



Comprehensive Report on the D-Free Project implementation

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“Combating Diarrheal Disease in Rwanda”



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Abstract

The D-Free project aims to reduce the prevalence of diarrheal diseases in Rwanda, particularly among children under five years old. This report outlines the project's implementation, including the initial piloting phase, community engagement activities, training sessions, and final outcomes. Key achievements include successful community training, distribution of hygiene materials, and significant improvements in sanitation practices. The project, executed in collaboration with local health authorities and community workers, has demonstrated substantial impact in Gisagara district. This report aims to provide a detailed overview of the project, showcasing the methodologies, findings, and recommendations for future initiatives. The project's comprehensive approach addresses the root causes of diarrheal diseases by promoting hygiene education, improving water quality, and fostering community involvement.



Table of Contents

Comprehensive Report on the D-Free project Implementation	1
Abstract	1
Introduction	4
Background	4
Purpose of the project	4
Scope	4
Literature Review	5
Global Health Impact of Diarrhea	5
Diarrhea in Rwanda	5
Importance of Community Health Initiatives	5
Methodology	6
Project Phases	6
Results and Findings	10
Piloting Phase (28th December 2023)	10
Training Sessions (16th March 2024)	10
Community Outreach (1st April 2024)	11
Community Outreach (5th April 2024)	11
Final Implementation (24th April 2024)	12
Discussion	12
Impact Assessment	12
Challenges and Limitations	12
Lessons Learned	13
Conclusion	13
Recommendations	13
Appendices	14

Gallery for the sessions:	14
Evaluation responses	14
Contact Information	15
Association Information	15

Introduction

Background

Diarrhea is a major health concern globally, especially in Rwanda, where it is one of the leading causes of death among children under five. The high morbidity and mortality rates associated with diarrheal diseases are primarily due to inadequate access to clean water, poor sanitation, and insufficient hygiene practices. The D-Free project, initiated by the Medical Students' Association of Rwanda (MEDSAR) in partnership with Youth Impact, aims to address this issue through a multi-faceted approach. This initiative focuses on education, community engagement, and the implementation of practical interventions to improve hygiene and sanitation practices. This report details the project's activities and outcomes from its inception to the final implementation phase, providing insights into the strategies employed and the impact achieved.

Purpose of the project

The purpose of this report is to provide a comprehensive overview of the D-Free project, highlighting the methodologies used, results achieved, and the overall impact on the targeted communities. The report aims to serve as a resource for stakeholders, including policymakers, healthcare professionals, and community leaders, who are interested in understanding the project's approach and replicating its success in other regions. By documenting the project's processes and outcomes, this report seeks to contribute to the broader efforts to combat diarrheal diseases in developing countries.

Scope

This report covers the piloting study, training sessions, community outreach activities, and the final evaluation of the project. It includes detailed descriptions of the methods employed, the findings from various phases, and the lessons learned throughout the project. Additionally, the report discusses the challenges encountered during implementation and provides recommendations for future initiatives. The scope of this report extends to the assessment of the project's impact on community health, with a particular focus on the reduction of diarrheal diseases among children under five in the Gisagara district.

Literature Review

Global Health Impact of Diarrhea

Diarrhea remains a leading cause of morbidity and mortality among children under five worldwide. According to the World Health Organization (WHO), diarrhea is responsible for approximately 525,000 deaths of children annually. The primary causes include poor hygiene, unsafe water, and inadequate sanitation. In many developing countries, limited access to clean drinking water and proper sanitation facilities exacerbates the spread of waterborne diseases. Various studies have shown that interventions focusing on improving water quality, sanitation, and hygiene (WASH) can significantly reduce the incidence of diarrheal diseases. The global health community recognizes the importance of integrating WASH initiatives with health education to achieve sustainable improvements in public health.

Diarrhea in Rwanda

In Rwanda, diarrhea is the third leading cause of death among children under five. The Rwanda Demographic and Health Survey highlights that regions with limited access to clean water and sanitation facilities are the most affected. Socio-economic disparities further exacerbate the situation, making it imperative to address these underlying factors through comprehensive interventions. The government of Rwanda, along with various non-governmental organizations (NGOs), has been working towards improving WASH infrastructure and promoting hygiene education. Despite these efforts, significant challenges remain, particularly in rural areas where access to resources is limited. The D-Free project aims to bridge these gaps by focusing on high-risk communities and implementing targeted interventions.

Importance of Community Health Initiatives

Community health initiatives play a crucial role in combating diseases like diarrhea. Studies have shown that educating communities about hygiene practices and providing resources such as clean water can significantly reduce the incidence of diarrhea. Community-based approaches leverage local knowledge and resources, ensuring that interventions are culturally appropriate and sustainable. Engaging community members in the planning and implementation of health initiatives fosters ownership and

accountability, leading to better health outcomes. The D-Free project aligns with these findings by adopting a holistic approach to tackle the issue at the grassroots level, involving local leaders, community health workers (CHWs), and residents in every stage of the project.

