

Promotion of Effective COVID-19 Response Interventions among Health Workforce in Virika Hospital, Kabarole District-Uganda

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ABSTRACT

Introduction: The Novel Corona Virus Disease (COVID-19) caused by SARS-CoV2 virus was first identified and reported in 2019 by the people's Republic of China in Wuhan and declared a pandemic disease in march 2020. Since then, the disease has continued to spread to the rest of the communities in the world and Kabarole district in Uganda has not been spared. The need to promote effective COVID-19 Response Interventions through a capacity-building project of health workforce in Kabarole and Uganda in general was ostensible. The effective COVID-19 interventions strengthened among Virika Hospital Health workforce were, enhanced risk communication by health workers and Community engagements through Social mobilisation. In this paper, we share how a capacity building project for health workforce at Virika Hospital, Kabarole district Uganda, contributed to the reduction of community COVID-19 transmission and death as a result of increased levels of awareness of the risk by Health workers and community.

Methods: This was a hospital-based project initiated by the Hospital nursing officer and the administration soliciting technical support from Kabarole District Surveillance Health office. It targeted hospital technical and support staff. At community, the Village Health Team and Village chairpersons were targeted and drawn from 5 randomly selected parishes. Risk communication practice was done using five FM Radio stations and King TV station in Fort Portal City.

Results: A health workforce capacity of 60 staff was built, 92% technical and 8% support staff. Skills in Risk communication were acquired by the health workforce through Radio presentations that followed 3 workshop sessions at the hospital. Sessions on infection prevention and control were dominated by demonstrations and return demonstrations on hand hygiene and use of PPEs in COVID-19 prevention. Through dialogue meetings with the VHTs and community leaders, the community was empowered on early detection and reporting of COVID-19 Alert simulations. Despite the enhanced health workforce capacity however, inadequate PPEs was noted as a limiting factor amidst good workforce risk response competencies built.

Conclusion: The enhanced health workforce capacity with effective Response interventions like risk communication, Infection Prevention and Control and community engagement, contributed to reduction in community Covid-19 transmission In Kabarole District. This could ensure a long term and sustained response capacity to any other emerging infections in the district.

Keywords

Virika Hospital, enhanced health workforce capacity, COVID-19 risk in Kabarole.

Introduction

An outbreak of Corona virus disease (COVID-19) was reported in December 2019 by the Health administration of Wuhan City, Hubei province in China causing numerous cases of viral Pneumonia. [1]. On 7th of January 2020, a novel coronavirus strain was identified and labeled as cause of the 'coronavirus disease (COVID-19) [2]. Due to the global spread, WHO characterized COVID-19 as a Public Health event of International concern and announced it as a pandemic disease on 11th March 2020 [3]. At the time of putting together this scholarly report on 5th February 2021, COVID-19 pandemic had affected communities in 219 countries and territories of the world [4]. Cumulative Statistics show that 105,493,752 million people have been infected and 2,296,354 lives lost globally [4]. Uganda in the 102nd position global trend ranking, cumulatively had 39,735 cases with 327 registered lost lives [5].

Experiences from China and elsewhere show that, Risk communication and community engagement through social mobilization are fundamental aspects of quality and effective response to health emergencies [6]. Risk communication and Community engagement, the two are among the eight fundamental Pillars identified and recommended by WHO in responding to COVID-19 pandemic [7]. Effective Risk communication, does not only result in transmission of right information among the healthcare workers and their superiors, but also helps in accurate information sharing between health workers and the population at risk. Subsequently the clear community understanding of the risk or the disease results in adoption of effective protective behavior [8]. Studies have demonstrated that, community engagement brings on board all the people in a given area and those in similar risk situations working together to address issues pertaining their wellbeing [7].

Although COVID-19 pandemic appears to be at its peak, many Ugandans and people in Kabarole still believe that, they are not at high risk of COVID-19 infection. This is evidenced by the skyrocketing figures of cases and deaths in the country and Kabarole district in particular. This necessitated capacity-building project among Virika Hospital staff and Community Village Health teams (VHTs) in order to ensure early detection and effective Response to COVID-19 pandemic in the district.

