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with an average detection rate of 83.7%. Production of colibactin was relatively rare among these CRKP strains; this observation is consistent with a report by Holt and colleagues.² Production of yersiniabactin has been reported to be strongly correlated with human infections and might precede acquisition of the other siderophores in CRKP;² hence, surveillance of carriage of this virulence factor among clinical CRKP strains is necessary. RmpA2 and aerobactin were also commonly detected, accounting for 32.5% and 35.6% of the test strains, respectively. These findings suggest that these strains have already evolved into carbapenem-resistant HvKP. The high rate of carriage of virulence genes in CRKP strains in China might account for the difference in the severity of infection and clinical outcome when compared with CRKP infections in other countries.

The χ^2 test was used to compare the genetic features among CRKP strains isolated from 2016, 2017, 2018, 2019, and 2020, and significant differences were observed in most of the genetic features among these strains (appendix). All in all, this 5-year, continuous, nationwide surveillance study on the prevalence of CRKP strains further revealed that a substantial shift in genetic characteristics of CRKP isolates towards those of HvKP has occurred in China, and so a major proportion of CRKP strains in China should now be regarded as hypervirulent CRKP. These findings provide important insight into development of more effective approaches to control CRKP and hypervirulent CRKP infections in China.

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- 2 Holt KE, Wertheim H, Zadoks RN, et al. Genomic analysis of diversity, population structure, virulence, and antimicrobial resistance in *Klebsiella pneumoniae*, an urgent threat to public health. *Proc Natl Acad Sci USA* 2015; **112**: e3574–81.

Polio amid a humanitarian crisis in Afghanistan: challenges and recommendations

According to WHO, Afghanistan is one of only two countries in the world in which poliovirus type 1 is still circulating.¹ Over the years, Afghanistan has made tremendous efforts to completely eradicate polio from the population; however, a fragile health-care system and pre-existing socioeconomic and political challenges have delayed this success.

To eradicate polio completely, every child (aged <5 years) in every household must be vaccinated, but millions of children in Afghanistan are still unable to get the polio vaccine for several reasons. The ban on door-to-door polio vaccination by the Taliban in 2018 led to approximately 3.4 million children not being vaccinated.² Around 74% of the country's population lives in rural areas where basic health-care facilities and vaccination services are not available.

The COVID-19 pandemic and political instability are contributing to the

challenges. During the first 6 months of 2020, the polio vaccination programme was completely shut down due to COVID-19 and approximately 23 million children missed out on their routine vaccinations—an increase of 3.7 million from 2019.³

Among these unprecedented circumstances, recent efforts in engaging negotiations with the Taliban establishment have seen relative progress. As of Nov 8, 2021, the Taliban decided to resume polio vaccination efforts, including door-to-door polio vaccinations across the country.⁴ This will allow WHO, the UN Children's Fund, and other key non-governmental organisations to access more than 3 million children in parts of the country that had previously been determined to be inaccessible.

To eradicate polio in Afghanistan, security for health-care workers and mobilisation of awareness campaigns should be prioritised. Security is particularly essential considering reports of violence against health-care workers in 2021.⁵ This can be done by working with the Taliban to deploy their own security forces at vaccination centres, while working in tandem with local leaders to prevent violent acts against health-care workers. There is an opportunity arising with the reopening of school systems in the country to educate the masses, with the help of teachers, about the signs and symptoms of polio and the need to be vaccinated. These messages could even trickle down to the students' homes and families, thus leading to more vaccinations.

Afghanistan, with its already fragile health-care system, can use the premise and already somewhat present infrastructure of COVID-19 vaccination efforts to simultaneously vaccinate children for polio, which should reduce some of the burden on the health-care system and increase the number of polio vaccinations substantially.

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