



rivm

National Institute
for Public Health
and the Environment

Hepatitis Surveillance in the Netherlands

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RIVM – Centre for Infectious Disease Control

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Outline

- Infectious disease surveillance in The Netherlands
- Methods
 - notification of infectious diseases
 - vaccination coverage
 - sero-epidemiology
 - molecular surveillance
 - adverse events following immunisation
- Output and use of surveillance data
- Limitations
- Future developments

Infectious disease surveillance in The Netherlands

- Core task RIVM-Centre for Infectious Disease Control
 - established 2003
- Diseases of Public Health importance
 - national
 - contribution to international surveillance
ECDC, WHO EURO, WHO
- Aims
 - early warning
 - detect changes that require intervention
 - evaluate interventions

Notification of infectious diseases (1)

- 1865: First law on notification of infectious diseases
- Hepatitis A, B and C all notifiable
 - A: also epidemiologically linked cases
 - B: including chronic infections (since 1999)
 - C: only if probably acquired < 1 year ago (since 2003)
- Web based notification system
 - 'Osiris', since 2002
 - coordinated by RIVM-CIb

Notification of infectious diseases (2)

- 1 December 2008: new Public Health law in The Netherlands
 - in response to International Health Regulations (2005)
 - replaces three previous laws
 - municipality remains responsible for infectious disease control
 - Except for polio, smallpox, SARS or WHO advice: Minister
- 42 diseases now notifiable (was 36)
- Notifications compulsory for
 - clinicians
 - laboratories
 - heads of institutions

OSIRIS | Rapport - Microsoft Internet Explorer

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Address <https://osiris.rivm.nl/osiris.htm> Go Links

Welkom bij Osiris Gebruiker: **Hahne, SJM** (RIVM) Helpdesk telefoon: 030 274 33 80

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Rapporten

Osirisnr.:

Meldnr.: Voltooid/Onvoltooid:

Status: Infectieziekte Organisatie:

<ul style="list-style-type: none"> (alle) Definitief Gefiatteerd CommentaarLCI AccoordLCI CommentaarEPI AccoordEPI Gewist GewistGGD GewistGGDLCI GewistGGDEPI WijzigLCI 	<ul style="list-style-type: none"> Hepatitis A Hepatitis B Hepatitis B Acuut Hepatitis B Chronisch/onbekend Hepatitis C Acuut Hepatitis C Acuut en Drager Hondsdolheid Invasieve Groep A Streptokokkeninfectie Invasieve Haemophilus influenzae b ziekte Invasieve pneumokokken bij kinderen Kinderverlamming Kinkhoest 	<ul style="list-style-type: none"> (alle) GG&GD Utrecht GGD Amstelland De Meerlanden GGD Amsterdam GGD Brabant Zuid-Oost GGD Den Haag GGD Drenthe GGD Eemland GGD Eindhoven GGD Flevoland GGD Fryslân GGD Gelre-IJssel
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Organisatie locatie:

Datum creatie : t/m

Laatste wijziging: t/m

Geboortjaar t/m

Datum diagnose t/m

Datum binnenkomst GGD t/m

Datum eerste ziektedag t/m

Postcode patient (Wildcards (%?[]) of Range toegestaan bijv. aaa-zzz of 100-1000)

Toon gevonden meldingen als:

Bewaar instellingen

Opties:

- Codes ipv tekst
- Extra velden
- Vaste naam
- Alle versies
- Onderdruk lege antwoorden

Hep B vaccination Coverage

- **National Immunisation Programme**
 - 'Præventis': web-based national register
 - annual report
 - infants of immigrant parents & infants born to HBsAg+ mothers

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Vaccinatiegraad Rijksvaccinatieprogramma Nederland verslagjaar 2006-2008

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Hep B vaccination coverage

- **National Immunisation Programme**
 - 'Præventis'
 - annual report
 - infants of immigrant parents & infants born to HBsAg+ mothers
- **Behavioural high risk groups**
 - national vaccination database
 - characteristics of vaccinated individuals
 - HBsAg and anti-HBc screen at first visit
 - lack of denominators
- **Occupational health**
 - no systems available!

Sero-epidemiology

- Blood donors
- Antenatal screening
- High risk groups
- National sample: the 'Pienter' studies
 - 1996, 2007
 - 48 municipalities, 20.000 people invited, 8.000 participate
 - 2007: oversampling migrants

