

Gaps in Infection Prevention and Control in Sierra Leone after the 2014–2015 Ebola Outbreak: a call for financial and material resources¹

¹ Squire, J.S.; Conteh, I.; Abrahamya, A.; Maruta, A.; Grigoryan, R.; Tweya, H.; Timire, C.; Hann, K.; Zachariah, R.; Vand, M.A. Gaps in Infection Prevention and Control in Public Health Facilities of Sierra Leone after the 2014–2015 Ebola Outbreak. *Trop. Med. Infect. Dis.* 2021, 6, 89.

e-mail: jmssquire@yahoo.com or james.squire471@gmail.com

Key Messages

- This study of 10 public health facilities in the worst Ebola affected district of Sierra Leone (Kenema), showed that compliance to infection prevention and control (IPC) increased from 2016 to 2018.
- In 2018, the minimum IPC compliance threshold (70%) was achieved in the district hospital (73%) and community health centers (75%), but not in community health posts (68%) and maternal child health posts (65%). Lowest compliance was for sanitation and screening and isolation.
- *Urgent measures* to improve IPC include improving water, sanitation, hygiene and health care waste management. There is also a need to prioritise the infrastructure and consumable gaps and mobilize support and funding to bridge them.

What is the problem and why is it important?

Hundreds of millions of patients and health care workers are affected by healthcare-associated infections, a large share of which can be avoided by implementing IPC strategies.

Sierra Leone is endemic for Ebola and other haemorrhagic fevers, and currently faces the challenge of COVID-19 and antimicrobial resistance (AMR). In 2014–2015, the country experienced the worst Ebola outbreak in history, with over 13,000 cases and 6000 deaths. Health care workers were disproportionately affected, with 300 Ebola cases and 221 deaths.

Achieving high levels of IPC is thus critical in tackling AMR and preventing the acquisition and spread of diseases, the logic being “one prevented infection is one treatment avoided”.

Here we report on the level of IPC in one of the worst Ebola affected districts in Sierra Leone—the Kenema district.

How did we measure it?

During 2016 to 2018, we used an IPC checklist each year to evaluate 10 health facilities, including the district hospital, three community health

IPC compliance thresholds:

<70%: not compliant
70-84%: partially compliant
≥85%: compliant

In all health facilities the IPC compliance was higher in 2018 compared to 2016.

Minimum compliance (≥70%) was achieved in the district hospital and community health centers.

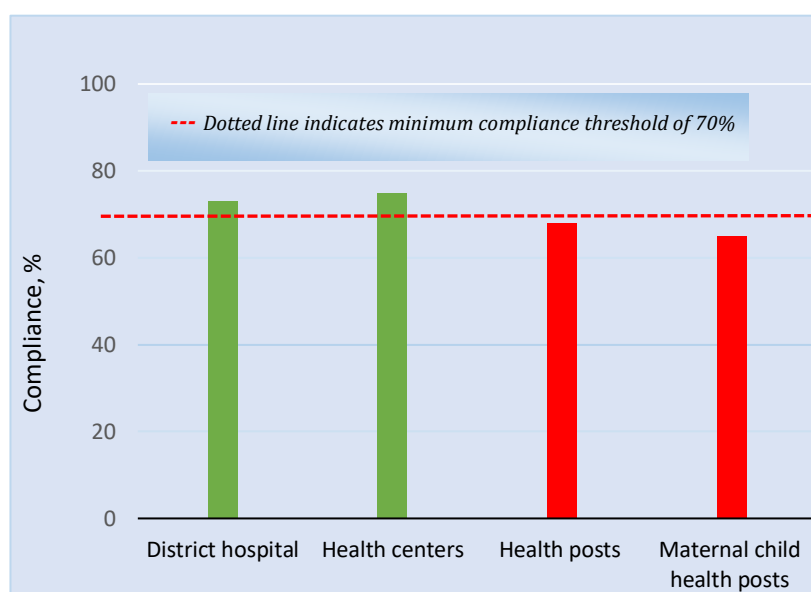
centers, three community health posts, and three maternal child health posts. The minimum compliance threshold is set at 70%.

The checklist is a structured, closed-ended questionnaire with a scoring system on 10 key areas of IPC. For example, availability of screening and isolation facilities, personal protective equipment and supplies, etc.

What did we find?

- The average IPC compliance in all health care facilities increased from 2016 to 2018. In 2018, minimum compliance threshold (70%) was achieved in the district hospital (73%) and community health centers (75%), but not in the community health posts (68%) and maternal and child health posts (65%).
- In 2018, the thematic area with the lowest compliance at district hospital was sanitation (44%), and for other health facilities, this was for screening and isolation (53% in community health centers, 39% in community health posts and 33% in maternal and child health posts).
- Several gaps were identified in activities, infrastructure, and consumables, such as inadequately equipped hand hygiene stations, non-functional toilets, inadequate waste and sharps management, short-comings in triage and isolation facilities, and mattresses without water-proof covers.
- IPC assessments done in 2019-2020 show similar compliance levels and persistent gaps.

Figure 1. Average IPC compliance (in %) in public health facilities in Kenema district 2018.





Implications

- This study provides a useful baseline on the IPC status in Kenema district, and is an eye-opener of what is working and what is not.
- *Immediate measures* to improve IPC include ensuring:
 - that clean water, soap and alcohol hand rub solutions are available at all hand hygiene stations and particularly in clinical areas
 - that toilets are functional and provided with a constant source of water
 - adequate waste and sharps disposal
 - mattresses have water-proof covers to avoid them becoming a vehicle for disease transmission
- There is also a need to prioritize the infrastructure and consumable gaps and the IPC team, with the AMR Coordinating Committee, needs to galvanize support and funding to bridge these gaps.