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Respiratory Syncytial Virus (RSV) is a single-stranded RNA virus of the family Paramyxoviridae. RSV causes a significant burden of respiratory disease in the most vulnerable members of the population: young children and older adults, particularly those with pulmonary and cardiovascular - related co-morbidities. RSV presents many scientific and clinical challenges, and despite half a century of research no broad-based prophylactic vaccine for RSV has been approved. Since the 1998 approval of Synagis® (palivizumab), a monoclonal antibody for the prophylaxis of premature and other high-risk infants, we have developed new technologies and approaches to expand RSV prophylaxis to all vulnerable members of the population. MEDI8897 is a second-generation monoclonal antibody for prophylaxis of newborns. The mAb targets the recently identified ‘Site 0’ epitope on the pre-fusion form of the RSV fusion (F) antigen and binds to the virus with 100-fold higher affinity than palivizumab. Combined with modifications for half-life extension and formulation for intramuscular injection, MEDI8897 is intended for all infants entering their first RSV season, as well as children with chronic heart & lung conditions entering their second RSV season. The burden of RSV illness in children remains significant beyond the first season, and for this we are pursuing various approaches for active vaccination. Options for protecting this population will be discussed in the context of the scientific and clinical challenges inherent in active vaccination for RSV in children. MEDI7510 is a protein subunit vaccine candidate designed for older adults and is formulated with a TLR4-based adjuvant. In a Phase I clinical trial of older adults, MEDI7510 was safe and well tolerated, and neutralizing antibody titers were boosted above pre-vaccination levels. T-cell responses against the RSV-F antigen were also boosted above pre-vaccination levels. A Phase II trial of Medi7510 is in progress.