Deelnemende gemeenten

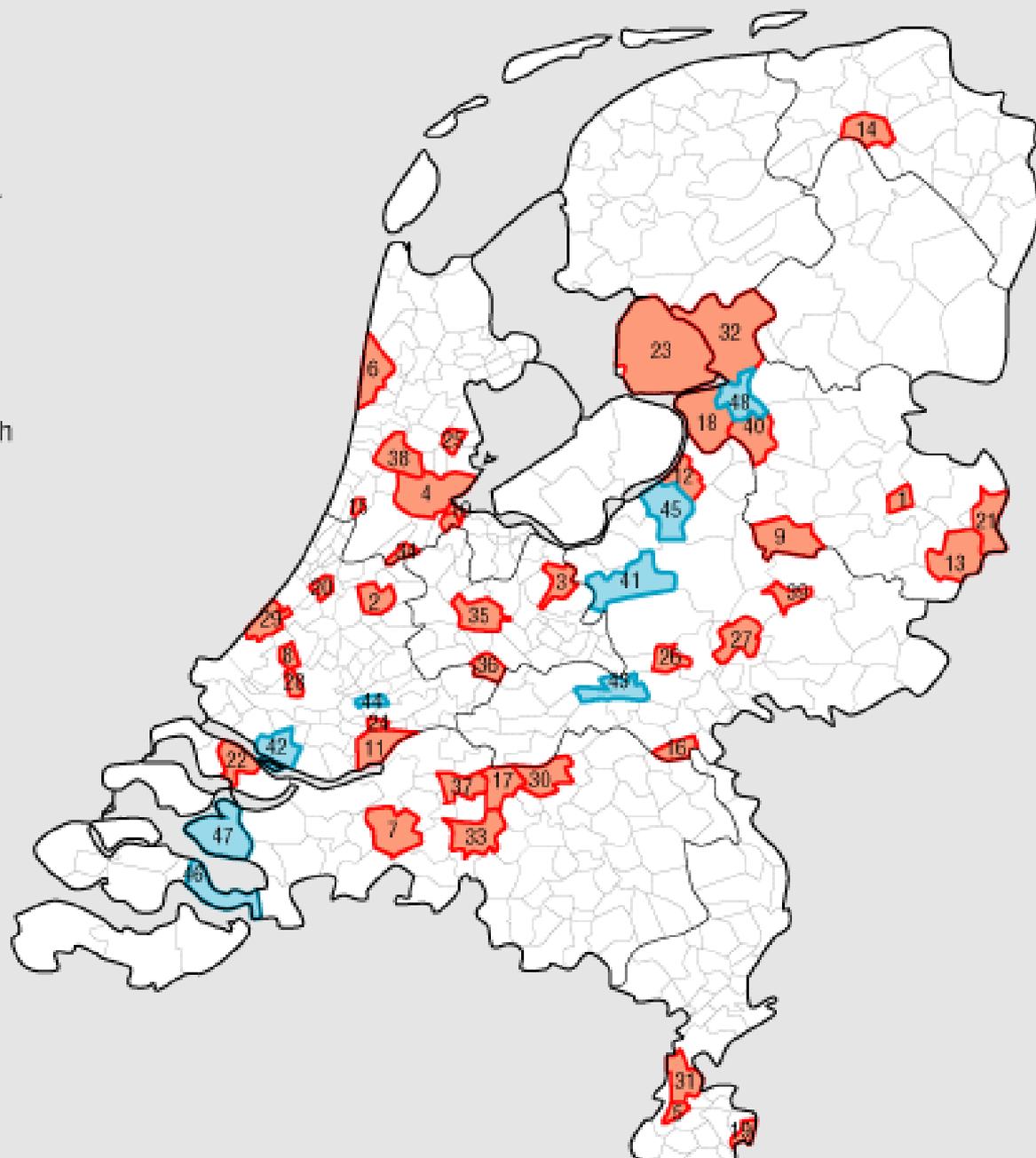
 gemeenten in landelijke steekproef

1	Almelo	21	Losser
2	Alphen a/d Rijn	22	Middelharnis
3	Amersfoort	23	Noordoostpolder
4	Amsterdam	24	Papendrecht
5	Beek	25	Purmerend
6	Bergen (NH.)	26	Renkum
7	Breda	27	Rheden
8	Delft	28	Schiedam
9	Deventer	29	's-Gravenhage
10	Diemen	30	's-Hertogenbosch
11	Dordrecht	31	Sittard-Geleen
12	Elburg	32	Steenwijkerland
13	Enschede	33	Tilburg
14	Groningen	34	Uithoorn
15	Heemstede	35	Utrecht
16	Heumen	36	Vianen
17	Heusden	37	Waalwijk
18	Kampen	38	Zaanstad
19	Kerkrade	39	Zutphen
20	Leiden	40	Zwolle

 gemeenten met lage vaccinatiegraad

41	Barneveld	45	Nunspeet
42	Korendijk	46	Reimerswaal
43	Neder-Betuwe	47	Tholen
44	Nieuw-Lekkerland	48	Zwartewaterland

 provincies



Molecular surveillance: HBV

- HBV typing
 - since January 2003: all acute cases of HBV infection
 - chronic infections: ad hoc
- Collaborative project
 - RIVM
 - Public Health Laboratory Amsterdam
 - Erasmus Medical Centre Rotterdam
- pre-S2 and S-region
 - 648-nucleotide fragment

Molecular surveillance: HCV

- Research area, no routine surveillance
- PhD thesis: Thijs van de Laar, 2008

Adverse events following immunisation

- Passive reporting system
- Epidemiological studies needed

Output and use of HBV, HAV and HCV surveillance data

- Publications (Dutch Medical Journal, Infectious Diseases Bulletin)
- HBV
 - annual National Immunisation Programme report
 - annual STI-hiv report

Limitations of surveillance systems (1)

- HAV
 - vaccination coverage not recorded
- HBV
 - asymptomatic infections, mainly in children, not detected
 - vaccination coverage in at risk occupations not documented
 - seroprevalence data generally does not include high-risk groups
 - HBV related mortality difficult to assess
 - molecular surveillance of chronic infections not representative

Limitations of surveillance systems (2)

- HCV
 - *'The Dutch notifiable diseases system fails in monitoring and prevention of new HCV infections'* (vd Laar, 2008)
 - asymptomatic infections not detected
 - importance of molecular typing

Future developments

- HBV & HCV
 - continued molecular surveillance
 - add surveillance of antiviral resistance
 - add surveillance of access to treatment
 - new phylogenetic methods (e.g. coalescence)
 - behavioural surveillance

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