

# Adolescent Health programme and its contribution to the success of vaccination

BELGIUM

AGE	2 m	3 m	4 m	12 m	13 m	15 m	18 m	5-7 y	10-13 y	14-16 y
<b>VACCINES</b>										
<b>Poliomyelitis</b>	IPV	IPV	IPV			IPV		IPV		
<b>Diphtheria-Tetanus-Pertussis</b>	DTPa	DTPa	DTPa			DTPa		DTPa		Td or dTpa
<b><i>Haemophilus influenzae</i> type b</b>	Hib	Hib	Hib			Hib				
<b>Hepatitis B</b>	HBV	HBV	HBV			HBV			HBV (3 doses)	
<b>Measles Mumps Rubella</b>				MMR <sub>1</sub>				(MMR1)	MMR <sub>2</sub>	
<b>Meningo C</b>					MenCc					
<b>Pneumo</b>	Pnc <sub>7</sub>		Pnc <sub>7</sub>	Pnc7						
<b>Rotavirus</b>	Rota	Rota	(Rota)							

# 1) Vaccination recommendations Schoolchildren

- **5-7 years**
  - DTPa-IPV booster vaccination
  - MMR vaccination, first dose (catch up)
- **10-13 years**
  - MMR vaccination, second dose
  - HBV vaccination, three doses if not vaccinated in the infant vaccination programme (started in 1999); from 2011 to be replaced by a HBV catch-up programme
- **14-16 years**
  - Td booster vaccination or dTpa booster vaccination if not proof of complete primary pertussis vaccination
- **Catch-up of recommended vaccinations on the occasion of every medical consultation**

## 2.1) How are the children/adolescents reached? School health system

- There is a well-developed preventive youth health care system in Belgium since about 100 years:
  - Well-baby clinics (0-3 years): participation in the system is free, and it covers over 80% of the target population
  - School health services (3-18 years): participation in the system is compulsory, and it covers nearly 100% of the target population
- Duties of School health services with regard to vaccination:
  - Monitor the vaccination status of all schoolchildren
  - Inform parents and children about recommended vaccinations
  - Offer recommended and/or catch-up vaccinations
  - Parents are free to accept this offer, or to go to their home GP or pediatrician for vaccination of their child
  - Registration of vaccinations administered by schooldoctors and of vaccination status of the target population

## 2.1) How are the children/adolescents reached? School health system – Flanders

<b>Class Age</b>	<b>1e Mat</b> 3 yrs	<b>2e Mat</b> 4 yrs	<b>1e Prim</b> 6 yrs	<b>3e Prim</b> 8 yrs	<b>5e Prim</b> 10 yrs	<b>1e Sec</b> 12 yrs	<b>3e Sec</b> 14 yrs
<b>Type consult</b>							
general		✓			✓	✓	✓
specific	✓		✓	✓			
<b>Vaccination</b>							
status	✓	✓	✓	✓	✓	✓	✓
recommended			DTPa-IPV		MMR2	HBV	Td/dTpa
catch-up	MMR1	✓	✓	✓	✓	✓	✓

## 2.2) How are the children/adolescents reached?

### Other channels

- On request of the parents also private practitioners (GPs or paediatricians) are allowed to administer the recommended vaccines
- Comparable to Youth Health Centers, the private practitioners are expected to register the vaccines they administered in a web-based vaccination database ('*Vaccinnet*' for the Flemish Community)

### 3.1) Who are the vaccinators ? (18-24m) (%) Flemish Community (2005)

<b>Vaccinator</b>	<b>%</b>
Well-baby clinic	80.9
Pediatrician	10.9
GP	5.3
Daycare center	2.3
Other	0.6

### 3.2) Who are the vaccinators ? (adolescents) (%) Flemish Community (2005)

	<b>School Health Services</b>	<b>GP</b>	<b>Other</b>
<b>HBV</b>	68.2	20.4	11.4
<b>MBR-2</b>	72.8	18.6	8.6
<b>MenC</b>	56.1	34.9	9.0



## 4) Training of the vaccinators?

- Theoretical courses and practical training in vaccinology are part of the curriculum of GP and pediatrician. Content and extend of the programme differs importantly between medical schools
- In the postgraduate education of youth doctors (involved in well-baby clinics and school health services), theoretical and practical training in vaccinology is a consistent part of the curriculum
- Continuous education in vaccinology is provided by universities and professional organisations

