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# The respiratory syncytial virus vaccine landscape: lessons from the graveyard and promising candidates

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## Abstract

The global burden of disease caused by respiratory syncytial virus (RSV) is increasingly recognised, not only in infants, but also in older adults (aged  $\geq 65$  years). Advances in knowledge of the structural biology of the RSV surface fusion glycoprotein have revolutionised RSV vaccine development by providing a new target for preventive interventions. The RSV vaccine landscape has rapidly expanded to include 19 vaccine candidates and monoclonal antibodies (mAbs) in clinical trials, reflecting the urgency of reducing this global health problem and hence the prioritisation of RSV vaccine development. The candidates include mAbs and vaccines using four approaches: (1) particle-based, (2) live-attenuated or chimeric, (3) subunit, (4) vector-based. Late-phase RSV vaccine trial failures highlight gaps in knowledge regarding immunological protection and provide lessons for future development. In this Review, we highlight promising new approaches for RSV vaccine design and provide a comprehensive overview of RSV vaccine candidates and mAbs in clinical development to prevent one of the most common and severe infectious diseases in young children and older adults worldwide.

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