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ADOLESCENT HEALTH PROGRAMMES AND THEIR CONTRIBUTION TO THE SUCCESS OF VACCINATION

The Netherlands

Ljubljana, 15 March 2007

Rudy J.F. Burgmeijer MD, MPH
Medical Information & Drug Safety Officer
Netherlands Vaccine Institute
Bilthoven

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1. THE HEPATITS SITUATION IN THE NETHERLANDS
2. THE NATIONAL IMMUNISATION PROGRAMME (NIP)
3. HOW THE NIP IS COMPOSED
4. HOW THE NIP IS FINANCED
5. THE ORGANISATION OF THE NIP
6. IMMUNISATIONS OUTSIDE THE NIP
7. MONITORING OF THE NIP
8. THE GOOD AND THE BAD THINGS OF THE DUTCH NIP

EPIDEMIOLOGY OP HEPATITIS B IN THE NETHERLANDS (1)

1. In 2003 319 notifications of acute hepatitis B and 1,445 notifications of chronic hepaptitis B were received

2. On average 28 people die from hepatitis B each year (primary cause of death)

3. 2/3 Of the new cases are born in The Netherlands, 1/3 outside The Netherlands

4. 80% of all new diagnosed cases are caused by sexual contact

5. The relative contribution of heterosexual people is increasing

6. The relative contribution of young women (15-19 years) is increasing

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EPIDEMIOLOGY OP HEPATITIS B IN THE NETHERLANDS (2)

7. The prevalence of chronic hepatitis in the general population is 0,4% (70.000 people)

8. The prevalence of chronic hepatitis in high risk groups is 0,8%

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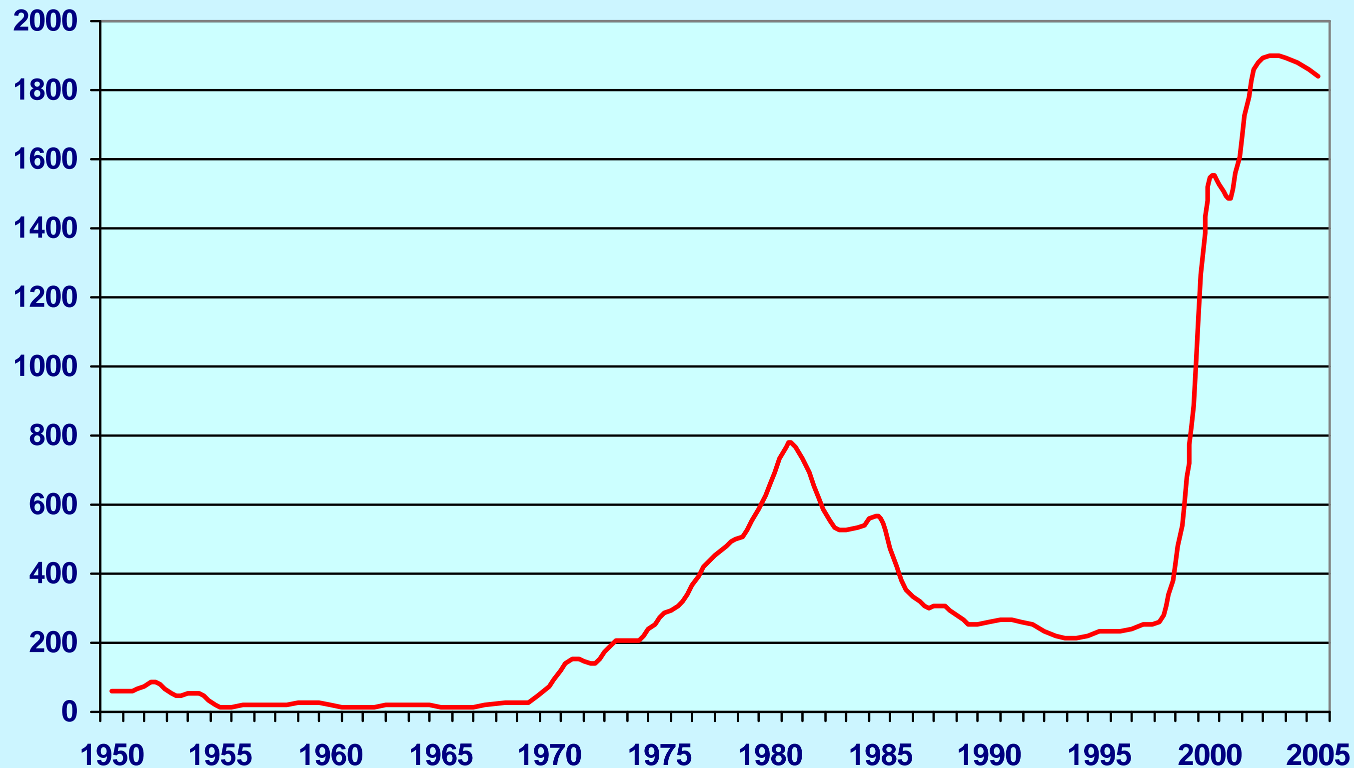
NOTIFICATIONS OF HEPATITIS B IN THE NETHERLANDS, 1950-2005



