



The Danish childhood immunization programme 2018



English summary

Increasing immunization coverage in 2018

Coverage of all vaccinations in the Danish childhood immunization programme is increasing or at the same level as in 2017. This should be seen in relation to the coverage of all vaccinations having increased from 2016 to 2017.

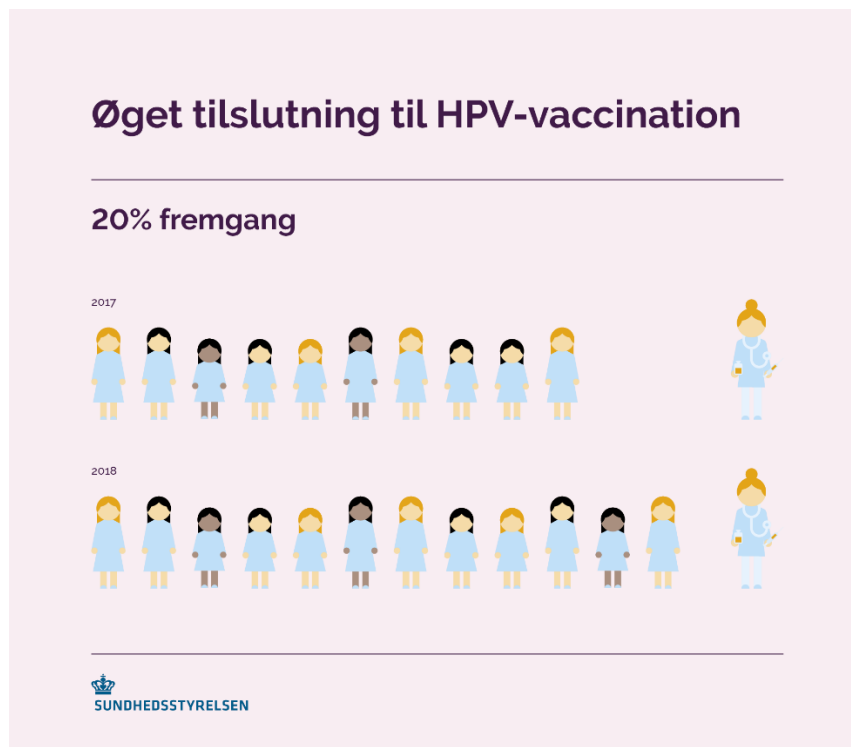
Vaccination coverage with the Danish childhood immunization programme 2018

Vaccine	Year of birth	Vaccination coverage
Diphtheria-tetanus-pertussis-polio-Hib-DiTeKiPol/Hib (three months)	Children born in 2017	97 %
Diphtheria-tetanus-pertussis-polio-Hib-DiTeKiPol/Hib (five months)	Children born in 2017	96 %
Diphtheria-tetanus-pertussis-polio-Hib-DiTeKiPol/Hib (12 months)	Children born in 2016	96 %
PCV 13 (3 months)	Children born in 2017	96 %
PCV 13 (5 months)	Children born in 2017	96 %
PCV 13 (12 months)	Children born in 2016	95 %
MMR 1 (15 months)	Children born in 2016	94 %
MMR 2 (4 years old)	Children born in 2013	89 %
Diphtheria-tetanus-pertussis-polio-Hib - DiTeKiPol revaccination (5 years old)	Children born in 2012	88 %
HPV 1 (12 years old girls)	Girls born in 2005	73 %
HPV (finished) (12 years old girls), i.e. has got at least two vaccinations within the correct intervals.	Girls born in 2005	52 %
Data acquired on 1 February 2019	https://statistik.ssi.dk/	

In 2018, we have even seen a heavy increase in immunization against cervical cancer (HPV immunization) for girls aged 12 and 13 in 2018. Coverage has increased by 14 % for the first vaccine and 16 % for the second vaccine for the 2005 birth cohort.

At the same time, we can see that 20 % more girls aged 14-17 have been vaccinated relative to 2017. For certain birth cohorts, we are even approaching the high coverage of the HPV vaccine from before 2015 (around 90 % coverage).

Twenty percent increase in HPV vaccine coverage from 2017 to 2018



In 2018, we have also looked at MMR coverage at school level. By compiling data from the Danish Immunization Register and data from Statistics Denmark, we obtain a more detailed picture of the situation than previously, when we could only state the immunization coverage at municipal level.

The statement shows that nearly half of all children (44%) attend schools that have an MMR coverage of between 90 and 100 %. However, relatively few children attend a school in which more than 95 % of the children are fully protected against measles (1.8 %), which is the WHO's objective. Very few pupils attend a school with coverage of between 50 and 60 % (658 children), and no pupils attend a school with coverage below 50 %.

