Presidency of the Council of the European Union

GRAND DUCHY OF luxembourg

Luxembourg vaccination scheme
Lessons learnt from immunisation coverage data in toddlers

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CMO Meeting
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Luxembourg vaccination scheme

- Core principles
  - Immunisation recommendations: NITAG (experts)
  - Decisions regarding the inclusion of vaccines in the schedule: MoH
  - Vaccine supply fully funded by the MoH
  - Vaccine visits reimbursed from the statutory health insurance fund

- Strong incentive for well-baby visits (vaccination opportunities)
  - Post-natal allocation (580,03€) upon completion of 6 well-baby visists at a paediatrician's office between the age of 0-24 months
    1. first 48 hours
    2. 1-10 days
    3. 3-8 weeks
    4. 4-6 months
    5. 9-12 months
    6. 21-24 months

Luxembourg vaccination scheme

Présidence du Conseil de l'Union européenne · GRAND-DUCHÉ DE Luxembourg

Luxembourg vaccination scheme 2008

	BIRTH	2 MONTHS	3 MONTHS	4 MONTHS	12 MONTHS	13 MONTHS	15-23 MONTHS	5-6 YEARS	12 YEARS	13 YEARS	15-16 YEARS	18 YEARS	EVERY 10 YEARS	60 YEARS	>65 YEARS
Diphtheria (D/d), tetanus (T), acellular Pertussis (aP), inactivated Polio vaccine (IPV)		D T aP IPV	D T aP IPV	D T aP IPV		D T aP IPV		D T aP IPV			d T aP IPV		d T aP IPV		
Haemophilus influenzae type b infection		Hib	Hib	Hib		Hib									
Hepatitis B	HBV*	HBV	HBV			HBV			HBV catch-up (3 doses)						
Invasive pneumococcal diseases		PCV7	PCV7	PCV7	PCV7									PPS23	(every 5 year)
Rotavirus diarrhea		RV	RV												
Measles Mumps Rubella Varicella					MMRV			MMR							
Meningococcal C infections						MenC									
Human papilloma virus									HPV 3 doses	HPV catch-up (3 doses)					
Influenza															TIV every year

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Hepatitis B	HBV*	HBV	HBV			HBV			HBV catch-up (3 doses)						
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LUXEMBOURG VACCINATION SCHEME

Présidence du Conseil de l'Union européenne · GRAND-DUCHÉ DE Luxembourg

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Hepatitis B	HBV*	HBV	HBV			HBV			HBV catch-up (3 doses)						
Invasive pneumococcal diseases		PCV13		PCV13	PCV13									PPS23	(every 5 year)
Rotavirus diarrhea		RV	RV												
Measles Mumps Rubella Varicella					MMRV		MMRV								
Meningococcal C infections						MenC									
Human papilloma virus									HPV 3 doses	HPV catch-up (3 doses)					
Influenza															TIV every year

Luxembourg vaccination scheme

Luxembourg vaccination scheme 2011

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Haemophilus influenzae type b infection		Hib	Hib	Hib		Hib									
Hepatitis B	HBV*	HBV	HBV			HBV			HBV catch-up (3 doses)						
Invasive pneumococcal diseases		PCV13		PCV13	PCV13									PPS23	(every 5 year)
Rotavirus diarrhea		RV	RV												
Measles Mumps Rubella Varicella					MMRV		MMRV								
Meningococcal C infections						MenC									
Human papilloma virus									HPV 3 doses	HPV catch-up (3 doses)					
Influenza															TIV every year

Luxembourg vaccination scheme

- Luxembourg vaccination scheme 2014

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Hepatitis B	HBV*	HBV	HBV			HBV			HBV catch-up (3 doses)							
Invasive pneumococcal diseases		PCV13		PCV13	PCV13										PPS23	(every 5 year)
Rotavirus diarrhea		RV	RV													
Measles Mumps Rubella Varicella					MMRV		MMRV									
Meningococcal C infections						MenC										
Human papilloma virus									HPV 2 doses			HPV catch-up (2 or 3 doses)				
Influenza																TIV every year

