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VACCINES TO TACKLE ANTIMICROBIAL RESISTANCE**Ivana Haluskova Balter**

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Bacteria, viruses, parasites and fungi that are resistant to drug cause 700,000 death each year. By 2050, superbugs inured to treatments could cause up to 10 million deaths annually and costs the global economy US\$100 trillion. AMR (antimicrobial) resistance is regarded nowadays as a major threat to global public health. The issue is receiving high-level political attention (G7 and G20 in 2017 for first time). Pandemics, drug resistance and neglected diseases framing health as a global security issue. The list was drawn up in a bid to guide and promote research and development (R&D) of new antibiotics, as part of WHO's efforts for AMR (27th Feb 2017) Tuberculosis (MDR/XDR) and latent tuberculosis represent a major issue to tackle attracts global attention as witnessed by recent WHO and inter-ministerial meeting in November 2017 in preparation of high level UN meeting in 2018. Problem of resistance get worsened due declining number of new antibiotics and limited number of new classes. Multifaceted strategy to promote and prioritize highly potential alternatives to tackle AMR like vaccines development is required. Vaccines like diphtheria and tetanus did not prompt resistance. In 1980 the smallpox vaccine had eradicated the naturally circulating virus worldwide without generating resistance. Additionally, introduction of live vaccines like measles and BCG has been associated with much larger reduction of mortality than can be explained by the prevention of the targeted infections and recent research like LATV pertussis highlights importance of "off target" effects to be evaluated in depth. Thoughtful and innovative vaccines development considering host microbiota superorganism and immune crosstalk-immune system training linked with several inflammatory/autoimmune diseases open large avenue for future development. Accurate diagnostic and surveillance with better understanding of genetic and immunologic background of host specific response and pathogen evolution drives successful country adapted vaccine research. Vaccines, as highly potent tool and valuable alternative from long term perspective being clearly recognized as a major tool for public health already. Further strong support to promote them as highly potential tool to tackle antibiotic resistance need joint endorsement including regulatory and economic stakeholders along with necessary partnership at global level.

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