

The journey of hand hygiene in Mubende Regional Referral Hospital

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Introduction

Mubende Regional Referral Hospital (RRH) is a 229-bed hospital located in the Western Central Region of Uganda and serves people in the districts of Mubende, Mityana, Kassanda, Kiboga, Kyankwanzi, and parts of Kyegegwa, Kibaale, Sembabule, Kakumiro, and Gomba. The hospital was elevated to a Referral Status in FY2009/2010, serving a district population of 611,900 (UBOS Projection of 2022).

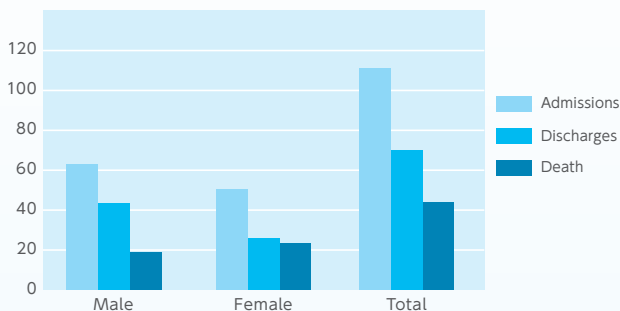
- Annual Outpatient Department (OPD) attendance 2021 average: **82,516**
- Annual Antenatal Care (ANC) attendance average: **8,083**
- Annual deliveries average: **5,710**
- Annual pediatric admissions average: **1,716**



About the Ebola situation

On the 20th of September, Uganda declared an Ebola disease outbreak caused by the Sudan ebolavirus species after confirmation of a case in Mubende District. Case fatality rates of the Sudan strain have varied from 41% to 100% in past outbreaks. Early initiation of supportive treatment has been shown to significantly reduce deaths from Ebola. The confirmed case was from a sample taken from a 24-year-old male. This investigation was triggered by six suspicious deaths that occurred in the district of Mubende in the same month. During this outbreak, there were 164 cases (142 confirmed and 22 probable), 55 confirmed deaths, and 87 recovered patients in total. The World Health Organization (WHO) and partners supported Uganda health authorities from the onset of the outbreak, deploying experts; providing training in contact tracing, testing, and patient care; building isolation and treatment centers; and providing laboratory testing kits. In addition, the president announced directives to support the control of Ebola transmission, including prohibition of movements into and out of the Mubende and Kasanda Districts for 21 days starting on the 16th of October 2022.

Ebola Summary Report



Mubende Referral Hospital EVD KPI Score	Assessment Scorecard Performance (1st and 2nd)						
	1st (%)	Target	Achievement (%)	2nd (%)	Target	Achievement (%)	% 1 se
1 IPC leadership during EVD outbreak	67	100	100	100	100	100	33
2 Staff training	50	50	50	50	50	50	0
3 Screening capacity	40	100	100	100	100	100	60
4 Isolation capacity	17	50	50	50	50	50	33
5 Hand washing/hand washing facilities	75	100	100	100	100	100	25
6 Personal Protective Equipments (PPEs)	100	100	100	100	100	100	0
7 Injection safety	50	75	75	75	75	75	25
8 Environmental cleaning and disinfection	43	100%	44.35%	73	100%	78.85%	30
9 Decontamination of medical wastes and devices	75	100	100	100	100	100	25
10 Inpatient surveillance and management	0	100	100	100	100	100	100
11 Healthworkers post exposure management	0	100	100	100	100	100	100
12 Bed occupancy, Hygiene and sanitation	17	67	67	67	67	67	50
13 Water supply and storage	100	100	100	100	100	100	0
14 Waste segregation	50	100	100	100	100	100	50
15 Waste elimination	0	100	100	100	100	100	100

Adopted from the HF scorecard

Key Colour Score
■ < 50%
■ 50-79%
■ 80 % & >



Ebola treatment center at Mubende Regional Referral Hospital

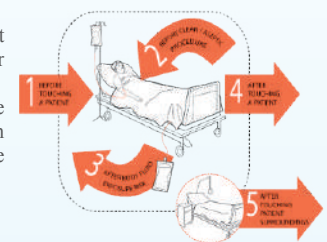
During this Ebola outbreak at Mubende RRH, six healthcare workers tested positive for Ebola. The outbreak spread to nine districts in Uganda (Mubende, Kyegegwa, Kassanda, Kagadi, Bunyangabu, Kampala, Wakiso, Masaka City, and Jinja). Rapid response teams were deployed to support outbreak response activities, including the investigation of unexplained deaths and contact tracing. The CDC provided support for surveillance, epidemiology, laboratory, communication, and ecological investigations. On the 11th of January 2023, Uganda declared the end of the outbreak.

