

Using COVID vaccine technology to make faster, cheaper meningitis vaccines, and regulatory lessons from COVID

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The speed and success of development of Covid19 vaccines using novel technologies could signal the possibility of broader and enhanced protection against meningitis pathogens. However, it is noted that the currently available mumps vaccine, and the glycoconjugate vaccines for the encapsulated bacteria, Hib, meningococcus, and pneumococcus have a similar level of effectiveness to those seen for these new vaccines, and thus higher effectiveness is unlikely. New vaccines for Group B streptococcus using traditional conjugate technology, might be expected to have a similar impact, and are already in development. Nevertheless, broader protection against pneumococcal disease, and new generation MenB vaccines may enhance the defence against meningitis. The new genetic technologies, viral vectors and RNA vaccines, could provide new momentum to improve protection. However, there remain challenges in using these technologies for bacterial antigens, which are not usually expressed and folded using mammalian cells and even if successfully expressed, key immunogenic epitopes may be masked by glycosylation. Despite these hurdles there is potential for using this technology, but the biggest impact in the coming decade will be wider deployment of the licensed vaccines and those already in development using existing technology. Tackling poverty and enabling access to existing meningitis vaccines will transform the global health impact of the disease.