Background and Justification for Health Workforce Enhancement project

The Novel corona virus disease (COVID-19) being a new disease that has just emerged in the world and Uganda in particular. Health workers at Virika Hospital and Kabarole in general were facing a new challenge of how to effectively communicate with the population about COVID-19 risk. Risk communication is about translation of risk information for Public Action [9]. Failure

to communicate can lead to community and leaders losing trust in a health care system in addition to massive loss of lives. Available literature [10] shows that, Risk communication is a vitally important element of public health. During public health emergencies, people need to know what health risks they face, the nature and scale of the event, and what actions they can take to protect their health.

Staff capacity enhancement project at Virika Hospital was an innovative idea by the Acting Principal Hospital Nursing officer on behalf of the hospital who shared the idea with District Health surveillance officer for technical support. Fundamentally, this project focused on capacity building in Risk communication, Infection Prevention and control (IPC) and community engagement. Upon successful implementation of the project, we envisaged Health Service Provider Safety and Client Centered Quality of Care in respect to COVID-19 pandemic.

Following the successful implementation story of this project, risk communication is now an indispensable component of Virika Hospital Public Health emergency response. Our health workers have been proactively empowered to communicate to the communities on what is known about COVID-19 and what is being done to address it. As a result of our practice, we are proud of our contribution towards reduction of COVID-19 risk from spreading in the district, consequently saving lives and minimizing the social economic impact of this pandemic on our society.

Main objective

The main objective of this hospital project was to build capacity of the collective Hospital workforce in COVID-19 Risk Communication, Infection prevention and control (IPC) and social mobilization for community engagement to ensure effective COVID-19 Risk Response in the district.

Specifically, this hospital project was to:

- Conduct trainings and orientation of hospital staff on Risk communication and social Mobilization.
- Train Health workers in Infection Control and Prevention (IPC).
- Support Hospital staff conduct community dialogue meetings and engagements in 5 parishes to raise community awareness about COVID-19.
- Empower and engage Hospital staff in Mass media activities to increase public awareness on COVID-19 risk.

Methodology

Project area: Virika Hospital profile

Located in Fort Portal City western Uganda at a road Distance of 300 km from Kampala, Virika Holy Family Hospital a private not for profit is the second largest Hospital in Fort Portal city. Lies on Kasese road at a distance of 2 km from Fort Portal city Centre. It serves the entire Kabarole district population and neighboring districts like Bunyangabu, Kasese, Kamwenge, Kyenjojo, Bundibugyo, Ntoroko and Kibaale. The greater Kabarole district and Fort Portal city are comprised of 4 town councils, 3 divisions,

11 sub-counties, 59 parishes and 523 villages. It has a population of 328,500 people with an annual growth rate of 2.3%. [11]. Find the location in section 2.2 below.

Kabarole Health Facilities distribution

Selection of Parishes

To identify community members; - 5 parishes within the Hospital

service area were purposively selected. The training at community level in 5 parishes took 10 days in a phased manner. This was so in order to observe SOPs for COVID response.

Results

Train staff in Risk communication, social Mobilization, infection control and prevention.



Table 1: Kabarole district Health Facilities by Ownership.

Health Facility Level	Type of Health /Facility/Ownership		Total
	Government	PNFP (private for profit)	
Hospitals	01 (25%)	03 (75%)	4 (9%)
HC IVs	02	0	2 (4%)
HC 111s	16 (76%)	05 (34%)	21 (41%)
HC 11s	11	13 (54%)	24 (47%)
Total	30 (59%)	21 (41%)	51

Table 1 above: Total 51 Health facilities (4 hospitals, 2 Health center IVs, 21 HC 111s & 24 HC 11s).

Table 2: Selected departments and number of participants.

Sampled Hospital departments	No of staff sampled
Department of Obstetrics &Gynecology	05
Department of Surgery	04
Office of the Medical Director	02
Department of Pediatrics	05
Department of Medicine	05
Department of Nursing	10
Department of Primary Health Care (PHC)	06
Imaging and Laboratory	05
Pharmacy	03
Pastoral Clinical Services	02
Administration	03
Department of Surgery	05
Support staff	05
Total	60

Table 2, above shows that, of the 60 health workforce members trained, 55 (92%) were technical staff drawn from 13 micro departments and 5(8%) were support staff.

Table 3: Project activities done by each objective.