Luxembourg vaccination scheme

- Luxembourg vaccination scheme 2015

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Haemophilus influenzae type b infection		Hib	Hib	Hib		Hib									
Hepatitis B	HBV*	HBV	HBV			HBV			HBV catch-up (3 doses)						
Invasive pneumococcal diseases		PCV13		PCV13	PCV13										PCV13, then PPS23
Rotavirus diarrhea		RV	RV												
Measles Mumps Rubella Varicella					MMRV		MMRV								
Meningococcal C infections						MenC									
Human papilloma virus									HPV 2 doses			HPV catch-up (2 or 3 doses)			
Influenza															TIV / QIV

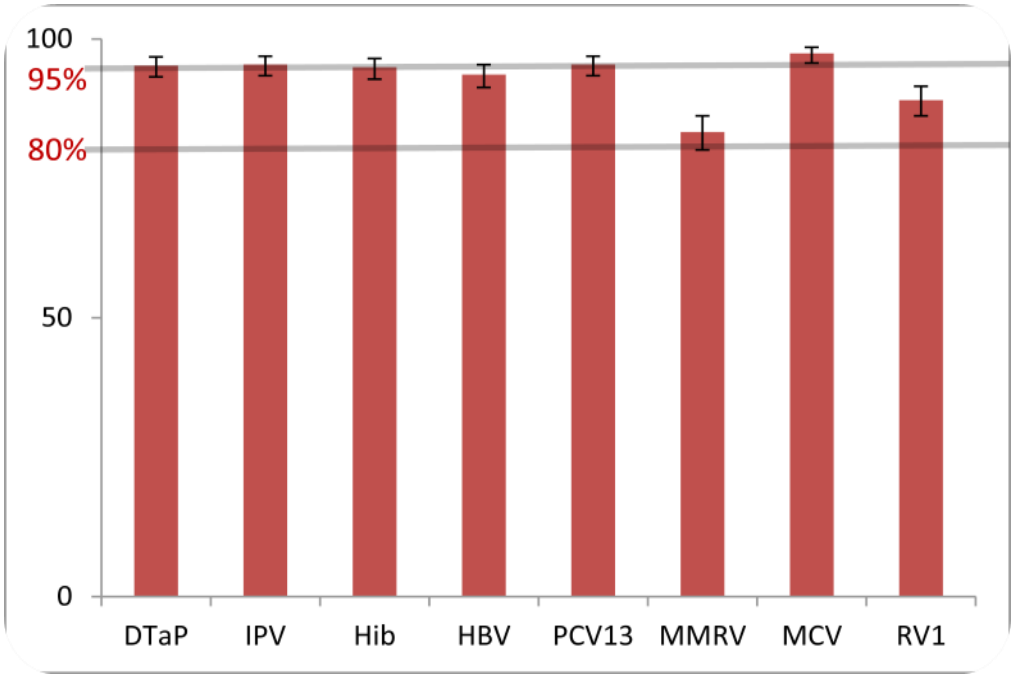
➢ Material and methods

Inclusion criteria	Age 25-30 months Residency in Luxembourg
Study design	Stratified random sample - sample size 739 children Postal contact with parents, documents returned by post : • self-administrated paper questionnaire • request for a copy of the child's vaccination certificate Field work: Oct. 2012- Feb. 2013
Analysis:	Coverage for all recommended vaccines Compliance with recommended ages at vaccination Compliance with recommended between-dose intervals Follow-up of the 3rd vaccination coverage survey (2007)[1]
Response	605 respondents, representative for residence area and nationality Response rate 81,9%

Vaccine Coverage Data in 25-30 Month-old Toddlers

➢ Results

Coverage (in %) of all recommended vaccine doses in children aged 25-30 months



95% coverage for DTaP, IPV, Hib, HBV, PCV13 and MCV

Herd immunity thresholds are attained.

No major differences in coverage by nationality.

Lower vaccination coverage in foreign-born children.