Source: R Burgmeijer & P Van Damme. Hepatitis B. In: Burgmeijer R, Hoppenbrouwers K, Bolscher N. *Handboek Vaccinaties*. Assen: Koninklijke Van Gorcum, 2007

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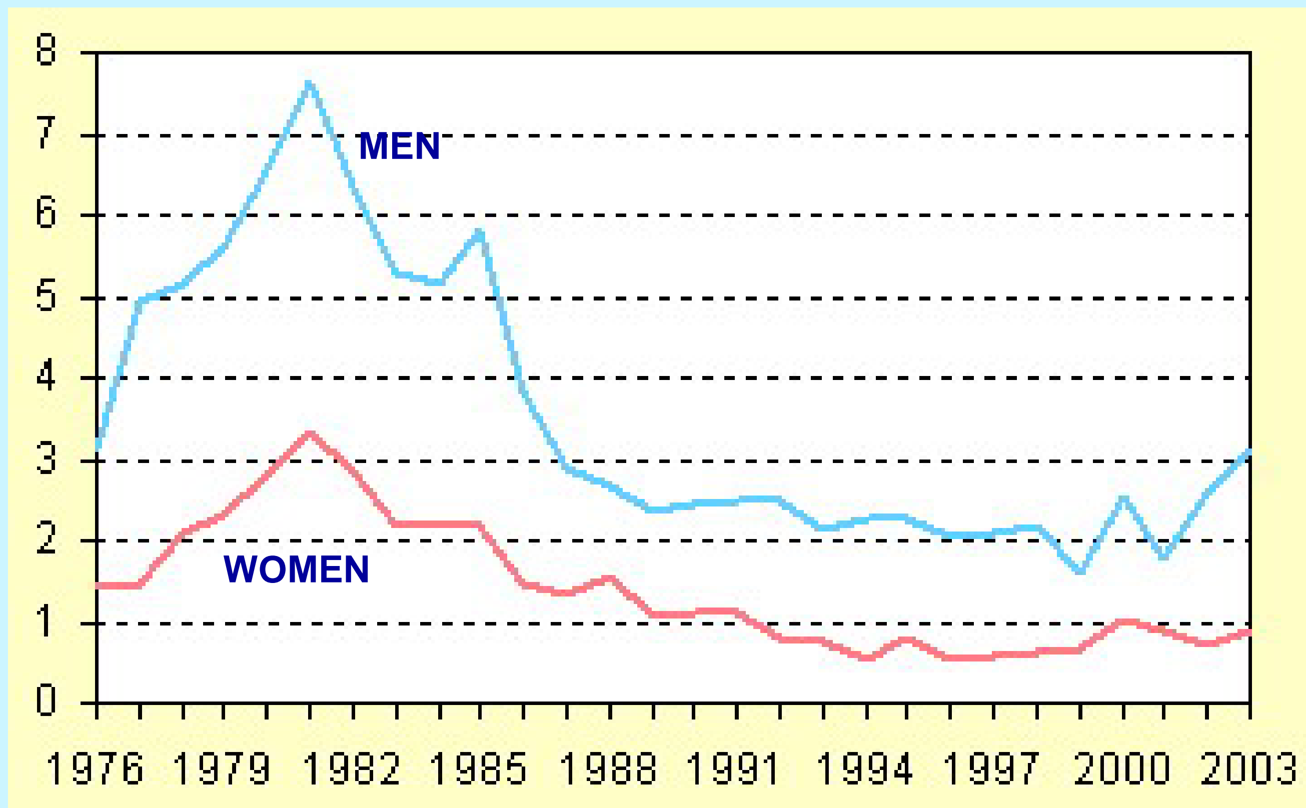
NOTIFICATIONS OF ACUTE HEPATITIS B, THE NETHERLANDS, 1976-2003