About Infection Prevention and Control (IPC) in Mubende Regional Referral Hospital

- In Mubende RRH, the IPC committee has been in existence since 2010, but hand hygiene practice was not being practiced as per standard following the five moments until 2016.
- There were no guidelines, posters, or trainings specifically targeting hand hygiene in place.
- The main emphasis was placed on the availability of PPEs, the decontamination process, and waste management.
- Meetings and supervisions were irregular but still focused on the above elements and not hand hygiene.
- In 2016, hand hygiene practices began with the support of Infectious Diseases Institute (IDI) and SARAYA.
- External and internal training was conducted.
- SARAYA supplied and installed alcohol hand disinfectant dispensers with alcohol hand disinfectant in all units.
- The IDI and Uganda National Medical Stores (NMS) provided materials for manufacturing alcohol hand disinfectant in the hospital.
- Uganda Continuing Medical Education (CME) and meetings with refreshments and facilitation were initially supported by the IDI up to 2019.
- Sustainability was ensured by continuous mentorships and support supervision on hand hygiene compliance.
- During the COVID-19 outbreak, hand hygiene was generally at its peak by healthcare workers, patients, and their attendants.
- Data collection on hand hygiene compliance was not conducted during the COVID-19 outbreak.
- During the Ebola disease outbreak, there was no transmission to patients via healthcare workers due to a reduced number of patients because of lockdown, adequate supply of PPE from partners, and high hand hygiene compliance.

The Goal

- **Protect the patient** against harmful germs carried on our hands.
- **Protect ourselves** and the healthcare environment from harmful germs by practicing the five moments of hand hygiene.



Sources: Your 5moments for Hand Hygiene. WHO
 URL: https://cdn.who.int/media/docs/default-source/integrated-health-services-ihis/infection-prevention-and-control/your-5-moments-for-hand-hygiene-poster.pdf?sfvrsn=83e2f80e_16

IPC Baseline Assessment

- Knowledge gap
- Few handwashing facilities with soap
- No alcohol hand disinfection practice
- Gloving only with no hand hygiene action
- All units had pathogens on their surfaces, including theatre and neonatal units
- IPC posters on hand hygiene were totally lacking

Strategies to reduce Healthcare-Associated Infections (HAIs) and antimicrobial resistance

- Training of HOD (head of department) and in-charges by IDI
- Formation of a vibrant IPC team who received formal appointments
- Development of action plans concerning training, CME, and supervision
- Institutional process of alcohol hand disinfectant
- Display of standard operating procedure for hand hygiene
- Monthly hand hygiene monitoring using the WHO assessment tool
- Awarding of best-performing units
- Performance and dissemination of monthly analysis of the hand hygiene compliance rate for the hospital
- Quarterly monitoring of hand hygiene alcohol disinfectant consumption
- Daily sensitization of patients, clients, and attendants to hand hygiene
- Continuous orientation of all staff and students
- Monthly meetings to review performance and formulate action plans
- Radio talk shows
- Provision of handwashing facilities by UNICEF during the COVID-19 outbreak

Hand hygiene compliance

Pictures of IPC training



Methods for monitoring

The following methods were used by the hospital IPC committee on hand hygiene:

- Observational
- Investigative – swabbing
- Cross sectional survey – baseline data
- Use of a checklist

