

IGRA tested. Five employee conversions were identified: one surgeon, one circulating OR nurse, two CSPD decontamination staff, and one respiratory therapist. At time of detection, none of the conversions had evidence of active tuberculosis. Additionally, 46 patients and visitors were tested with zero conversions. HCP compliance with IGRA testing was initially 15% before engagement from hospital and unit leadership and human resources. With intervention, employee compliance reached 100%. **Conclusion:** Despite standard use of surgical masks for OR and CSPD staff, aerosolization of infected bone graft material played an important role in tuberculosis transmission during surgery and instrument cleaning. Respiratory therapy practices in the ICU setting likely also increased risk for pulmonary tuberculosis transmission. Achieving 100% HCP compliance for baseline and follow-up IGRA testing is challenging and requires engagement of both unit and hospital leadership and human resources to ensure all HCP are tested.

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Subject Category: Outbreaks

Implementation of the WHO IPC Ring Approach During the 2022 Uganda Sudan Ebola Virus Disease (SUDV) Response at the Epicentre
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Background: At the onset of an outbreak, immediate infection, prevention and control (IPC) measures and strategies are critically important in stopping the transmission. During the 2022 Sudan Virus Disease (SUDV) outbreak in Uganda, the IPC technical working group (TWG) adopted the WHO ring approach for intensive and targeted IPC support to interrupt transmission in high-risk areas and healthcare facilities (HCFs). Objectives: a) Leverage surveillance and epidemiological activities to guide response efforts and implement targeted IPC interventions. b) To rapidly interrupt SUDV transmission at the source through multiple IPC interventions. **Methods:** The IPC TWG delineated outbreak perimeters (rings) to include health facilities and community sites within 500 meters in urban centres and 1 kilometer in rural areas around each confirmed case. A data base with this information was developed and updated daily with information provided by the surveillance team. To activate response within 12 hours, interventions included rapid needs and risk assessments, health educational materials, deployment of decontamination teams and district IPC mentors with hygiene supplies delivered within 24 hours and a 72-hour follow-up. Trained Village Task Forces (VTF) and IPC mentors conducted health education, set up screening points, holding units, and rapid notification channels. **Results:** 56 rings including HCFs (38) and community sites (78) were identified within the radius of confirmed cases. Using the IPC scorecard, health facility mean scores significantly increased from 18% to 61.7% at follow-up in three weeks. Community WASH baseline scores improved from 11.1% (inadequate) to 69% with a basic level in two weeks. There was marked reduction in the incidence of new cases in the epicentre within the first 32 days. **Conclusion:** The results suggest that the IPC ring approach is an instrumental strategy health ministries can adopt to rapidly provide targeted comprehensive support at the source to interrupt transmission. A collaborative effort across pillars and partners in the implementation of the ring approach is key through concerted efforts and information sharing across response pillars.

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Clearing the Air, Breathe Easy: Intensive Care Unit Remodeling Unveils Insights into Aspergillosis Prevention

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Background: Invasive aspergillosis (IA) poses a substantial threat to morbidity and mortality, particularly among immunocompromised individuals. In 2023, a New York City Intensive Care Unit (ICU) experienced an aspergillus outbreak following a structural water leak, resulting in two patients diagnosed with Invasive Aspergillus niger in their bronchial cultures. Immediate interventions, including patient relocation and ICU reconstruction were implemented to mitigate further impacts. This study aims to assess the impact of timely relocation of patients and renovation of the ICU, on the incidence of invasive aspergillosis. **Method:** A quasi-experimental study design of ICU patients over a nine month period included surveillance by the Infection Prevention department from March 1 to December 1, 2023. Surveillance included review of microbiology reports, environmental cultures, and patient chart reviews. The Pre-intervention spanned March 1 to May 1, and the post-intervention from May 4 to December 1. Indoor mold assessments of pre- and post-intervention involved testing wall surfaces for moisture, air sample collection for fungal spores, and surface swabs for direct fungal analysis. The intervention included relocating all seventeen patients from the impacted ICU and comprehensive reconstruction. Reconstruction involved the removal and replacement of all sheetrock within the unit extending four feet from the floor with moisture-resistant sheetrock. Additionally, moisture resistant single sheet welded vinyl flooring and cove-bases were installed. All heating, ventilation, and air-conditioning (HVAC) systems were inspected and cleaned. Construction activities strictly adhered to Infection Control Risk Assessment (ICRA) guidelines, with emphasis on maintaining negative pressure, to ensure a safe environment. **Result:** Environmental swab samples from 50% of ICU rooms indicated growth of Aspergillus/Penicillium, Chaetomium, and Stachybotrys/Memnoniella type spores during the pre-intervention phase. Environmental microbiology results strongly suggest the indoor environment as the fungal spore source, with the presence of fruiting structures indicating surface mold growth. Indoor air samples, when compared to outdoor samples collected during pre-intervention, showed rare (2-6 raw count) growth of Aspergillus in 55% of the sampled rooms and subsequently no growth post-intervention. Prospective surveillance revealed no further aspergillus growth in the ICU population and environment. **Conclusion:** Our findings highlight a potential correlation between environmental modifications and reduced IA incidence. Swift mitigation and structural interventions are crucial in averting potentially fatal outcomes, marking a significant advancement of prevention strategies for inner-city hospital settings. Although promising, study limitations include the inability to speciate environmental aspergillus for comparison to patient bronchial cultures and the absence of baseline bronchial cultures for affected patients on admission.

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Investigation of a Donor-derived Carbapenamase-producing Carbapenem-resistant Enterobacterales Hospital Outbreak

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