Methodology

Project Phases

- **Piloting Phase (28th December 2023)**

The piloting phase involved selecting the project site and engaging with local leaders in the Gisagara district. The team assessed the area's needs, particularly focusing on the high prevalence of diarrhea and factors contributing to its spread. Data from the Rwanda Demographic and Health Survey, along with reports from local health facilities and CHWs, were analyzed to identify the most affected areas and the primary causes of diarrhea. The piloting phase also included baseline surveys to gather information on the community's current hygiene practices, water sources, and sanitation facilities. This preliminary data was crucial for tailoring the project's interventions to the specific needs of the community.



- **Training Session (16th March 2024)**

Training sessions were conducted for medical student volunteers and CHWs to equip them with the necessary skills and knowledge for effective project implementation. These sessions covered the causes, symptoms, and prevention of diarrhea, as well as the importance of hygiene and sanitation. Participants were also trained on the proper use and maintenance of water filters and other hygiene materials. The training methodology included interactive lectures, hands-on demonstrations, and group discussions to ensure that participants fully understood the concepts and could effectively communicate them to the community. The sessions emphasized the importance of behavioral change and provided strategies for overcoming common barriers to adopting new hygiene practices.



- **1st Community Outreach (1st April 2024)**

The community outreach on April 1st, 2024, focusing on educating the target population on the Impact and causes of diarrhea. With help of local leaders, we also requested their support and collaboration in identifying beneficiaries to get hygiene materials prevention and hygiene practices. These sessions were interactive, allowing for community input and engagement. Specific activities included teaching about the causes of diarrhea and its impact on overall health of people. Community members were encouraged to ask questions and share their experiences, creating a dialogue that helped tailor the interventions to their specific needs. Additionally, the outreach sessions included the sensibilization of Community Health Workers to monitor and support the ongoing implementation of hygiene practices through the D-Free Project.



- **2nd Community Outreach (5th April 2024)**

Community outreach activities were designed to educate the target population on diarrhea prevention and hygiene practices. These sessions were interactive, allowing for community input and engagement. Specific activities included teaching about the symptoms of diarrhea and preventive measures, and the distribution of hygiene materials. We have provided iron sheets and doors for toilets innovation to 15 families who were identified with help of local leaders and CHWs. The outreach also included practical demonstrations on proper handwashing techniques and the safe handling of drinking water. Community members were encouraged to ask questions and share their experiences, creating a dialogue that helped tailor the interventions to their specific needs. Additionally, the outreach sessions included the creation of committee made of local leaders and CMHWs to monitor the use of provided iron sheets and doors in innovating the toilets.



- **3rd Community Outreach (24th April 2024)**

The final session of the project was held on 24th April 2024, marking the conclusion of the implementation phase and providing an opportunity to evaluate the project's overall impact. Most importantly, through the session we have provided water filters to 10 families which were selected with help of CHWs and local leaders. During this session, the team conducted a comprehensive review of the activities and outcomes. They discussed the successes and challenges encountered, providing valuable insights for future initiatives. The session also included an evaluation of the community's adoption of hygiene practices and the effectiveness of the distributed materials. Local leaders and CHWs played a pivotal role in gathering feedback from community members, ensuring that the project's impact was thoroughly assessed. The final session emphasized the importance of sustaining the achieved improvements and encouraged the community to continue prioritizing hygiene and sanitation.





Results and Findings

Piloting Phase (28th December 2023)

During the piloting phase, the team successfully engaged local authorities and identified Gishya village in the Gishubi sector as the primary intervention site. The area was chosen due to its high prevalence of diarrhea and inadequate access to clean water. Preliminary assessments indicated that poor sanitation practices and limited awareness about hygiene were significant contributors to the high incidence of diarrhea. Baseline surveys revealed that a large proportion of households lacked access to proper sanitation facilities and relied on unsafe water sources. The findings from the piloting phase informed the design of targeted interventions to address these issues, including the distribution of water filters and educational materials.

Training Sessions (16th March 2024)

The training sessions effectively prepared 20 medical students and several CHWs for project implementation. Participants gained a thorough understanding of diarrhea's impact and preventive measures. The training also included the distribution of educational materials and practical demonstrations on hygiene practices. Feedback from participants indicated a high level of satisfaction with the training content and delivery. Many trainees reported feeling more confident in their ability to educate the

community and implement the project's interventions. The sessions also fostered a sense of collaboration and teamwork among the participants, which was crucial for the project's success.

Community Outreach (1st April 2024)

The report from the second day of outreach, held on April 11, 2024, provides a detailed account of the activities and their outcomes. On this day, the project team focused on reinforcing the messages from the previous day and addressing any lingering questions or concerns. Additional topics covered included safe food handling, waste disposal, and the use of latrines. Practical demonstrations were conducted to ensure that community members understood and could implement the recommended practices. The findings from this day highlighted several key outcomes: increased awareness and knowledge about the importance of hygiene and sanitation practices, improved adoption of handwashing techniques and safe water handling practices, enhanced community engagement, with active participation from local leaders and CHWs, and positive feedback from community members, who reported a better understanding of how to prevent diarrheal diseases. These detailed findings underscore the importance of continuous engagement and follow-up to ensure the sustainability of the interventions.