(PER 100,000 INHABITANTS)



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Erasmus MC
Universitair Medisch Centrum Rotterdam

‘IN THE NETHERLANDS MORE PEOPLE DIE FROM HEPATITIS B THAN FROM AIDS. THE HBV-VACCINATION SHOULD BE INCORPORATED IN THE NIP’

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7 MARCH 2007
HEALTH COUNCIL:

‘POPULATION-BASED IMMUNISATION AGAINST

HEPATITIS B IS NOT NECESSARY

IN THE NETHERLANDS’

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HEPATITIS B-IMMUNISATION IN THE NIP

1. NEONATES OF HBsAg-POSITIVE MOTHERS

2. INFANTS OF PARENT(S) BORN IN AN ENDEMIC COUNTRY

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Age	Injection 1	Injection 2	Injection 3
0 months		HBV[1]	HBIg[1]
2 months	DTPa-IPV-Hib(-HBV)[2]	Pnc_7[3]	
3 months	DTPa-IPV-Hib(-HBV)[2]	Pnc_7[3]	
4 months	DTPa-IPV-Hib(-HBV)[2]	Pnc_7[3]	
11 months	DTPa-IPV-Hib(-HBV)[2]	Pnc_7[3]	
14 months	MMR[4]	MenC	
4 years	DTPa-IPV[5]		
9 years	Td-IPV[6]	MMR[4]	

THE NIP IN THE NETHERLANDS

AS OF 1 APRIL 2006

1 **HBVax-PRO ® 10 µg** (SPMSD) and HBIg; only for neonates of HBsAg-positive mothers
2 **Infanrix ®-Hexa** (GSK); only for infants with an indication for HBV-vaccination; all other children get **PEDIACEL ®** (SPMSD).
3 **Prevenar ®** (Wyeth)
4 **'BMR-vaccin'** (NVI) or **M-M-R-II ®** (SPMSD) or **Priorix ®** (GSK)
5 **TRIAXIS POLIO ®** (SPMSD)
6 **'Difterie Tetanus Poliomyelitis-vaccin'** (NVI)

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HISTORY OF THE IMMUNISATION POLICY FOR NEONATES OF HBsAg-POSITIVE MOTHERS

Programme	Period in use	Dose of HBIg	Vaccine and dosage	Schedule	Serology
Pre- and perinatal screenig programme (PPS)	1-11-1989 till 1-1-2003	300 IE	HBVAX-DNA ® 10 µg or ENGERIX-B ® 20 µg	2-3-4-11 mo	No
Municipal Health Authority Amsterdam	1-11-1989 till today	300 IE	HBVAX-DNA ® 10 µg or ENGERIX-B ® 20 µg	0-1-6 mo	7/8 mo
PPS (HBIg) and NIP (vaccine)	1-1-2003 till 1-7-2005	300 IE	HBVAXPRO ® 5 µg	2-4-11 mo	No
Advice 1 of the Health Council , 2003	Never implemented	150 IE	'paediatric dose should be used'	0-1-6 mo	12 mo
Advice 2 of the Health Council, 2003	1-1-2006 till 1-6-2006	150 IE	HBVAXPRO ® 5 µg	0-2-4-11 mo	13/14 mo
Advice of the Health Council, 2005 and 2007	1-6-2006 till today	150 IE	HBVAXPRO ® 5 µg Infanrix ® hexa 10µg	0 mo 2-3-4-11 mo	13/14 mo

Adapted from: : R Burgmeijer & P Van Damme. Hepatitis B. In: Burgeijer R, Hoppenbrouwers K, Bolscher N. *Handboek Vaccinaties*. Assen: Koninklijke Van Gorcum, 2007

