

Sweden

The current Swedish immunisation program is regulated by an ordinance from the National Board of Health and Welfare, recommending vaccinations against defined diseases with appropriate immunisation schedules. There are no mandatory vaccinations.

The Swedish delivery system consists of the nurses at the Child Health care centres until 6 years of age and then by the school health nurses. Doctors at paediatric services and/or Infectious disease clinics can in some instances become involved (riskgroups, immigrants in need of complementary vaccinations or children with severe chronic diseases). The area-based Child Health Care system has a long-standing tradition in Sweden, with more than 99% of children registered. The remaining children are mostly those not living at home because of chronic severe diseases. The School Health Care also has a long-standing tradition and the school nurses have the possibility to meet more children than registered residents, because mostly also immigrants and refugees go to school.

All vaccinations included in the national programme are provided free of charge by the counties (children under 6 years) or communities (over 6 years). There is no special remuneration for the delivery of the vaccines by the providers. The choice of product and the purchase is up to each county or community. In most counties there are vaccine committees evaluating tenders from the vaccine producers at varying time intervals, or the actual purchase agreement is negotiated by a group of counties. Most of the communities have an agreement to purchase the relevant products to the price of the county tender, but some handle the purchase alone at community or sub-community (school) level. The delivery is done by the pharmaceutical companies to each service.

Influenza and pneumococcal vaccinations for the elderly and at risk groups are provided mainly by general practitioners but also by infectious disease clinics, vaccination centres, and private health care providers. Each county decides if the vaccine should be delivered free or not and the practise varies with a trend towards free vaccine to risk-groups. TBE vaccination is recommended to people living in certain geographical areas but vaccines are not provided free of charge.

Vaccination statistics for pre-school children are currently collected each year in January from all Child Health Centres. Reports comprise vaccination status in children who passed their 2nd birthday during the preceding calendar year, which means that the vaccination status is reported by the age of 24-35 months. The DTPa-IPV-Hib coverage is 98% or above and the MMR coverage has been roundabout 94-95%, with a temporary drop during the autism debate. Information from schools are collected at the end of the 6th grade, which means at 12-13 years of age. The school reports indicate that about 97% have received the scheduled number of DT and IPV and 95% has

received two doses of MMR. A web-based national vaccination register, Svevac, is recently developed and currently there is an implementation process ongoing throughout the country.

The Swedish actors in the development and execution of the national vaccination program can be divided in different groups. The operational actors carrying out the execution of the programme are the counties and communities. The regulation of vaccines as pharmaceutical products are as in other countries done by the Medicinal Products Agency (MPA) while the National Board of Health recommends and sometimes regulates the content of the programmes. This is based on information from the Swedish Institute for Infectious Disease Control (SMI) and on the advice of groups of experts formed by the National Board. These groups are formed ad-hoc for each vaccine or vaccine issue. Evaluating actors are SMI when it comes to incidence of vaccine-preventable diseases, population immunity (sero-epidemiologic follow-up) and childhood vaccination coverage, and the MPA when it comes to the safety of vaccines. Influenza vaccine uptake is presently only measured by the county medical officers using slightly different methods and in most instances only in the above 65 years group.

The ordinance on the vaccination program is found at the web-site of the National Board of Health and welfare (www.socialstyrelsen.se) together with printed information material for use in contact with parents and technical documents aimed for the operational actors. The SMI web-site (www.smittskyddsinstitutet.se) include facts about the vaccination program, vaccine-preventable diseases, ongoing projects, frequently asked questions, statistics on diseases and coverage and also minutes from the SMI advisory group on vaccination, Refvac, which is a vaccine reference group with broad representation from relevant medical settings including Child- and School Health Care. Product-specific information about vaccines is found at the website of the Medical Products Agency (www.mpa.se)

Information on the present and past Swedish vaccination schedule in English is found at the SMI web-site. The current schedule is also available at the Euvac site (www.ssi.dk/euvac) as below:

The Swedish Childhood Vaccination Schedule

	DTaP¹	IPV¹	Hib¹	MMR	BCG	HepB
At birth					Yes ²	Yes ³
3 months	Yes	Yes	Yes			
5 months	Yes	Yes	Yes			
12 months	Yes	Yes	Yes			
18 months				Yes		
6 years		Yes				

10 years

Yes

12 years

Yes

¹DTaP, IPV and Hib are given as a single pentavalent vaccine.

²BCG is only recommended to children considered high-risk groups. Vaccination is normally given at 6 months or later.

³Hep B is only recommended to children considered high-risk groups. Vaccination is given at birth to infants of mothers positive for hepatitis B.

Recent changes in Sweden

The National Board has recently initiated a revision of the schedule of the national vaccination program, especially with reference to pertussis and diphtheria immunity. Even if the incidence of pertussis has decreased dramatically after the reintroduction of pertussis vaccination in 1996, there are still indications of a substantial circulation of the bacteria. There are also indications of low immunity to diphtheria before the age of the current 4th dose.

The new proposal, which includes a diphtheria-pertussis-tetanus booster at school entry and school leaving, is currently circulated for consideration to parties concerned. The aim is to start with children born 2002. As an interim measure, a 4th dose of pertussis vaccine was added to the current dose of diphtheria-tetanus at 10 years of age in autumn. This booster will catch the first 7 birth cohorts primed with acellular pertussis in infancy, i.e. those who will already have passed pre-school age at time of implementation of the new program. The proposal also include a second dose of MMR 7 years instead of at 12 years.

For BCG and hepatitis B new recommendations has recently been developed and a pneumococcal expert group is currently working. Other new vaccines at different levels of evaluation if they should be included or not are HPV, meningococcal vaccine, varicella vaccine and rotavirus vaccine.

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