Objective 1: Train 90% of Health workforce on Risk communication, &social Mobilization, infection control and prevention.					
Methodology/ Strategy	Activities	Indicator	Target	Time frame year 2020 O N D	Budget
Identify and Train MOs, COs, Nurses, Midwives, Health educators, lab staff in Hospital	- Organize on hospital site workshop -Train on concepts & principles of communication -communicating Risk in PH emergencies - emergency risk communication practice - social Mobilization - IPC infection, Prevention and Communication	- No of training days -No of H/Facilities represented -% of HWs trained	3 days meeting 3 sessions 60 Hospital staff (HWs & Support Staff)	x x	UGX= 1,500.000/=
Objective 2: Support Health workers conduct community dialogue meetings and engagements in 5 parishes to raise community awareness about COVID-19 by end of December 2020					
Community engagement in COVID-19 response	-Mobilize community Leaders to be part of covid-19 risk response -Mobilize VHTS -Religious leaders - prepare Talks on IPC - Behavior change models; and BHC change in response to COVID-19 risk - distribute IEC materials	-No Dialogue meetings held -No of leaders engaged -No of VHTS No of R/leaders -No COVID-19 IEC leaflets shared	-5 parishes dialogues leaders, LCs 40- VHTs 200 COVID-19 leaflets	x x x	UGX = 2.500,000/=
Objective 3: Empower and engage Health workers in Mass media activities to increase public awareness on COVID -9 risk by December 2020					
Emergency risk communication practice in mass media	- Develop radio & TV COVID-19 risk messages - Conduct radio - TV talk shows - communicate on Hand washing - Communicate on use of face Masks - Communicate on risk in Transport sector - one on one communication with Mega phones	- Radio and TV messages developed - No of radio & TV talk shows held - No of megaphones bought & used	10 radio spots 5 radio talk shows 3 TV talk shows 20 Megaphones	X X X	UGX= 2.000.000/=

Table 4: Demographic characteristics of the trained staff.

Age group (years)	Sex: F	Males	Total n=60
20-29	5	3	8 (13.5%)
30-39	15	9	24 (40%)
40-49	6	10	16 (27%)
50-59	3	5	8(13.5%)
60+	3	1	4 (6%)
Total	32 (53%)	28 (47%)	60 (100%)
Religion			
Catholics	22	14	36 (60%)
Protestants	4	6	10 (17%)
Muslims	2	4	6 (7%)
Others	4	4	8 (13%)
Total	32 (53%)	28 (47%)	60 (100%)
Marital status			
Married	18	12	30 (50%)
Single	13	12	25 (42%)
Cohabiting	1	4	5 (8%)
Total	32 (53%)	28 (47%)	60 (100%)

Table 5: Trained staff by Cadre.

s/n	Staff cade	No trained	%
1	Medical officers	5	8%
2	Nurses	25	42%
3	Clinical officers	6	10%
4	Laboratory and radiology	10	17%
5	Administration	9	15%
6	Support staff	5	8%
	Total	60	100

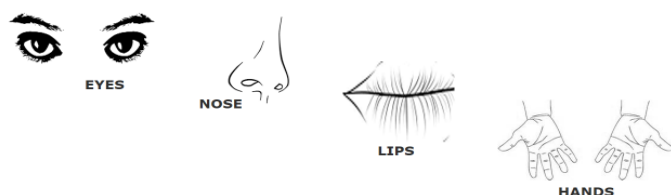
Table 5: About a half 25/60(42%) of the trained staff were nurses, next 10(17%) were laboratory and radiology staff. The 8% support staff were security personnel and waste handlers.

Picture: 1 across-section of hospital staff trained in IPC & Risk communication.



Picture 1 above: Virika hospital Staff attending COVID-19 training session.

PPE covers the most important places where germs can enter your body



You must ALWAYS protect these areas of the body when interacting with suspect and confirmed patients!

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Picture 3 below: COVID -19 screening and Triage at Virika Hospital.

Adopted from WHO IPC material

Picture 2, illustration above was emphasized as the primary preventive measure and practical solution for Covid-19 transmission risk reduction. Avoid touching the soft facial body parts like the Eyes, the Nose and the Mouth should be observed by everybody.

Picture 3 below: COVID -19 screening and Triage at Virika Hospital.

Applying the Acquired knowledge and practice at the triage point in the Hospital.

Covid-19 screening: Support staff demonstrate H/washing. Health workers Hand washing needs.