Vaccine Coverage Data in 25-30 Month-old Toddlers

Results

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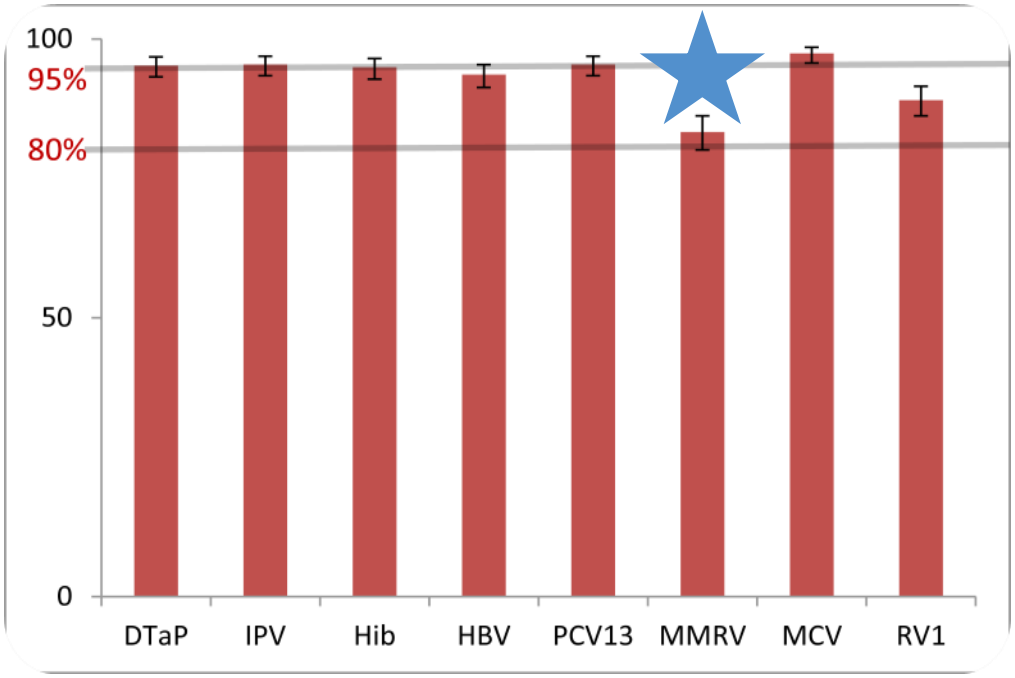

94.9% coverage for MMRV1 (99.0% coverage for MMR1)

83.3% coverage for MMRV2

Herd immunity threshold (>90%) is not attained for MMRV. [2]

Changes in 2009 :

- universal varicella vaccination introduced (MMR replaced by MMRV)
- age for MMR booster dose lowered from 5-6 years to 15-23 months (MMRV2).

2. Plans-Rubio, P. Evaluation of herd immunity in the population by means of serological surveys and vaccination coverage. Human Vaccines and Immunotherapeutics. February 2012;8(2):184-88