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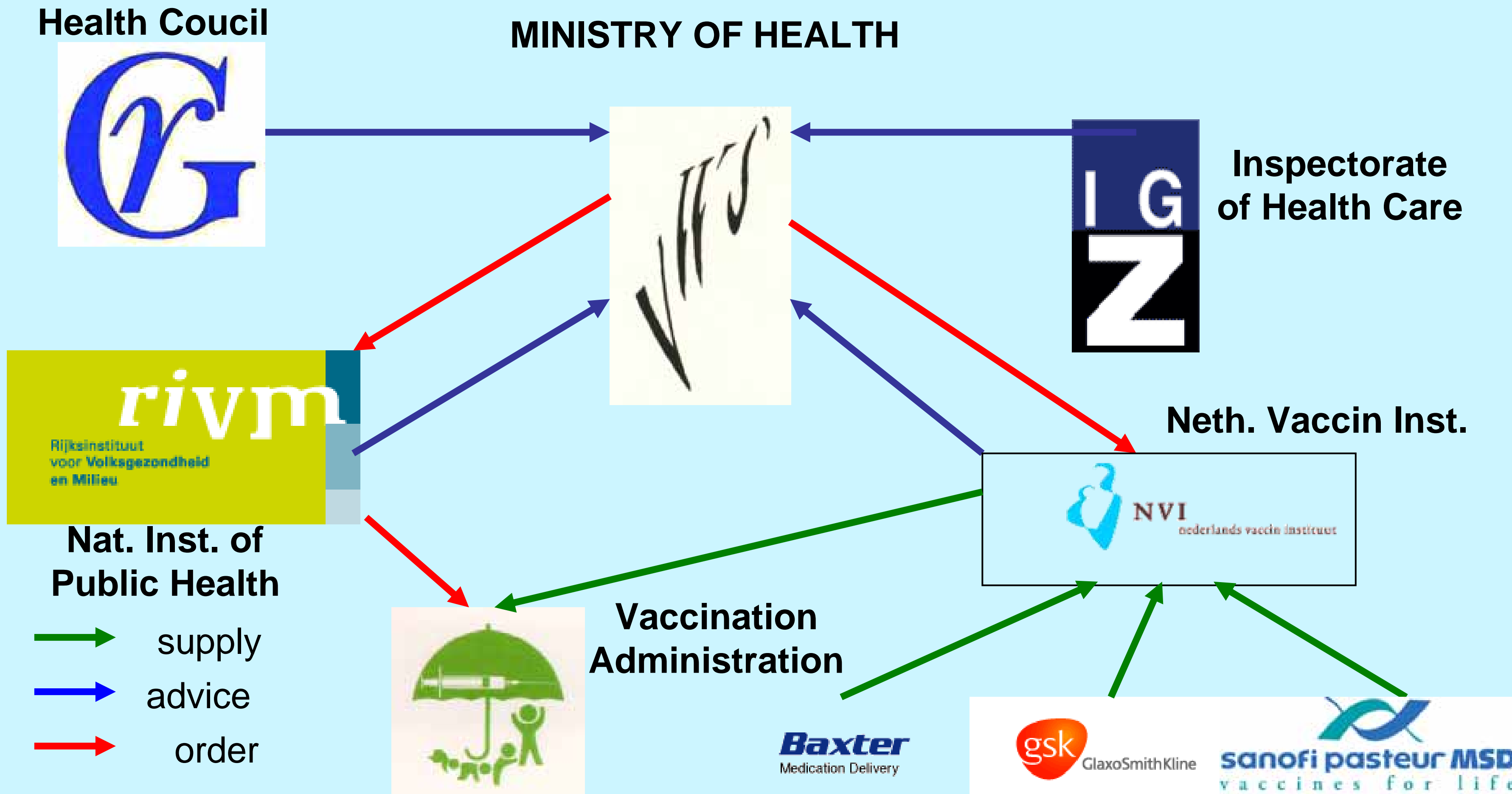