# 5) Financing of child and adolescent vaccination

- Cost of vaccines:
  - Shared by the Federal (Belgian) and Regional (Flemish and French Communities, and Brussels) Health Authorities
  - For every euro spent by the Regions for the purchase of vaccines, two euros are added by the Federal Health Authority
- Implementation of the vaccination programme is a responsibility of the Regions
  - Purchase and delivery of the vaccines
  - Well-baby clinics and school health services (infrastructure, personnel, materials, ...)
  - Database of vaccinations
- Recommended vaccinations are offered free of charge in well-baby clinics and school health services (vaccines and consultations)
- Recommended vaccines are offered free of charge by private practitioners (GPs and pediatrician). The administration (consultation) has to be paid by the parents

## 6) Decisions on introduction of new vaccines

- The Belgian minister of health decides on the introduction of new vaccines, on the basis of a scientific advice of the National Health Council, and an eventual evaluation of its cost-effectiveness by the Belgian Health Care Knowledge Centre
- The Regional ministers of health decide on the implementation of the new vaccinations, on the basis of the advice of their Regional Vaccination Boards
- An interministerial conference (consisting of representatives of the Federal and Regional ministers of health) decides on the financing of the new vaccines

## 7) Coverage data

- Vaccination coverage study – Flemish Community 2005
  - Two-stage cluster sampling method (WHO)
  - Toddlers (18-24m): n=1500 (° June 30 – November 15, 2003)
  - Adolescents (14y): n=1500
- Vaccination coverage study – French Community 2006
  - Two-stage cluster sampling method (WHO)
  - Toddlers (18-24m): n=660 (° April 30 – November 1, 2004)
  - Survey
  - Adolescents (12y): n=2732

# Vaccination coverage 18-24 months (%)

## Flemish (2005) / French (2006) Communities

	<b>Dose 1</b>	<b>Dose 2</b>	<b>Dose 3</b>	<b>Dose 4</b>
<b>Polio</b>	99.0 / 99.8	98.6 / 99.4	98.2 / 99.4	93.1 / 94.9
<b>DTP</b>	98.7 / 99.6	98.2 / 99.4	97.9 / 99.4	92.9 / 94.7
<b>Hib</b>	98.1 / 98.8	97.6 / 98.4	97.2 / 98.2	92.6 / 93.7
<b>HepB</b>	96.9 / 97.6	96.1 / 97.2	92.2 / 97.0	10.1 / 92.7
<b>MMR</b>	94.0 / 89.0			
<b>MenC</b>	94.1 / 92.5			

Vaccination coverage adolescents (%)  
 Flemish (2005) / French (2006) Community

	<b>Dose 1</b>	<b>Dose 2</b>	<b>Dose 3</b>	<b>Dose 4</b>
<b>HBV</b>	83.3 / 73.1	80.3 / 71.9	75.7 / 68.6	1.9
<b>MMR*</b>	80.6	83.6 / 70.5		
<b>MenC</b>	79.8			

\* Both MMR doses: 74.6%

## 8) Strengths of the immunization programmes

- A well established, nationwide network of youth health services reaches nearly all children and adolescents for vaccination. By means of this network every parent is informed about and invited to the recommended vaccinations
- More than 80% of the infants and 60-70% of the schoolchildren are vaccinated by these public youth health services
- The role of private practitioners is complementary to the activities of this public youth health network
- The recommended vaccines, irrespective of the vaccinator, and the administration of the vaccines in the public youth health network, are free of charge
- A vaccination database (*Vaccinnet*), with a web-based access for all vaccinators, is being developed in the Flemish Community. This system facilitates the ordering of vaccines and the registration of administered vaccines. In addition, it strengthens the communication between public and private vaccinators, and should preclude redundant vaccinations.

## 9) Challenges of the immunization programmes

- Preservation of an harmonised vaccination programme over the entire Belgian territory, allowing limited variation between the three Regions related to differences in the organisation of school health care
- Reduction of the time interval between:
  - Launching of a new vaccine
  - Issue of a scientific advice regarding its place in the programme
  - Search for funding (Interministerial conference), and
  - Its final implementation in the programme in the different Regions
- Development of a performant registration system in the three Regions to:
  - Ease the ordering of recommended vaccines
  - Register administered vaccinations and increase documentation of vaccinations on an individual and a population level (to detect gaps of vaccination in selected subgroups)
  - Register postvaccinal events



## 10) Conclusions

- In Belgium, the achievement and maintenance of a nationwide harmonised vaccination programme is a permanent challenge
- The implementation of adolescent vaccinations is driven by a network of School Health Services. Thanks to a series of two-yearly health check ups, virtually all adolescents are reached for the recommended vaccinations.
- Since parents have free choice to let their child vaccinate by a private practitioner, GPs and pediatricians play an important complementary role in the achievement of a high vaccination coverage in this age group.
- Important steps are taken to develop a performant database of vaccinations, to support vaccinators and policy makers in the safe and effective fulfilment of the programme of recommended vaccinations