

Novel Technologies for New Vaccines

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Vaccines can prevent and potentially eradicate infectious diseases, representing one of the most powerful measures to save lives. Several technological breakthroughs are transforming vaccinology and structure-based design, adjuvants, mRNA, viral vectors, new in vitro and in vivo models, systems biology are the major players of this incredible advancement. The COVID-19 pandemic represents a clear example of a concerted global effort in which new technologies have been applied to drive vaccine design quickly and effectively. Vaccines that are difficult or impossible today, addressing antimicrobial resistance, emerging infectious diseases, cancer and an aging population could become possible. A concerted effort will be needed to address present and future challenges, including how vaccines may be deployed globally and equitably.

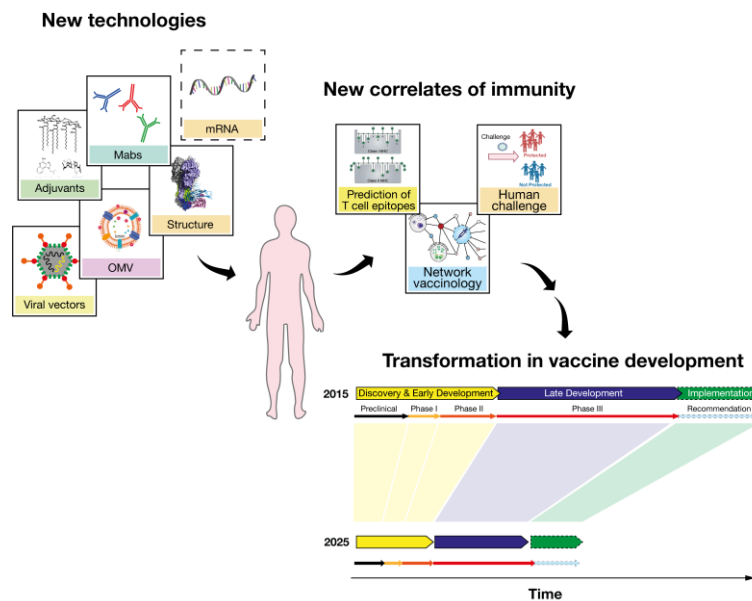


Figure 1: New technologies and new correlates of immunity are driving the transformation in vaccine discovery and development