NVI: Over 100 years of vaccine know-how and experience in the public domain

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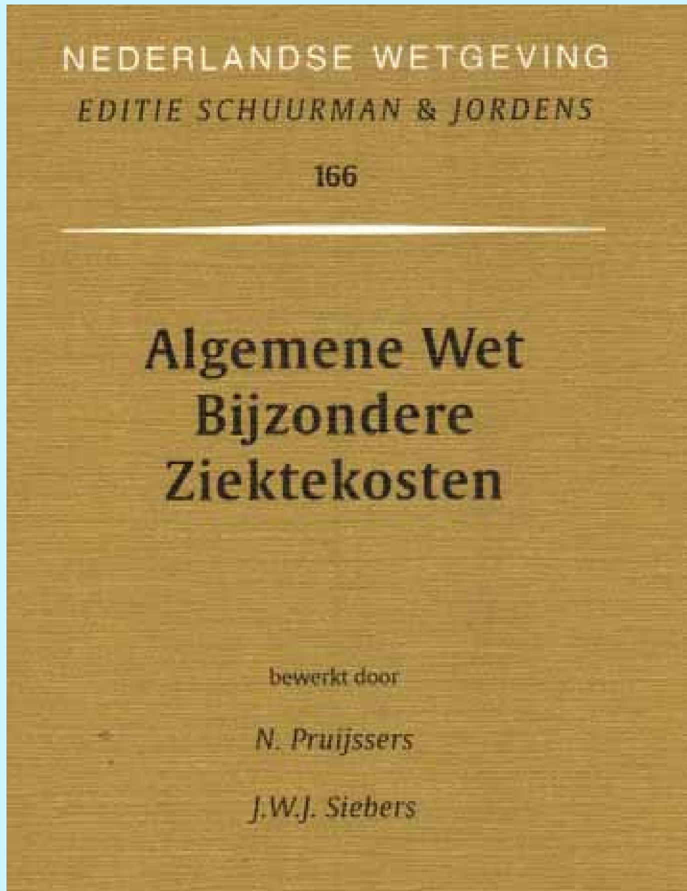

FINANCING

NIP:

- EXTRAODINARY HEALTH CARE EXPENSES ACT

OTHER:

- HEALTH CARE INSURANCE
- SUBSIDISATION (GOUVERNMENT, COUNCIL)

1901

Dr. Plantenga at work
at the first Well Baby Clinic
in The Hague

Well baby clinic 1901

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1951

Well baby clinic 1951

Source: Koppius PW. *Leerboek voor moederschapszorg en kinderhygiëne* 1st Ed.. Assen: Van Gorcum, 1957

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2001

Well baby clinic 2001

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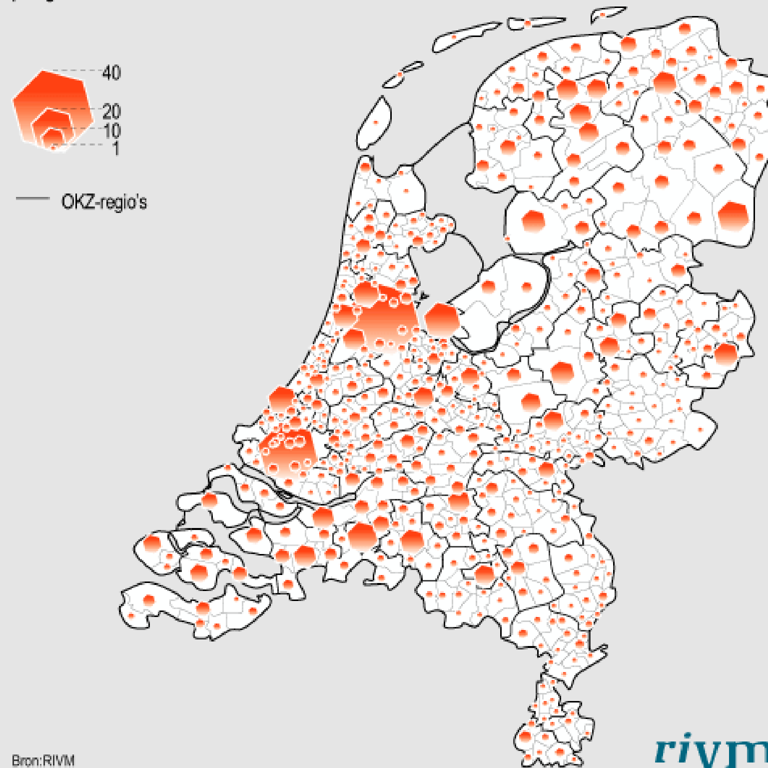

