

# A systematic review and meta-analysis of long-term immune responses to vaccination in HIV



Initial immune responses to most vaccines are impaired in people with HIV. However, little is known about the persistence of vaccine-induced antibodies over the long-term. A team of French writers have therefore performed a meta-analysis and systematic review of data from prospective studies reporting on the long-term persistence of antibody concentrations after vaccination. Nineteen studies met inclusion criteria. They looked at several vaccines including hepatitis A and B, measles, tetanus, *Strep pneumoniae* and yellow fever. The results found that hepatitis A showed 92% protection after two years and 82% after five years, while hepatitis B showed less than half having a primary response still had protective immunity after two years and less than 17% were protected at five years. They were also able to show that doubling the vaccine dose did not improve long-term responses. Measles vaccine also showed a drop after two years, to 62% and a further drop to less than 40% having protection after five years. Similar results were noted with tetanus of 74% and 43% after two and five years respectively. Analysis of

long-term responses to immunisation against *Streptococcus pneumoniae* showed that after five years, antibody levels were no longer protective. This was also noted to be more likely the case for people with a low CD4 cell count or detectable viral load at the time of vaccination. While responses to yellow fever vaccine showed that antibody levels fell more rapidly in people with HIV compared to HIV-negative individuals, with only 17 % still having protective antibody levels ten years post-vaccination. The study concludes that even though the sample size was small with only 40 people, it nevertheless raises important long term considerations for people living with HIV in that that healthcare providers need to closely monitor vaccine responses and revaccinate when antibody levels are no longer protective.

[Kernéis, S. et al., 2014. Long-term immune responses to vaccination in HIV-infected patients: a systematic review and meta-analysis. \*Oxford Journal\*](#)