

# Investigating healthcare worker and public practices and attitudes to the COVID-19 pandemic through a global survey

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## Re-aligning antimicrobial resistance research with response to the pandemic

The COVID-19 pandemic has changed how healthcare workers (HCWs) and the public behave and think about infections; in particular, the best methods of prevention and when to seek help and treatment<sup>1,2</sup>. This pandemic has impacted population groups differently, placing those with socio-economic vulnerabilities at greatest risk of poor outcomes<sup>1,3</sup>. Evidence is emerging on identifying changes to infection prevention practices and antibiotic prescribing behaviours during this pandemic<sup>2</sup>.

Despite this, little focus has been placed on how the attitudes, experiences and behaviours of HCWs and members of the public influence and shape uptake of, and adherence to, desired infection prevention and control (IPC) practices and antimicrobial stewardship (AMS).

The misuse and overuse of antibiotics has been of major global concern prior to this pandemic<sup>4</sup>, with increasing calls for better and more sustainable international collaborations to tackle it. Since the pandemic, the bi-directional interplay

between antimicrobial resistance (AMR) and COVID-19 has contributed to increased secondary bacterial and fungal infections in hospitalised patients, particularly in low- and middle-income settings where there is already a high burden of AMR<sup>5-9</sup>.

The SPIRES project (Antibiotic use across Surgical Pathways - Investigating, Redesigning and Evaluating Systems) is a collaborative project funded by the Economic and Social Research Council (ESRC) as part of the Antimicrobial Cross Council initiative supported by the seven UK research councils<sup>10,11</sup>. It is a collaboration of eight universities across four countries – the UK, South Africa, India and Rwanda – which aims to address AMR through a systems approach and implementation of behaviour change interventions to optimise antibiotic use along surgical pathways<sup>10,11</sup>. Focused on building capacity for research in AMR using a social sciences approach in low- to middle- countries (LMICs), this

research project has been impacted by the pandemic<sup>12</sup>. The qualitative research undertaken as part of this partnership has highlighted the challenges in implementing AMS and IPC in surgical pathways and helped identify a framework for integrating AMS in surgical specialties<sup>13</sup>. As part of this research, the experiences, perceptions and contributions of the surgical patients and their carers are being investigated, shedding a light on the significant role that they play in IPC and AMS whilst under surgical care<sup>14-20</sup>.

As the pandemic unfolded, and in response to the recommendation of the International Advisory Board of the SPIRES project, the decision was made to realign some of the research capacity to investigate the knowledge, attitudes and practices of healthcare workers and the public to IPC and AMS during the pandemic. Using an online platform, we developed two separate but closely aligned surveys investigating the knowledge, attitudes and practices of HCWs and the public in relation to the COVID-19 pandemic, the related IPC measures and antibiotic

*“The bi-directional interplay between AMR and COVID-19 has contributed to increased secondary bacterial and fungal infections in hospitalised patients, particularly LMIC settings.”*

use. The surveys were first developed for India and South Africa and subsequently we were awarded a British Society for Antimicrobial Chemotherapy (BSAC) grant to extend the study to mainland China with colleagues at the University of Bristol and University of Beijing.

## Piloting and rolling out the surveys

Two self-administered surveys were developed for HCWs and the public following iterative revisions for reliability, validity and internal consistency. Academic and clinical colleagues, and lay person representatives have piloted and contributed to the content of the surveys. Ethical approval for the international roll out of the HCW survey was obtained from Imperial College London. Local ethical approval for the roll out of the public survey was also obtained in UK, India and South Africa.

## Preliminary findings

Survey dissemination in India and South Africa was between 15 September to 15 December 2020. During this time, there were 851 responses from the public across the two countries and 329 responses from HCWs. Understandably, the lower response from HCWs is due to the prioritisation of the clinical response to the pandemic. Nonetheless, the preliminary findings have highlighted important considerations, including:

## Healthcare worker Survey

- High awareness of the WHO COVID-19 signs and symptoms of COVID-19.
- Whilst both HCWs and the public identified the correct IPC measures required to avoid infection and to treat those who are suspected of or are diagnosed with COVID-19, a considerable number of HCWs did state that they required further training in appropriate use of personal protective equipment.
- Over half of respondents reported increased participation of inpatients in IPC practices.
- The majority of respondents strongly believed that complications from COVID-19 infection would increase the use of antibiotics and the threat of AMR.

## Public survey

- Social media remains a key source of information on the pandemic for the public.
- Fever, cough, loss of taste or smell were identified as the most popular symptoms of COVID-19.
- Most respondents reported an improvement in their hand sanitising practice and some of the respondents commented that this change is sometimes against their will because of the rules and restrictions imposed in workplaces and general public places.
- Among the respondents who stated they had symptoms of COVID-19, almost half chose not to seek medical help. Among those who received medical help, most of them visited a GP while a few treated themselves with medicines at home and homemade remedies.

One in five respondents said they do not want to get vaccinated and the most common reason given was either because they were confident that they have a good immune system and are not among the high-risk population or because they felt the vaccine testing is a rushed process and cannot be trusted.

## Participate in the survey

We are now extending this survey to more countries and welcome you to participate as a HCW, to provide information on your perspective. [Click here to participate.](#)

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