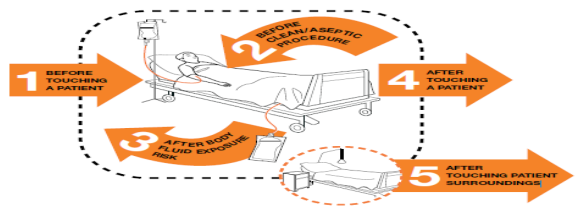
Adopted WHO IPC



Picture 3i: temperature taking.

Picture 3ii: hand washing.

My 5 Moments for Hand Hygiene



Picture 3iii: 5 moments Hand Hygiene.

The above Pics 3i, ii, iii. Illustrates Covid-19 screening process as you enter Virika Hospital, a support staff demonstrating hand washing for 20 seconds during learning session, and 5 moments of hand washing emphasized to health workers during the training.

Triage helps the staff at entrance to identify any patient with cough, sneezing, difficulty in breathing & T=>37.5°. Such persons are immediately put aside, a surgical mask provided and then temporarily isolated for proper clinical assessment for Covid-19.

Applying the knowledge and skills in Risk communication

In Kabarole District, there are 6 radio stations and one TV. Namely; Voce of Toro (VOT, Life FM, Clouds FM, Jubilee Radio, KRC-Farmers Radio and Hits FM Radio. The only one TV station is King TV station.

With support from District Health office, Hospital staff participated in Radio and TV talk shows to communicate on Covid 19 Risk. The pics below reflect on the Radio and TV shows that were done by district and hospital staff at life FM radio and King TV in Fort Portal city.

Picture 4: Radio presentation at Life FM and TV presentation at King TV in Fort Portal.



Picture 4.1 Hospital staff at Life FM Radio studios.



Picture 4.2 at King TV: RDC Kabarole, TV presenter and Dr Tumwebaze Mathias.

Effective Waste management at Virika Hospital for a safe work environment

While orienting Health workers on Health care waste, emphasis was made that, all health care waste generated in the hospital including that from confirmed COVID-19 infection should be considered highly hazardous and should be collected safely in clearly marked lined containers and sharps safety boxes.

Support staff who handle health care waste were not only urged to wear protective wear, but were also provided with boots, heavy duty gloves, masks and disinfectants.



Picture 4.3: Virika waste Management Training.



Picture 4.4: Adopted from WHO- recommended PPE in Covid-19 context.

Social Mobilization

Virika Hospital, strived to establish Joint prevention and control mechanism at Community. The community engagement strategies were supported and implemented by the District Health office. Social and behavioral health approaches recommended for epidemic containment were used. We targeted to engage community leaders and Village Health Team members (VHTs) from 5 parishes within our service area. The targeted parishes are presented hereunder.

Table 6: Parishes and Community VHTs and leaders trained on COVID-19.

s/n	Name of the parish	No of VHTs & community leaders	Female	Males	Total Percent
1	Karambi	22	07	15	20%
2	Kijanju	25	11	14	23%
3	Rwengoma	20	05	15	18%
4	Buhesi	25	09	16	23%
5	Bazar	18	08	10	16%
Total		110	40 (36.4%)	70 (63.6%)	100%

Table 6 presents details of the community leaders and Village health teams that were engaged, and empowered with knowledge and skills required in prevention and control of COVID-19. Majority 70(63%) were males.

Discussion

This project aimed at enhancing the hospital Health workforce capacity in infection prevention and control of COVID-19,

improved risk communication skills and community engagement through social mobilization. Table 1: A total of 60 health workforce members were targeted 92% of whom were technical staff and 8% support staff. Building capacity of health workers is fundamental for early detection and response of outbreaks like COVID-19. The support staff registered a lowest attendance proportion of 8%. This is because their number is comparatively low to that of technical staff in a hospital setting.

Studies elsewhere [12] have demonstrated that Training of health workforce before or during an epidemic phase with materials support to health facilities enable health workers gain knowledge and confidence. This enables them to immediately join the response in treating COVID-19 patients leading to containment of such epidemic. On the other hand when health workers are not well trained in infection prevention and control, they end up being the first victims of the pandemic. Recent studies on COVID -19 pandemic indicate that health workers have figured prominently in the number of those infected with COVID-19 and COVID-19 related death [13].