Community Outreach (5th April 2024)

The community outreach sessions were well-received, with significant participation from the local population. Key outcomes included increased awareness about diarrhea prevention, improved hygiene practices, and community commitment to maintaining these practices. Notable activities included interactive teaching sessions, discussions on proper sanitation, and the introduction of adjunctive hygiene measures like hand washers. Surveys conducted after the outreach sessions indicated a significant increase in the number of households using clean water sources and practicing regular handwashing. Community members expressed appreciation for the practical demonstrations and the distribution of hygiene materials, which they found highly beneficial in improving their daily practices.

Final Implementation (24th April 2024)

The final phase of the project involved distributing water filters to vulnerable families and evaluating the impact of the provided materials. The selection of beneficiaries was done in collaboration with local leaders and CHWs, ensuring that the most vulnerable households received the necessary support. The project culminated in significant improvements in access to clean water and sanitation practices. Post-implementation surveys showed a marked reduction in the incidence of diarrhea, particularly among children under five. The community's response was overwhelmingly positive, with many families reporting improved health outcomes and a greater understanding of the importance of hygiene and sanitation.

Discussion

Impact Assessment

The D-Free project has had a substantial impact on the targeted communities in Gisagara district. The comprehensive approach, combining education, community engagement, and practical interventions, has led to a marked reduction in the incidence of diarrhea. The project's success can be attributed to the active involvement of community members, effective training of volunteers and CHWs, and the strategic distribution of resources. The collaboration with local health authorities ensured that the interventions were culturally appropriate and sustainable. The project also highlighted the importance of continuous monitoring and evaluation to adapt strategies based on real-time feedback and outcomes.

Challenges and Limitations

The project faced several challenges, including logistical difficulties in reaching remote areas, cultural resistance to behavior change, and limited resources for widespread implementation. Some community members were initially hesitant to adopt new hygiene practices, and ongoing education and support were necessary to overcome these barriers. Additionally, the distribution of water filters and hygiene materials had to be carefully managed to ensure equitable access. Despite these challenges, the project team demonstrated resilience and adaptability, finding innovative solutions to address these issues and ensure the success of the interventions.

Lessons Learned

Key lessons learned from the D-Free project include the importance of engaging local leaders and community members from the outset, the value of comprehensive training for volunteers and CHWs, and the need for continuous monitoring and feedback. The project also underscored the significance of culturally sensitive interventions that consider local practices and beliefs. Future initiatives should build on these insights, fostering stronger community partnerships and leveraging local resources to achieve sustainable health outcomes.

Conclusion

The D-Free project has made significant strides in reducing the prevalence of diarrheal diseases in the Gisagara district. Through a combination of education, community engagement, and practical interventions, the project has improved hygiene practices and access to clean water, leading to better health outcomes for children under five. The project's success demonstrates the effectiveness of a holistic approach to public health challenges, highlighting the importance of community involvement and continuous evaluation. The insights gained from this project provide valuable guidance for future initiatives aimed at combating diarrheal diseases in other regions.

Recommendations

1. **Expand Community Education:** Continue and expand educational programs on hygiene and sanitation, ensuring that all community members have access to this vital information.
2. **Increase Resource Allocation:** Allocate more resources to provide additional water filters, hygiene materials, and infrastructure improvements.
3. **Enhance Monitoring and Evaluation:** Implement robust monitoring and evaluation mechanisms to track progress and make data-driven adjustments to interventions.
4. **Foster Community Ownership:** Encourage greater community ownership and involvement in health initiatives to ensure long-term sustainability.
5. **Strengthen Partnerships:** Strengthen partnerships with local health authorities, NGOs, and other stakeholders to leverage resources and expertise.

Appendices

Gallery for the sessions:

1. https://drive.google.com/drive/folders/1g4U4sNE-A-TGL9wvLDnbE2CqXu8izLeF?usp=drive_link
2. https://drive.google.com/drive/folders/1Xx6_n8d2K-CsYP-5HUIRYD3fJHxusbsL?usp=drive_link
3. https://drive.google.com/drive/folders/1g4U4sNE-A-TGL9wvLDnbE2CqXu8izLeF?usp=drive_link
4. https://drive.google.com/drive/folders/1qzr9ny2WlkmnJ9ZQQMcFYvi7vt3r5BHZ?usp=drive_link

Evaluation responses

1. **Pre-evaluation responses:** https://docs.google.com/spreadsheets/d/1crXrXtMwwf-WAYUApGb7LbuRbxNk8aAA/edit?usp=drive_link&oid=104987771503147434934&rtopof=true&sd=true
2. **Post-evaluation responses:** https://docs.google.com/spreadsheets/d/1MApL6EuRsVdjyMRBhD5yaDLGtXnul1sC/edit?usp=drive_link&oid=104987771503147434934&rtopof=true&sd=true

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