We have identified seven municipalities that have a particularly high MMR vaccine coverage in two or more schools (coverage above 95 %). Four out of these seven municipalities are located in Western Jutland. The municipalities have been contacted and asked about whether they take special measures to achieve this high coverage. In those cases in which the municipality has taken special measures in 2018, the health visitors' systematic and dialogue-based work vis-à-vis all parents is a central factor.

The municipalities can use the statement of school coverages as a tool to target their initiatives if they want to take special action aimed at increasing the immunization coverage.

If the immunization coverage is low at three schools in the municipality, the health visitors may, for example, conduct an information campaign or engage in fieldwork activities at the three schools to find unvaccinated children and enter into a dialogue with their parents.

In 2018, there was focus on immunization from several quarters

In 2018, the Danish Government earmarked funds for new immunization initiatives over the next four years. The aim is that even more children are to be vaccinated at the recommended time, that this immunization is provided using new, and even more effective, vaccines and that immunization is offered to anyone who can benefit from it.

Specific examples of initiatives are that health visitors must be trained in being immunization ambassadors, that, in future, parents will be reminded about the immunization via an advanced reminder scheme before the vaccine is to be administered and that boys will also be offered HPV immunization from mid-2019.

A permanent offer of MMR immunization of adults was introduced in April 2018. The offer is primarily targeted at persons born after 1974. These persons have a greater risk of not having had the disease in their childhood, unlike older generations, who were most often infected with the disease as children. In 2018, a total of 3,614 adults were vaccinated against measles, 1,435 of whom were born in or before 1974.

In 2018, there was again focus on the provision of information about HPV immunization and on increasing coverage. The HPV information campaign *Stop HPV – stop livmoderhalskræft* (*Stop HPV – stop cervical cancer*) continued in 2018 with its own website, Facebook page and information material for parents and healthcare professionals. The campaign has contributed to more parents agreeing to have their daughters vaccinated.

Illustration from the HPV information campaign *Stop HPV – stop livmoderhalskræft* (*Stop HPV – stop cervical cancer*)



In addition, the City of Copenhagen implemented a pilot project with HPV immunization in eight selected elementary schools in 2018, where all girls in the 6th grade were offered to be vaccinated during school hours. 229 parents have received the offer, and 34 girls have been vaccinated. The City of Copenhagen has allocated funds to offer this immunization at all Copenhagen schools for two years.

Status on the number of reported suspected side effects in 2018

In 2018, the Danish Medicines Agency received a total of 661 reports on vaccines included in the childhood immunization programme. This corresponds to a decrease of 13 % relative to 2017, in which there was also a decrease in the number of reports relative to the previous year. Out of the 661 reports in 2018, the Danish Medicines Agency categorised 78 as serious.

Suspected side effects have most frequently been reported for the vaccine against diphtheria, tetanus, pertussis (whooping cough), polio, infection with the bacterium *Haemophilus influenzae* (hib) (+ hepatitis B) and the vaccine against pneumococcal infection. The most frequently reported side effects are granulomas (an itchy persistent node formation at the injection site). In 2018, the Danish Medicines Agency received a total of 417 reports of granulomas, most of which concerned vaccines administered in 2015 and 2016. Granulomas after immunization with vaccines containing aluminium salts are a known, and most often not serious, side effect.

Patient safety incidents are important learning factors

A patient safety incident occurs if healthcare professionals inadvertently cause, or could have caused, injury to a patient. Both healthcare professionals and parents can report a patient safety incident to the Danish Patient Safety Database. Reports are case-handled locally before being submitted to the Danish Patient Safety Authority in an anonymised version. Patient safety incidents under the childhood immunization programme most often occur at the general practitioners, as children are typically vaccinated there. The system is designed to ensure that everyone can learn from the incident – both locally and, aggregated, at a national level.

Why do we report patient safety incidents? To learn from the incidents and decrease the risk of doing them again

Håndtering og læring af

Utilsigtede hændelser

- 1.**
Fejl ved vaccination


- 2.**
Rapportering af utilsigtet hændelse til Dansk Patientsikkerhedsdatabase


- 3.**
Læring


- 4.**
Mindre risiko for at samme utilsigtede hændelse gentager sig



Kilde: Styrelsen for Patientsikkerhed

 SUNDHEDSSTYRELSEN

In 2018, 121 patient safety incidents were reported for vaccines under the childhood immunization programme. 46 of these are categorised as having resulted in *minor injury* to the child, and 75 are categorised as having resulted in *no injury* to the child/patient. In most cases, the consequence of the patient safety incident was that the child was given an additional vaccination, which, in some cases, required an extra visit to the doctor.

The three most frequently occurring problems in connection with the patient safety incidents were: 'Wrong vaccine administered' (73 incidents), 'The same vaccine administered several times' (12 incidents) and 'Powder and solvent were not mixed before injection' (10 incidents).