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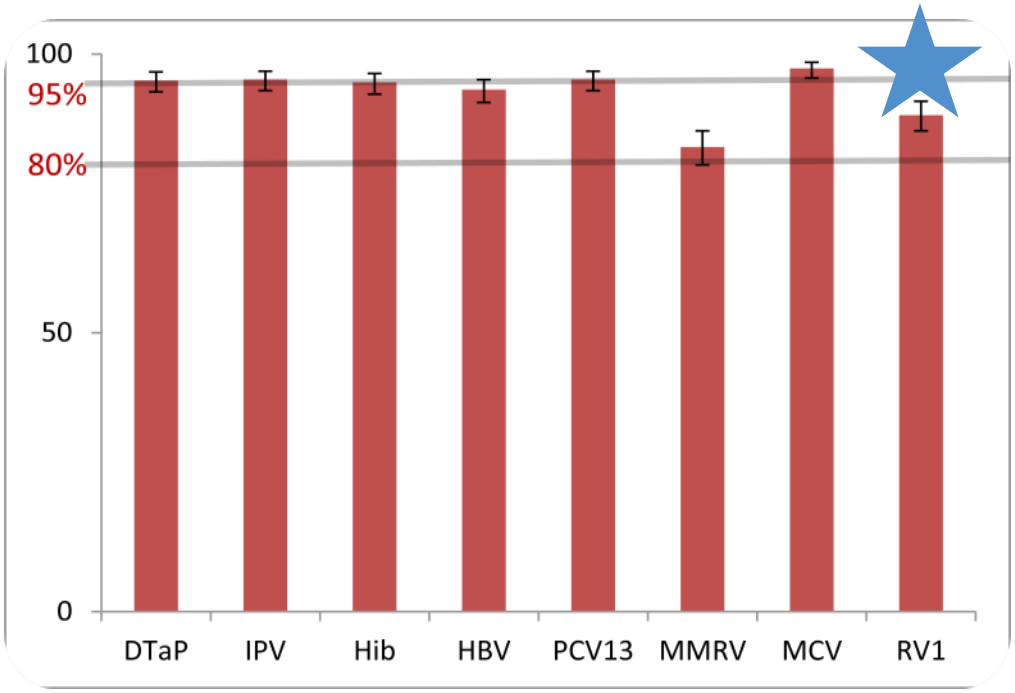
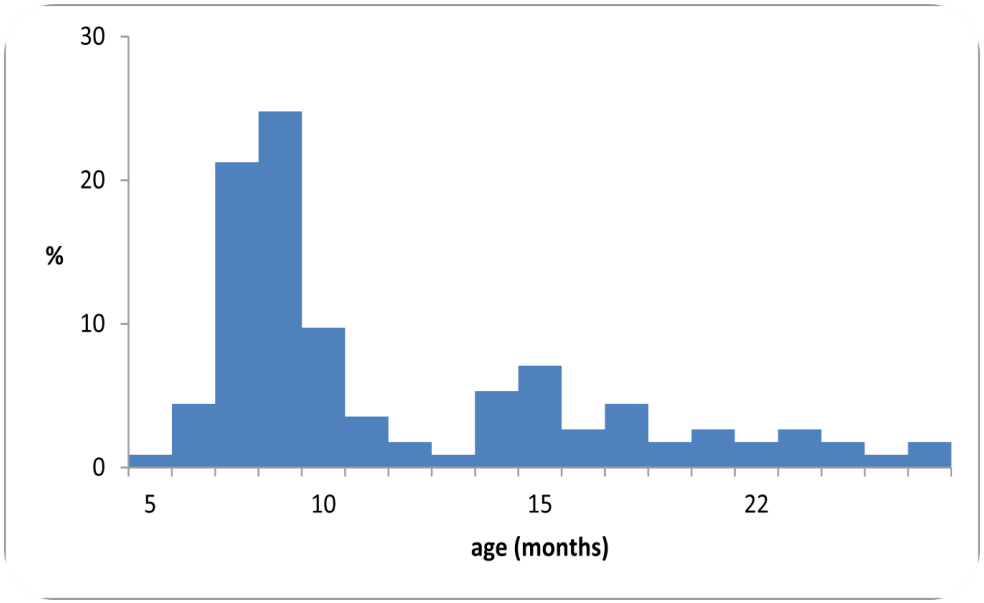


89% coverage for RV2

94.8% in children born in Luxembourg.

Age at vaccination

Frequency distribution of age at PCV13 booster dose in children vaccinated following the newly introduced 2+1 scheme in Luxembourg (n=113)



Two different vaccination schemes for PCV13 have been used:

- 3+1 scheme (75% of the children)
- 2+1 scheme (introduced in February 2011, 25% of the children).

Median age at vaccination for the 2+1 scheme booster dose, recommended at age 12 months, was 5,8 months. Only 35% of booster doses in the 2+1 scheme were administrated at age 12 months or later.

Vaccine schedule in Luxembourg

- Comprehensive universal vaccination programme, free of charge
- High acceptance in babies and toddlers
- Link with incentive for well-baby visits

Lessons learnt

- Sustained pediatric immunisation coverage, herd immunity levels mostly reached
- Good rate of adoption of recently introduced vaccines (PCV13, Varicella) but implementation of scheme changes could be improved.
- Communication about vaccine recommendations and scheme changes to vaccinators should be improved.

Thanks for your attention

More information on national immunisation technical advisory group (*Conseil supérieur des maladies infectieuses*):

http://www.sante.public.lu/fr/systeme-sante/acteurs/ministere-sante/conseil-maladies-infectieuses/index.html

More information on the recommended immunisation schedule:

http://www.sante.public.lu/fr/recommandations/conseil-maladies-infectieuses/index.html