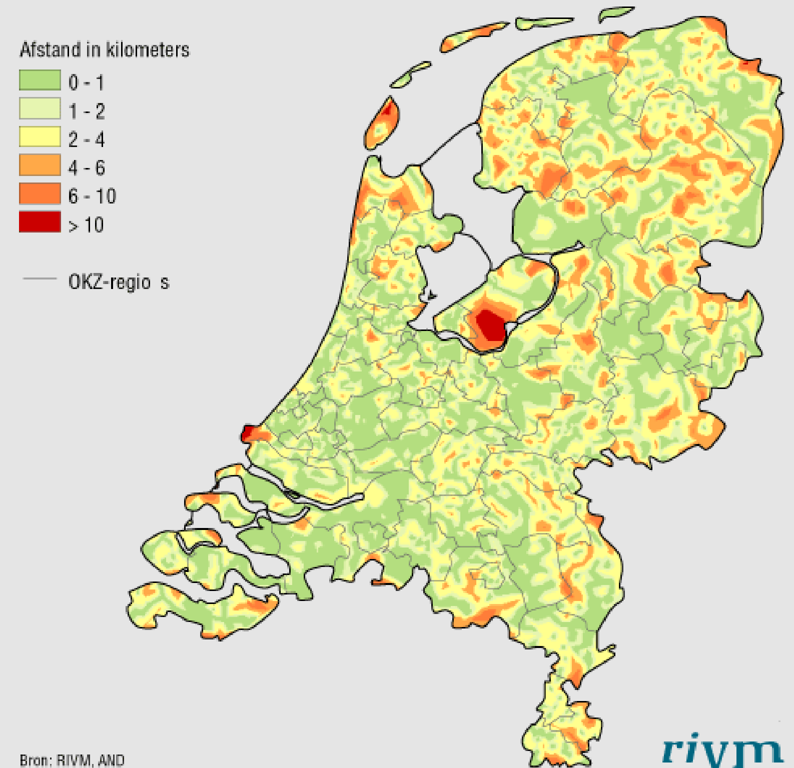

Left: Distribution of the 1,200 well baby clinics (WBC). Right: Distance form the parent's home to the nearest WBC

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THE SCHOOL HEALTH CARE SYSTEM

- CHILD- AND SCHOOL HEALTH CARE (BUT NOT THE NIP!) IS THE RESPONSIBILITY OF THE MUNICIPALITIES

- THE NIP IS THE RESPONSIBILITY OF THE GOVERNMENT (MINISTRY OF HEALTH)

- THE NUMBER OF CONTACTS OF THE SCHOOL DOCTOR OR NURSE IS LIMITED (2-3 BETWEEN 9 AND 18 YEARS)

- IMMUNISATIONS ARE NOT PART OF THE SCHOOL HEALTH CARE SYSTEM (except the immunisations of the NIP for 9 year old chidren)

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Age	Injection 1	Injection 2
0 months		HBV[1]
2 months	DTPa-IPV-Hib(-HBV)[2]	Pnc_7[3]
3 months	DTPa-IPV-Hib(-HBV)[2]	Pnc_7[3]
4 months	DTPa-IPV-Hib(-HBV)[2]	Pnc_7[3]
11 months	DTPa-IPV-Hib(-HBV)[2]	Pnc_7[3]
14 months	MMR[4]	MenC
4 years	DTPa-IPV[5]	
9 years	**Td-IPV[6]**	**MMR[4]**

1 **HBVax-PRO ® 10 µg** (SPMSD); only for neonates of HBsAg-positive mothers
2 **Infanrix®-Hexa** (GSK); only for infants with an indication for HBV-vaccination; all other children get **PEDIACEL ®** (SPMSD).
3 **Prevenar ®** (Wyeth)
4 **'BMR-vaccin'** (NVI)
5 **TRIAXIS POLIO ®** (SPMSD)
6 **'DTP-vaccin'** (NVI)

THE CONTRIBUTION OF SCHOOL HEALTH CARE TO THE NIP

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TRAINING

NIP:

1. DOCTORS WITH EXTRA TRAINING IN INFANT HEALTH CARE*

2. DOCTORS SPECIALISED IN CHILD- AND SCHOOL HEALTH CARE**

OUTSIDE NIP:

