VACCINES: REACHING FOR HIGHER BRANCHES AFTER THE LOW HANGING FRUIT HAS BEEN PICKED

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Vaccines represent one of the most significant advances by medicine in addressing infectious diseases being responsible for the elimination of a few and the virtual eradication of several other scourges. In addition, medicine is also beginning to appreciate the potential applicability of vaccines beyond infectious diseases to areas such as oncology. During any emerging infectious disease public health event, availability of a vaccine figures prominently in the assessment of the capability to address the threat most effectively. A more rapid deployment of new vaccines would enable more effective management of emerging threats. Efforts to streamline manufacture and production of vaccines have yielded some success. Vaccination enhancements such as temperature stability, adjuvants, and alternative delivery devices are needed for improving overall effectiveness. At the same time, animal model testing of candidate vaccines have displayed variable success in predicting immunogenicity and efficacy in humans. Examples of efforts in these latter arenas will be discussed to highlight the potential of newer technologies and approaches that may further improve the capability to bring vaccines forward towards clinical evaluation in a timelier manner to impact responses to emerging infectious diseases.