

Is there sufficient evidence to inform personal protective equipment choices for healthcare workers caring for patients with viral hemorrhagic fevers?



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Canada and Health Canada

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Background

- The 2022 Sudan Virus Disease (SVD) outbreak in Uganda triggered the Public Health Agency of Canada's Incident Management System, which was tasked with assessing the threat and ensuring preparedness in the event of a case of SVD being imported to Canada
- A need for a review and update of the Agency's guidance for healthcare worker (HCW) personal protective equipment (PPE) was identified
- Our group conducted a rapid review of the literature to help inform potential changes to our guidance

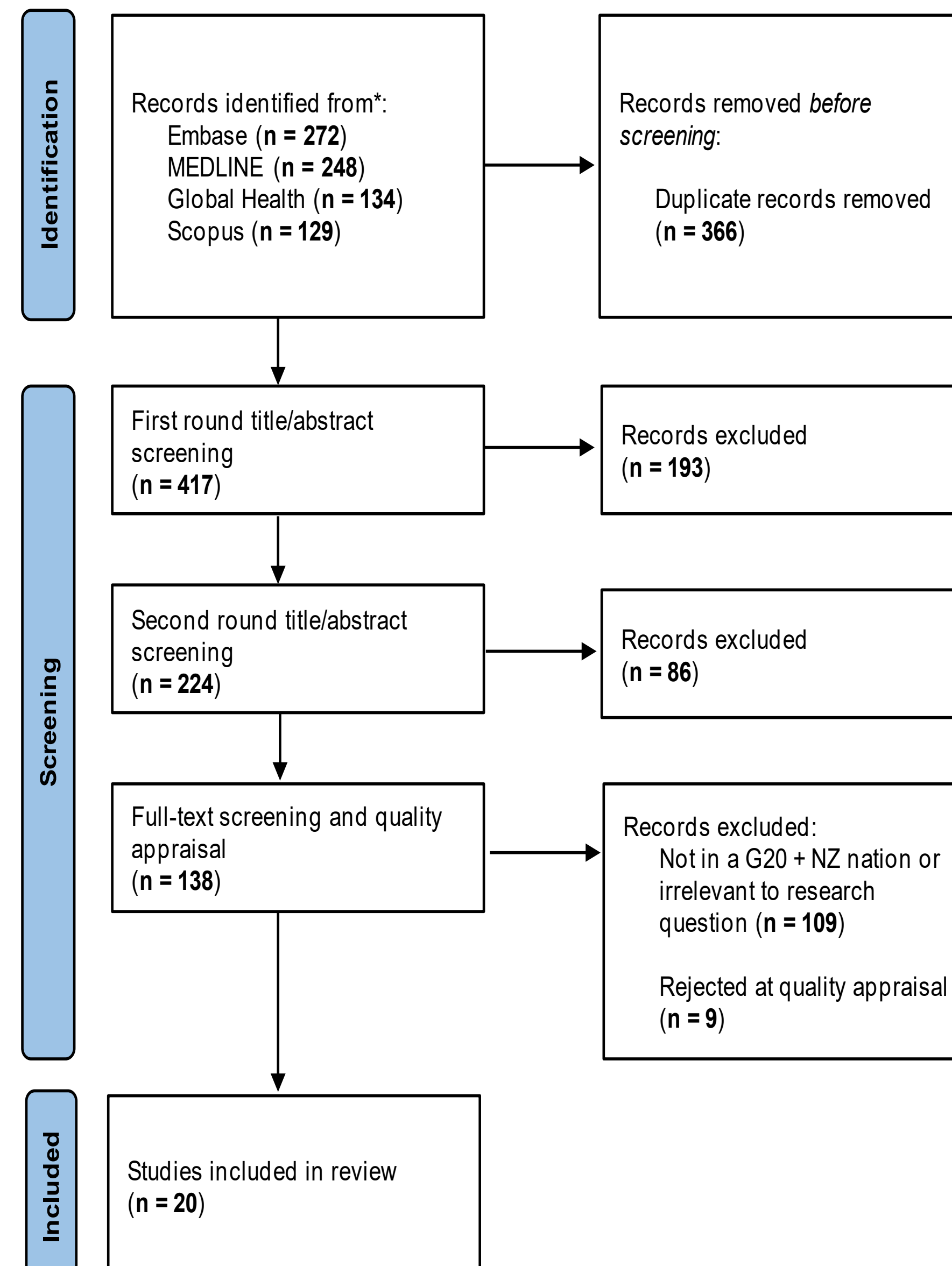
Research question: What literature exists related to personal protective equipment (PPE) use by healthcare staff to prevent exposure to and transmission of viral haemorrhagic fevers (VHFs)?

Methods

- **Search period:** July 2014 – 17 October 2022
- **Language restrictions:** English OR French
- **Geographic restrictions:** G20 countries and New Zealand
- **Databases:** Embase; MEDLINE; Global Health; Scopus
- **Inclusion:** Peer-reviewed primary studies and literature reviews relevant to use of PPE in the context of VHF exposure, transmission, and/or contamination
- Literature screening performed in duplicate with literature screening software using systematic screening forms, conflicts resolved via discussion and consensus
- Study quality assessed using PHAC's Infection Prevention and Control Critical Appraisal Toolkit



Results



Conclusion

- Overall, there is insufficient evidence to draw conclusions on the comparative effectiveness of PPE to prevent exposure to, and transmission of, VHFs, including Ebola Virus, to healthcare workers
- Generally low-to-moderate quality studies, low sample/participant sizes
- Additional research is needed to determine optimal PPE required for safe patient care in the context of VHFs
- Current PPE recommendations based on established practice, expert opinion, and risk assessed will be further informed by additional research
- Existing guidance on PPE for VHFs was updated based on expert opinion and there appears to be no literature to suggest this guidance is insufficient

Gaps in the literature

- Lack of comparative studies, significant variability in study design and execution. For example, high variability in types of PPE and donning/doffing procedures across studies
- Many studies were simulations conducted in labs, minimal front-line studies
- Limited studies conducted in G20 nations/comparable settings

To find out more about PHAC's Ebola disease IPC guidelines, scan here!



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