Compliance

Baseline on 16th of December 2016: 21.6%

January 2019 : 34.5%

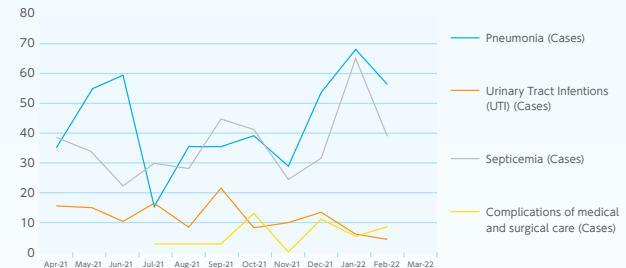
November 2021 : 40%

April 2022 : 50%

Table: Hand Hygiene Compliance Rate from 2017 to 2023

	2017	2018	2019	2020	2021	2022	2023
January	31.2%	-	34.5%	-	-	-	-
February	30.2%	42.1%	-	-	-	-	50%
March	30.9%	33.9%	-	-	-	-	48.2%
April	-	36.3%	-	-	-	50%	-
May	-	54.0%	-	-	-	-	54%
June	42.1%	50.0%	-	-	-	42%	-
July	31.6%	32.7%	-	-	-	-	-
August	33.3%	40.1%	-	-	-	45%	-
September	37.2%	38.9%	-	-	-	-	-
October	-	31.3%	-	-	-	42.1%	-
November	53.3%	30.8%	-	-	-	46.9%	-
December	35.2%	48.6%	-	-	-	-	-

Table: Patterns of transmission of healthcare-associated germs with particular focus on hand transmission in 12 months



Patterns of transmission of reduce Healthcare Associated Infections (HAIs) continued

- In July 2021, there was a decrease in pneumonia cases. This could be associated with increased hand hygiene during the COVID-19 outbreak.
- In November/December 2021, there was a rise in all cases. This could be attributed to the laxity in the observance of hand hygiene.
- There was a decrease in septicemia and pneumonia cases from January 2022 to April 2022. This could be due to the intensified number of trainings on hand hygiene for both the students and staff for the period.
- September-November 2022 due to the Ebola outbreak, the number of patients dropped dramatically due to the lockdown, and IPC committee members joined the Ebola Treatment Unit.

Challenges

Despite hospital hand hygiene compliance being above the WHO target, the following factors are affecting hospital hand hygiene compliance.

1. Individual factors (too busy/workload, skin irritation, glove use, the “don’t think about it” attitude)
2. Inadequate functional handwashing facilities and dispensers
3. Irregular supervision in some units
4. Stockouts of alcohol hand disinfectants
5. Transfer of trained staff to other hospitals

Recommendations

- Continuous mentorships of all students and staff at hand hygiene
- Constant supply of alcohol hand disinfectant manufacturing materials by NMS and Ministry of Health
- All units should have functional taps and a constant water supply
- Continuous monthly assessment and meetings to measure hand hygiene compliance
- Continuous verbal reminders to health workers who are laggards

Conclusion

- Hand hygiene is crucial in the prevention of HAIs. The use of gloves does not replace the need to clean your hands.
- On-site mentorships/CME of all students and staff about hand hygiene have improved hand hygiene compliance from 21.6% in 2016 to 54% as of May 2023.

日本語要約

ムベンデ地域病院のエボラ出血熱と手指衛生に関する取り組み

ウガンダ共和国中西部に位置するムベンデ地域病院(以下、ムベンデ病院)は229床を有し、地域に暮らす約61万人へ医療サービスを提供している。

2022年9月20日、ウガンダ保健当局は、ムベンデ地域におけるスーダン型ウイルスによるエボラ出血熱の発生を宣言した。WHOや他のパートナー機関は専門家派遣や医療物資提供などウガンダ保健当局を支援し、国内でも地域隔離対策を行い、2023年1月11日、当局は流行終息を宣言した。

アウトブレイク中、合計164人の患者(確定例142人、推定例22人)が報告され、55人の死亡者が確認されたが、87人の患者が回復した。ムベンデ病院では6人の医療従事者が陽性と診断された。WHOはこうした医療現場を介した感染拡大防止のため、医療機関内の感染予防管理(以下、IPC)プログラムの向上を推奨している。

ムベンデ病院にも2010年からIPC委員会が存在するが、主にPPE着用や廃棄物処理に重点が置かれ、手指衛生は重視されていなかった。2016年からパートナー機関協力の元、手指消毒剤の院内製造、スタッフへの注意喚起やトレーニング等、本格的に手指衛生の実践を開始した。その結果、2016年には21.6%だった手指衛生遵守率は、2023年5月には54%に到達した。院内でもモニタリングを行い、手指衛生遵守率と医療関連感染は相関性があることを確認している。物資や設備の不足、スタッフ教育等様々な課題は残るが、戦略的に取り組み手指衛生遵守率の更なる向上を目指している。