Demographically 40% of the workforce trained were aged between 30-49 years; this is a highly productive age group of health professionals who can withstand work pressure. If well empowered with knowledge and skills, they can ensure effective and sustained response in an emergency. Majority 60% were Catholics; this could be due to the fact that, Virika hospital is a catholic founded institution. However, this does not mean that the services are limited to Catholics only. A half (50%) were married, most faith-based institutions encourage the workers to be officially married. It is assumed that married health workers are stable on duty and tend to concentrate and produce tangible results.

Training of health workers in Infection control focused on the protection of the facial soft body parts that permit entry of the Corona Virus. The nose, the eyes and the mouth. This training can be considered as a timely venture, in Lombardy Italy, the COVID19 infection rate was 2 times higher for health workers than for the general population [14], In India, CHWs—the vast majority of whom are women were conducting contact tracing with neither masks nor hand sanitizer [15]. When health workers contract COVID-19, it does not only deplete morale of the workforce, it also depletes every one’s ability to fight the virus. A list of the recommended PPEs to use at different levels was appreciated by the staff. Important to note however, is that whereas the workforce members acquired the right knowledge and skills. The participants at Virika Hospital noted a critical shortage of basic PPEs with concern. When shared with Kabarole district health authorities, it was observed that, there was a general shortage of PPEs in the district. Relatedly, in the Netherlands at the beginning of April 2020, where 900 out of the 2500, nursing homes reported COVID-19 infections, some workers chose to quit their jobs because they lacked sufficient PPE [16]. Inadequate supplies of PPE at virika Hospital made it difficult for the trained workforce to apply the acquired knowledge and skills. Lack of adequate

PPEs was therefore noted as a stressor factor to health workers in management of COVID-19 in Kabarole district and Uganda in general. Notwithstanding PPE inadequacy at virika Hospital, at a global level [17] it's noted that even when accessible, the gender dimension of PPE has been noted by the Gender Equity hub of the global Health workforce Network, which pointed out how PPE is challenging for the largely female workforce, as it is not designed with women's bodies in mind.

Picture 3 clearly shows that triage, is a concept that was learnt by the Health workforce and well-practiced in the hospital. Medical dictionary [18] defines triage as the sorting out and classification of patients or casualties to determine priority of need and proper place of treatment. During infectious disease outbreaks, triage is particularly important to separate patients likely to be infected in this particular case with SARS-CoV-2 (COVID-19 virus) as early as possible to avoid rapid transmission in a health care setting. A well-trained health worker at the entrance of Virika Hospital as seen in [Pic 3] helps the hospital to rapidly identify any alert or suspect case for proper further management. In this project health workers capacity to triage was enhanced following and using the CDC standard Triage SOP that was developed in the context of COVID-19 pandemic. Hereunder, a summary of triage process as adopted from CDC Triage SOP [19]. Was emphasized to Virika Hospital health workforce.

The triage process as explained to the health workforce and what is practiced thereafter A Wash hand facility is provided at hospital entrance with soap and water or alcohol-based hand rub as seen in pic 3. A Health Care Worker with a medical mask takes temperature with infrared thermometers at a distance of two meters. A staff at registration desk on seeing symptoms suggestive of COVID-19 notifies triage desk officer. A medical mask is provided to the patient at triage desk immediately symptoms are identified. Social distance is maintained at 2 meters from any one at this level including the patient caregiver. A designated separate, ventilated area near Virika hospital entrance was designated as waiting place for the COVID-19 suspects. This area has chairs separated by at least two meters distance and has restricted access to other sections. The isolation unit has its own toilet, bathroom and hand hygiene station. Disinfection is done frequently for all surfaces at triage area with 0.1% chlorine and 0.5% in case of body fluid spills.

All health workers at this level are well trained in IPC precautions, appropriate hand hygiene, donning and doffing of PPE related to COVID-19, According to CDC [19], health care workers conducting physical examination of patients with symptoms suggestive of COVID-19 should wear gowns, gloves, a medical mask and eye protections (goggles or Face shield).

Improved health workforce skills in Risk Communication

Risk communication is a vitally important aspect in a Public health emergency. World Health organization in 2018 emphasized that during public health emergencies, people need to know what health

risks they face, the nature and scale of the event, and what actions they can take to protect their health and lives. Empowering health workers with skills in Risk communication had two immediate outcomes. One was that the direct participation in Radio programs and TV talk shows on COVID-19 benefited the whole region of 7 districts that access by listening to such programs.