1. DOCTORS SPECIALISED IN PREVENTION OF INFECTIOUS DISEASES**

2. DOCTORS WITH EXTRA TRAINING IN TRAVEL MEDICINE*

THE MAJORITY OF DOCTORS WHO VACCINATE OUTSIDE THE NIP (GPs, Paediatricians) HAVE NO (EXTRA) TRAINING IN VACCINOLOGY

*** No official degree. ** Official degree and registration.**

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VACCINATIONS OUTSIDE THE NIP

1. BCG-VACCINATION (TARGET GROUPS)*
2. ANNUAL INFLUENZA CAMPAIGN (TARGET GROUPS)*
3. CERTAIN CHRONICAL ILL PATIENTS (INDIVIDUAL INDICATION)*
4. VACCINATIONS FOR OCCUPATIONALLY EXPOSED PERSONS*
5. VACCINATIONS FOR THE MILITARY*
6. VACCINATIONS FOR TRAVELERS**

*** Laid down by law or regulations and 100% reimbursement**
**** Reimbursement depending on health insurance policy**

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HEPATITIS B-IMMUNISATION OUTSIDE THE NIP

1. HETEROSEXUALS WITH MULTIPLE SEX CONTACTS*
2. HOMOSEXUAL MEN*
3. PROSITITUTES AND THEIR CLIENTS*
4. INTRAVENOUS DRUG USERS*
5. PEOPLE WITH HIGH OCCUPATIONAL RISK TO EXPOSURE
7. ASYLUMSEEKERS WITHOUT HISTORY OF HBV-VACCINATION
8. PEOPLE WHO EXPERIENCED ACCIDENTAL POSSIBLE EXPOSURE
9. PATIENTS ON HEMODYALISIS
10. HOSPITALISED PATIENTS WITH MENTAL ILLNESS
11. PATIENTS WITH DOWN'S SYNDROME
12. CERTAIN TRAVELLERS

*** Projects of *STD-AIDS Netherlands* and the Municipal Health Authorities (for free and anonymus in STD-clinics**

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EFFECTIVENESS OF THE HBV-VACCINATION POLICY

- IN 2001 20-25% OF THE NEONATES WERE EXPOSED TO AN UNACCEPTABLE RISK BECAUSE THEY DIT NOT RECEIVE THE HBIg AND/OR THE VACCINE DOSES IN TIME

- IN 2004 THE NATIONAL INSTITUTE FOR PUBLIC HEALTH (RIVM) HAS STARTED AN EVALUATION OF THE CURRENT POLICY, INCLUDING A STUDY OF THE COST-EFFECTIVENESS OF THE TARGET GROUP POLICY

- THE INCIDENCE OF HBV-INFECTIONS IS RISING AGAIN

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Erasmus MC Universitair Medisch Centrum Rotterdam

‘The Netherlands is almost the only country in Europe where universal HBV-vaccination has not been implemented in the NIP. Only risk groups are vaccinated, notwithstanding the high costs and difficulties of reaching those groups result in a limited effect’

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VACCINE COVERAGE

- INFANTS (4x DTPa-IPV-Hib + 4 x Pnc_7 1x MMR + 1x MenCc) > 95%
- TODDLERS (4 y) (SAME AS INFANTS + 1x DTPa-IPV) > 90%
- SCHOOLCHILDREN (9 y) (SAME AS TODDLERS + 1x Td + 1x MMR > 90%

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THE BAD THINGS OF THE DUTCH NIP

1. IT STOPS AT THE AGE OF 9
2. VERY SLOW DICISION MAKING
3. NO INTEGRATION WITH OTHER IMMUNISATION PROGRAMMES AND INDIVIDUAL VACCINATIONS (e.g. HEPATITIS B!)
4. NOT COMPULSORY (?)

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THE GOOD THINGS OF THE DUTCH NIP

1. PERFECT ORGANISATION
2. VERY HIGH COVERAGE
3. GOOD MONITORING SYSTEMS (e.g. sero-epidemiology, adverse events, registration of vaccinations)
4. CARRIED OUT WITHIN THE SETTING OF CHILD HEALTH CARE (doctors and nurses with some training in vaccinology)
5. RESPONSIBILITY OF THE GOVERNMENT
6. NOT COMPULSORY (?)