Written responses to open questions of the webinar 'Learning from COVID-19 to tackle the silent pandemic of antibiotic resistance' with Manica Balasegaram, Joanne Liu and Marc Mendelson, originally broadcast on 4 March 2021. See webinar recording here: https://revive.gardp.org/learning-from-covid-19-to-tackle-the-silent-pandemic-of-antibiotic-resistance/

Question asked	Response from the speakers
Thank you for this excellent Webinar. I have a question for Dr Manica, what are your comments on the falsified/substandard Antibiotics manufactured with lower APIs, without any standards and distributed easily. How can we advocate better standards to the Manufacturers and especially at the political level? Thank you	Antibiotics are among the medicines with the biggest quality challenges. Antibiotics are the most counterfeited medicines and account for 28% of global counterfeit medicines. Counterfeit antibiotics are estimated at 5% of the global antibiotic market. No area in the world seems to be spared from counterfeiting of antibiotics. However, these are rare in developed countries, whereas the strong demand for antibiotics in emerging countries creates a highly attractive market for counterfeiters. Governments and procurement systems need to take this strongly into account. Some international procurement agencies, such as UNICEF, address this issue through their procurement platform and quality assurance system. Suppliers of antibiotics selected by UNICEF must meet UNICEF's quality assurance requirements, which include compliance with international manufacturing guidelines and standards, as well as regular inspections of manufacturing sites. But other mechanisms should also be developed for countries that will be sourcing outside of UNICEF's procurement systems. The governments of these countries must make a firm commitment to ensure that the products they supply to their people are produced to high quality standards. In addition to counterfeit medicines, we also need to manage effluent discharges from the manufacture of antibiotic. In exception of the recently published draft bill in India, there are currently no legal requirement. Nor are any environmental requirements included in GMP. A clear topic that should also be addressed. *– Yann Ferrisse, Head of Business Development and Analysis, GARDP (on behalf of Manica Balasegaram)*
Thanks for the great talks. Question for all speakers, but perhaps more for Dr. Mendelson: Many efforts have been made since the early phases of the pandemic to implement infection control protocols in hospitals, which could also play a role in reducing the risk of healthcare-associated infections from drug-resistant pathogens. How can we make sure that these measures are not abandoned once the pandemic is over?	Great question. This is a major challenge. As said during the webinar, I think that the infection prevention and control gains during COVID were mainly driven by fear for oneself. That doesn't work for AMR as it's the patients that we should be protecting. I think that it's critical that we highlight this to healthcare professionals, so that they start to appreciate the need for a more altruistic and dare I say, professional approach to their jobs. In some countries, hand hygiene is well practiced (mainly high income countries), but we need to seize the opportunities through discourse, education and drawing parallels with IPC for COVID and for AMR mitigation. *– Marc Mendelson*

Remaining audience questions from the webinar 'Learning from COVID-19 to tackle the silent pandemic of antibiotic resistance', broadcast on 4 March 2021.

Question asked	Response from the speakers
As per WHO, only a small proportion of COVID-19 patients need antibiotics to treat subsequent bacterial infections and not for mild COVID-19 illness. However, there is consumption of high doses of antibiotics as a precautionary measure this promoting superbugs. What's your opinion in that?	With a new infection such as SARS-CoV2, in the first months there is considerable inexperience and uncertainty as to whether the patient in front of you has COVID-19 or a bacterial pneumonia. They can mimic each other. Hence in the early days, I am not surprised that there was a lot of antibiotic prescribing. We also didn't know initially, whether COVID would be like influenza and have a high rate of bacterial coinfections in severe illness, and lastly, azithromycin was the rage early on as a putative treatment. The problem is that once we had data that the rate of bacterial co-infection was so low, much of the argument for using antibiotics empirically falls away. Furthermore, once one is able to recognize COVID patients clinically, you can stop the antibiotics quickly. I don't think that most people ever did this. In my hospital, we stopped all antibiotics immediately, unless there were specific pointers. Antibiotics should rarely be used as a 'precautionary measure' i.e. ' just in case…' *– Marc Mendelson*
Do you believe in a reduction in antimicrobial resistance due to social isolation and infection control measures in the community? How could this impact resistance in the hospital environment?	I think it is likely that the reduction in health seeking behaviour during COVID and especially during lockdowns has led to less antibiotics being prescribed and therefore, likely to have relaxed some of the antibiotic pressure that would otherwise have been exerted. Sadly, I am not convinced that it will have impacted on the hospital environment because of the very high rate of antibiotic prescribing in hospitalised persons during the same time frame. So, sadly, it's probably swings and roundabouts. *– Marc Mendelson*