

5. *The need for basic research on specific targets that pose safety concerns for both existing vaccines and candidate vaccines.* The need for additional basic research was discussed. The Institute of Medicine study on the *Adverse Effects of Pertussis and Rubella Vaccines* substantiated a causal association between rubella vaccination in adult women and acute arthritis and potentially chronic arthritis. Similarly, recent studies have pointed to the potential for long-term adverse events associated with a candidate measles vaccine that could be used in infants. Although good vaccines exist for both diseases, a better understanding of the adverse events, the possible development of an improved vaccine, and the systematic evaluation of alternative approaches to immunization are important to support the national and global immunization programs to prevent congenital rubella syndrome and whooping cough. RSV vaccine research has been substantially hampered by safety concerns resulting from immunopotentiality produced by vaccine candidates 30 years age. Research must focus on these issues to develop vaccines for this important pathogen in children. Finally, there is a need to expand support for basic research on potential neurologic complications of vaccines.
6. Emerging infections. The potential of developing vaccines for emerging and reemerging diseases was discussed in the context of three specific problems—influenza, tropical or parasitic infections, and Lyme borreliosis. The panel acknowledged the difficulties inherent in working on these problems. Despite technical problems, emerging infections compel action. A more detailed plan has been developed for Lyme disease vaccines. The proposed research initiative includes basic research on pathogenesis, especially important in a relatively new disease, with research on *in vitro* correlates of immunity and development of field sites for evaluating candidate vaccines. Recent advances in Lyme disease vaccine development predicate the need for planning and developing such sites in the near future. Influenza infections are constantly emerging. The expectation is that in time a new pandemic shift will occur, and in many ways we are not any better prepared for that event now than we were 30 years ago. The panel recommended that influenza vaccines receive additional emphasis. Finally, the impact of parasitic infections such as malaria and schistosomiasis is truly vast. NIAID, in collaboration with U.S. Agency for International Development, has expanded its efforts in malaria vaccine development. These efforts must be enhanced and expanded to take advantage of the exciting developments in parasitic immunology and pathogenesis. The panel strongly endorsed NIAID proposals in this area as timely and appropriate.