 1-2 weeks | 2 week Facility visit Check & reinforce | | PNC home visit Message+ practice | | |
| 1 | 6 weeks (1.5 M) | Vaccines /CWC Message | Playbo x session Messa ge + practi ce | 1 st month HV Message+ practice | <ul style="list-style-type: none"> Smile with the baby; copy her sounds and gestures Place dangling bright coloured play items around baby play area/ cot | <p>Direct report</p> <p>Demonstration; observation</p> <p>Objective assessment/ Shadowing</p> |

| | | | | | | |
|---|------------------|---------------------------------|---|---|---|---|
| 2 | 10 weeks (2.5 M) | Vaccines /CWC Message | Playbo x session Messa ge+pr actice | Home Visit Message + practice | <ul style="list-style-type: none"> Check for social smile; following the object. (P1) Respond to your child by copying your baby's sounds and gestures. (P2) Put the baby on the tummy to hold the head up, and let her try and reach a colorful object in front of her. | <p>Direct report</p> <p>Demonstration; observation</p> <p>Objective assessment/ Shadowing</p> |
|---|------------------|---------------------------------|---|---|---|---|

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| 3 | 14 weeks (3.5 M) | Vaccines /CWC Message | Playbo x session Message +practice | 3-month-HV Message+ practice | <ul style="list-style-type: none"> • Check for social smile; following the object; responding to sound; holding up the head. • (P1) Have a conversation with your baby: Say something and wait for her to respond with sound or gesture, then continue. • (P2) Slowly move different objects for your baby to try to reach and grasp. | <p>Direct report</p> <p>Demonstration; observation</p> <p>Objective assessment/ Shadowing</p> |
|---|------------------|---------------------------------|--|--|--|---|

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|---|----------|--|---|---|---|---|
| 4 | 6 months | Vaccines / Vit A / CWC Message | Playbo x session Message+practice | 6-month-HV Message + practice | <ul style="list-style-type: none"> • Check for rolling over; reaching and grasping; taking objects to mouth; babbling. • (P1) Call the child's name and see how the child responds. Respond to the sounds the child makes, talk about what she is looking at. • (P2) Give your child simple household things to handle, drop and bang. | <p>Direct report</p> <p>Demonstration; observation</p> <p>Objective assessment/ Shadowing</p> |
|---|----------|--|---|---|---|---|




| | | | | | | |
|---|----------|---------------------------------|--|---|--|--|
| 5 | 9 months | Vaccines /CWC Message | Playbo x session Message +practice | 9-month-HV Message + practice | <ul style="list-style-type: none"> • Check for sitting without support; moving object from 1 head to another; repeating syllables (bababa). • (P1) Name things the child is looking at or touching. Show your child how to “say things” with hands (“bye-bye”). • (P2) Hide an attractive item for the child under a cloth or box. See if the child can look for it. Play peek-a-boo. | <p>Direct report</p> <p>Demonstration; observation</p> <p>Objective assessment/Shadowing</p> |
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|---|-----------|---|--|--|---|--|
| 6 | 12 months | Vit A / deworm ./ CWC Message | Playbo x session Message +practice | 12-month-HV Message + practice | <ul style="list-style-type: none"> • Check for taking steps; picking objects with 2 fingers; saying 2-3 words; imitating simple gestures. • (P1) Play a game of body parts with your child (Here is my nose. Where is your nose?) | <p>Direct report</p> <p>Demonstration; observation</p> <p>Objective assessment/Shadowing</p> |
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| | | | | | <ul style="list-style-type: none"> • (P2) Help your child take steps around the house or the yard; talk about the things, people and animals you both see. | |
| 7 | 18 months | Vaccines /Vit A / deworm./C Message | Playbox session Message +practice | 18-month-HV Message+ practice | <ul style="list-style-type: none"> • Check for walking without support; drinking from a cup; saying 7-10 words; pointing to body parts on request. • (P1) Ask your child simple questions, about things around or in pictures (Where is the dog? Do you like banana?) • (P2) Show to the child how to put things into container, dump them and stack them up, and let him copy. | <p>Direct report</p> <p>Demonstration; observation</p> <p>Objective assessment/ Shadowing</p> |
| 8 | 24 months | Vaccines /Vit A / deworm./C | Playbox session | 24-month-HV Message + | <ul style="list-style-type: none"> • (P1) Count, name & compare bottle caps etc.; make | <p>Direct report</p> <p>Demonstration;</p> |

| | | | | | | |
|--|--|----------------------|--|-----------------|---|--|
| | | WC Message | n Messa ge+pr actice | practice | and copy patterns <ul style="list-style-type: none"> • (P2) Draw shapes and pictures. • (P3) Play games with pictures. Tell and listen to child's story. | observation Objective assessment/ Shadowing |
|--|--|----------------------|--|-----------------|---|--|

KEY:

-  *Antenatal*
-  *Delivery and Postnatal*
-  *Preventive Child Services*

CONCLUSION

In conclusion, our qualitative research study on the integration of nurturing care in healthcare services in Siaya County has provided valuable insights and identified key areas for improvement. The findings highlight the need for focused counseling and support for caregivers regarding nurturing care practices, including tracking and reinforcing this information over time. It is crucial to enhance the utilization of the Maternal and Child Health (MCH) booklet as a tool for promoting and monitoring nurturing care.

Additionally, our study has revealed the unique and important relationship between Community Health Volunteers (CHVs) and caregivers. This relationship can serve as a valuable avenue for delivering targeted support and information on nurturing care. Strengthening the collaboration between CHVs and caregivers can help bridge the gap and ensure effective communication and implementation of nurturing care practices.

Moreover, we have provided a comprehensive framework of expected behaviors for caregivers at different stages of pregnancy up to 2 years of age, supported by specific measurement indicators and tools. This framework serves as a practical guide for healthcare workers and community health volunteers in assessing and monitoring the implementation of nurturing care practices. By utilizing these measurement indicators and tools, healthcare providers can track progress and identify areas where additional support and interventions are needed.

In summary, our research study highlights the importance of integrating nurturing care into healthcare services in Siaya County. It underscores the significance of counseling, tracking, reinforcing, and supporting caregivers in their journey to provide optimal care for children. By leveraging the unique relationship between CHVs and caregivers, improving the utilization of the MCH booklet, and implementing the defined behaviors and measurement indicators, we can strive towards enhancing nurturing care practices and ultimately promoting the overall well-being and development of children in Siaya County.

The findings from the "Define" and "Dream" phases provide a solid foundation for the next phase of our design process, "Design". In this phase, we will refine and prototype the identified solutions, working closely with stakeholders to ensure their feasibility, acceptability, and sustainability.

Overall, the insights gained from our qualitative research study and the subsequent phases of our human-centered design process will inform the development of evidence-based interventions and strategies to integrate nurturing care in healthcare services in Siaya County. By engaging caregivers, healthcare workers, community health volunteers, and other stakeholders throughout the process, we aim to create sustainable and contextually relevant solutions that will positively impact the well-being and development of children and families in Siaya County.