We vaccinate against ten diseases under the childhood immunization programme

Under the childhood immunization programme, we vaccinate against ten severe infectious diseases: diphtheria, tetanus, pertussis (whooping cough), polio (infantile paralysis),

meningitis and inflammation of the epiglottis caused by the bacterium *Haemophilus influenzae* type b (the Hib bacterium), meningitis and other severe diseases caused by the *Streptococcus pneumoniae* bacterium, measles, mumps, rubella (German measles) and cervical cancer (for girls).

Immunization are free of charge and voluntary. However, all health authorities recommend that children are vaccinated in accordance with the Danish childhood immunization programme. The vaccinations are typically administered by general practitioners.

Ambitious immunization coverage objectives

The World Health Organization (WHO) has objectives for immunization against measles, pertussis and polio. The WHO recommends a measles immunization coverage of minimum 95 % of the whole population. In Denmark, this means that a minimum of 95 % of all children receive both MMR vaccines.

The WHO also recommends that minimum 95 % of all children must be given the DTaP-IPV/Hib vaccines. This makes the children well protected against pertussis, polio and the other diseases against which the vaccine provides protection.

The Danish health authorities also recommend that children be vaccinated 'on time'. This means that the child is vaccinated when he or she has the age at which the Danish Health Authority recommends immunization. This ensures that each vaccine provides the child with maximum protection.

Immunization is effective and safe prevention

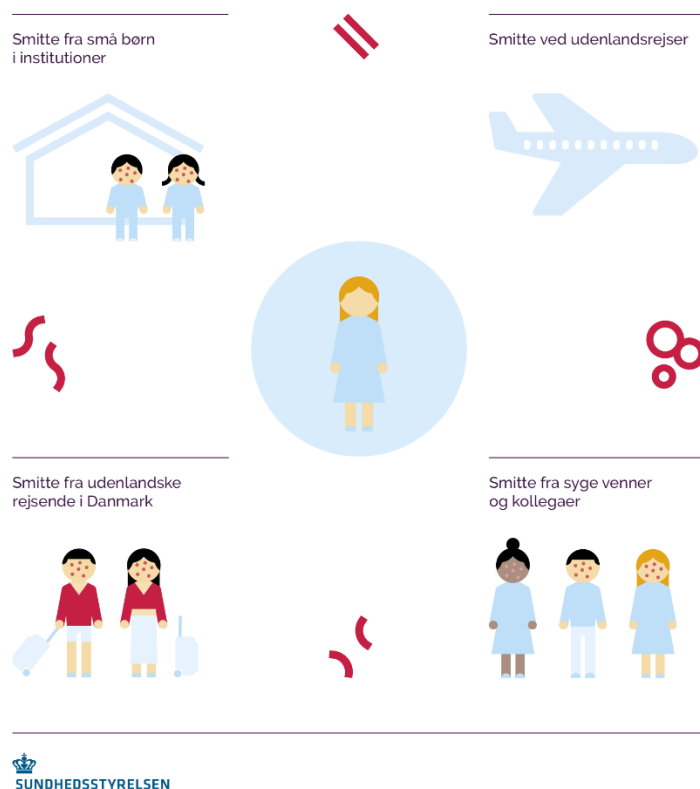
The Danish childhood immunization programme is very effective. There has been no transmission of infectious diseases such as polio (infantile paralysis) in Denmark for many decades, and, for a number of other diseases, a large decrease can be observed in the number of occurrences shortly after the immunization has commenced, with the Hib immunization being one example of this.

However, we must still vaccinate our children. Unvaccinated children risk being infected when travelling abroad and bringing the infection back with them to Denmark. Unvaccinated foreigners may also bring the infection to Denmark. However, we are protected against this if the children are vaccinated. We also protect those children who are too sick or too small to be vaccinated.

Why do we vaccinate children? To protect the individual from infectious diseases at home and abroad

Hvorfor vaccinerer vi?

For at beskytte den enkelte mod smitsomme sygdomme og for at de vaccinerede kan beskytte de uvaccinerede (flokimmunitet)



Immunization is generally one of the most effective and safe preventive measures available. Most vaccines have a long-term effect, and immunization can prevent both infection in individuals and reduce the spreading of diseases in the population.

Conclusion: 2018 was a good year for the childhood immunization programme

2018 was a good year for the childhood immunization programme. The coverage is increasing, and, in 2018, there were significantly more girls and young women who were HPV vaccinated and thus well protected against cervical cancer. Many public authorities

are working to increase the coverage. The Danish Government is allocating more funding. The health authorities are developing new tools and teaching materials. And more health visitors are entering into a dialogue about immunization with parents.

The health authorities are also closely monitoring how the programme is progressing. We monitor infections of the diseases against which we provide immunization, reports of suspected side effects and patient safety incidents connected with immunization. All measures aimed at making the childhood immunization programme safer for children and making their parents feel more secure.

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