The raised public awareness subsequently resulted in reduction of cases at the Health Facility. Two, the trained health workforce also participated in empowering and engaging the community via dialogue meetings at parish level. Providing timely, relevant and actionable lifesaving information through the most appropriate communication approaches like Radio and TV talk shows, has been recognized elsewhere [20] as reliable intervention to help people adopt safe health practices and reduce fear, stigma and misinformation.

Building capacities of the community and engaging it in COVID-19 risk response

In this project strong capacity was built at community level through community's own resource persons known as VHTs in Uganda. Available literature [20] shows that, the best people to engage communities are those who have trusted long existing relationships with people in the community. Community trust is vital in ending outbreaks and pandemics. Trusted local leaders with common culture, linguistic and historical knowledge are often the best placed to engage communities. Once such community own resource persons are empowered with knowledge and technical information around COVID-19, this becomes significant in mitigating the pandemic and its impact on the community. Relatedly, WHO recommends community involvement in all health interventions including an epidemic control situation? It is further stated that in an epidemic setting, investment is needed at all levels of the health system including the community health workers (CHWs) [21]. This is because CHWs are poised to play a pivotal role in fighting the pandemic more so in low-income countries with vulnerable health systems. CHWs that are equipped, trained and supported as part of a well-functioning health system can help keep the pandemic in check [21].

In our project, a total of 110, Local Council one (LC1) chairperson person, Religious leaders and Village Health Teams were engaged in a dialogue about Covid-19 risk. Engaging community as part of the response team in the district formed part of our success story in the fight against COVID-19. The trained community leaders are very familiar with residents and therefore effectively acted as whistle blowers at community for COVID-19 Alerts. This resulted in timely evacuation of such cases from the community by health workers who would be quarantined at Fort Portal college of Health sciences. This was possible because during the community leaders trainings and dialogues, IPC tailored messages, risky behaviors and practices that fuel COVID-19 community transmission were tackled and stakeholders roles shared. In addition, visual IEC material were shared with the community for effective Risk communication by the community members.

Conclusion

In this study project, strong health workforce capacity was built among 60 technical and support staff at Virika Hospital. The empowered workforce subsequently strengthened and empowered 110 community members in COVID-19 risk detection, reporting and prevention. This could ensure a long term sustained response capacity to the emerging and re-emerging infectious disease in the region and Uganda at large.

Lessons learnt

Public Health Risk Communication through media, benefits the intended target in the service area and those beyond. It is the most effective and fastest means of community mobilization before and during emergence response.

Empowering health workers with right knowledge and skills in handling a public health risk motivates them, but when the acquired knowledge is not translated into action as result of lack of supplies like PPEs, it demotivates and also stresses Health workers.

Authors' contribution

Mathias Tumwebaze, the principal investigator. Coordinated and mobilized the technical team from the District Health office. Organized the training material and was the lead facilitator. Prepared the manuscript and he is the corresponding author. **Lillian Ajuna, the Acting principal nursing officer** Virika Hospital was the innovator of the staff capacity enhancement. Prepared the original concept on behalf of Virika Hospital administration, shared the concept with the Hospital Director and lobbied the district Health office for technical support. **Gwaita Aggrey** organized, proof read and aligned manuscript information report. **Ahimbisibwe Andrew** was the facilitator and Trainer of health workers in IPC. He also organized the training reports and put information on file for the development of the manuscript. **John Jubilee** the Medical officer and Hospital director solicited financial support from hospital Partners who support the project. **Abdullah Ali Halage**, provided technical support in manuscript writing, did the proofreading and revision of the final manuscript.

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Acronyms

BHC: Behavior Change; **CDC:** Centers for Disease Control; **COs:** Clinical officers; **COVID-19:** CORONA VIRUS 2019; **CHWs:**

Community Health workers; **HC11, 111, IV:** Health Centre Level two, Level three and Level four respectively; **HCW:** Health Care Workers; **IPC:** Infection Prevention and Control; **KRC:** Kabarole Research Centre; **MOs:** Medical officers; **PHC:** Primary Health Care; **PPE:** Personal Protective Equipment; **RCCE:** Risk Communications and Community Engagement; **SOP:** Standing Operating Procedure; **VOT:** Voice of Toro.

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