

Outbreak of Hepatitis B in Sweden among PWID 2014-2015

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DRID-meeting 6 June 2016



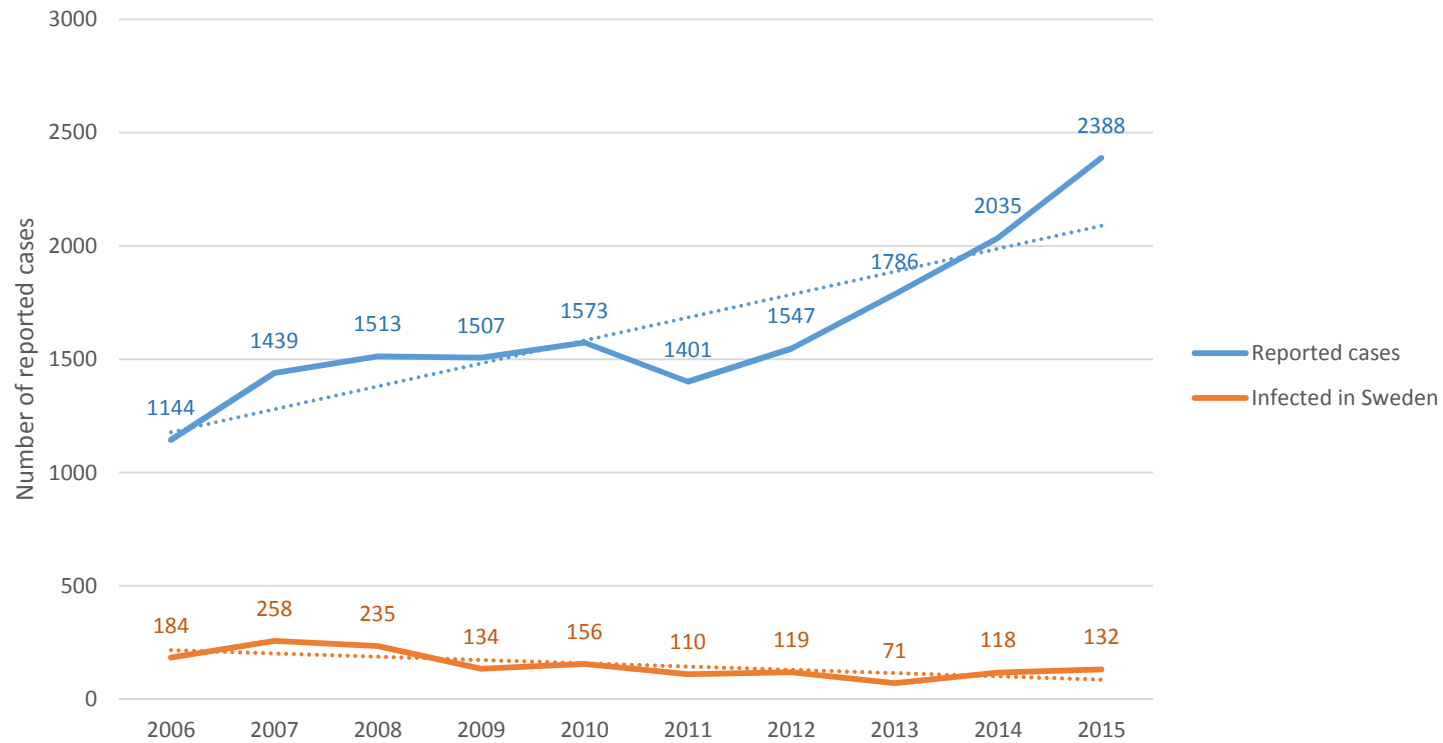
Hepatitis B in Sweden

Background

- Reported cases since 1987: 40 000
- > 2000 new cases reported each year
- Increasing trend since 2010

