Immunocompromised and allergic children are at an increased risk of severe vaccine-preventable diseases, but their vaccination coverage is far from optimal. The reasons in immunocompromised patients are the fact that vaccines can be associated with reduced immunogenicity and an increased risk of adverse events. Looking carefully at the available literature, it appears that the immunogenicity of inactivated and recombinant vaccines in immunocompromised children is comparable to that of healthy children at the moment of vaccination, but it undergoes a progressive decline over time, and in the absence of a booster, the patients remain at risk of developing vaccine-preventable infections. However, the administration of live attenuated viral vaccines is controversial because of the risk of the activation of vaccine viruses. A specific immunization program should be administered according to the clinical and immunological status of each of these conditions to ensure a sustained immune response without any risks to the patients' health. When allergic children are considered, the main problem is represented by the low knowledge of the pediatricians concerning the vaccination of children with suspected or proved allergies, with fears that are not scientifically supported. Since pediatricians are the main parents' advisors regarding vaccinations, these results indicate an urgent need for educational programmes and evidence-based guidelines concerning vaccinations in children with suspected or proved allergies.