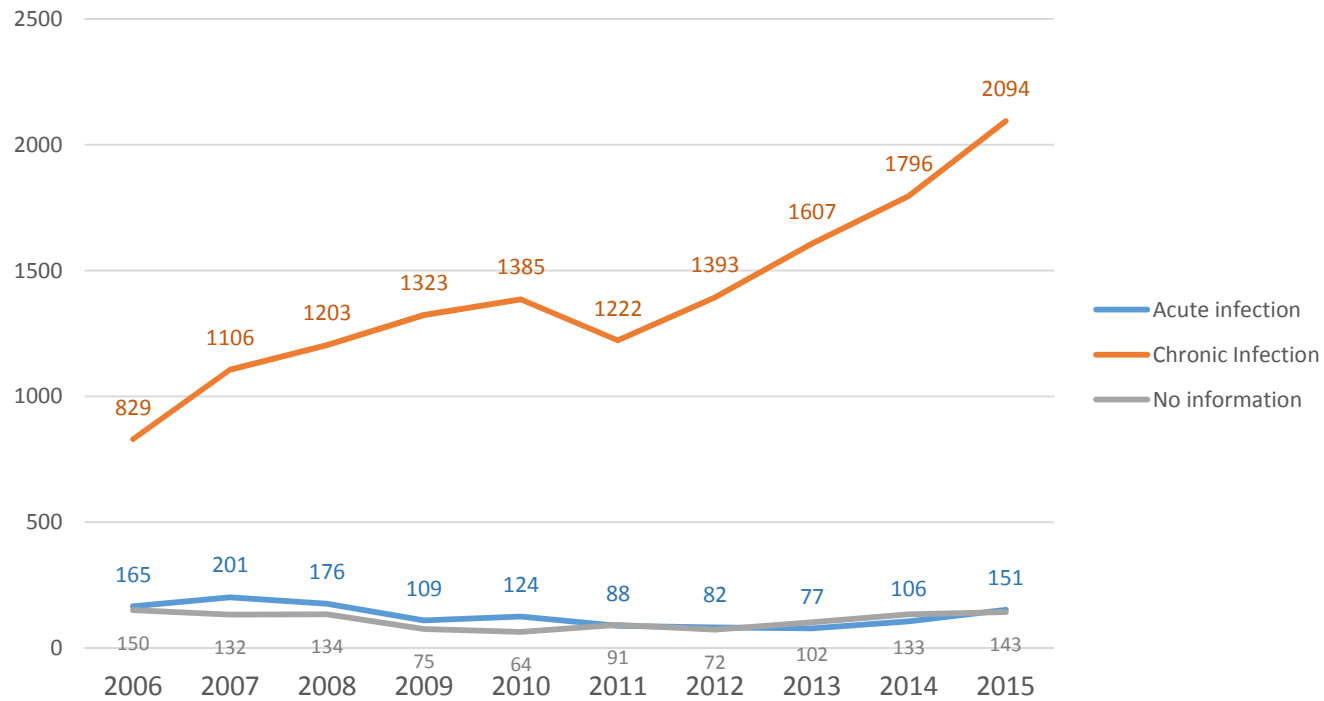
Hepatitis B in Sweden

Country of infection



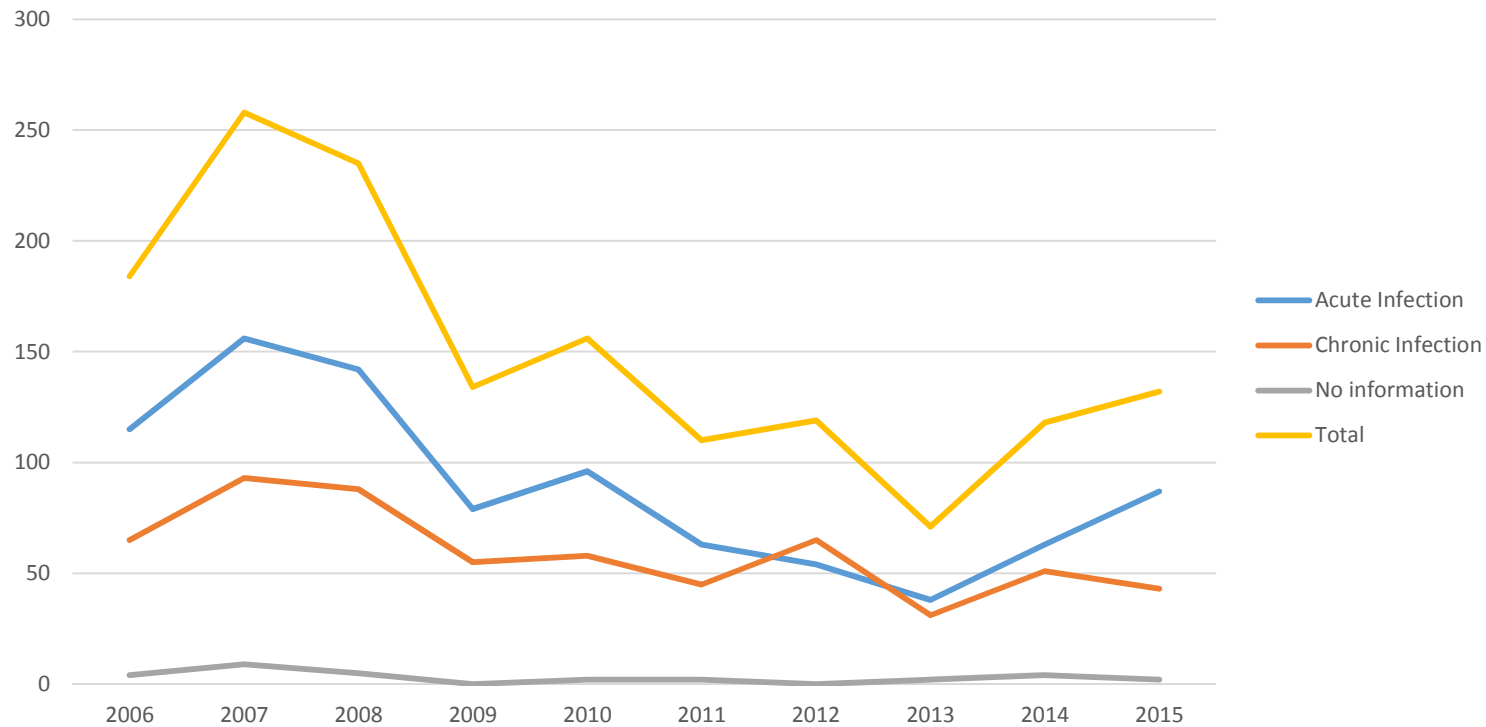
Hepatitis B in Sweden

Type of infection



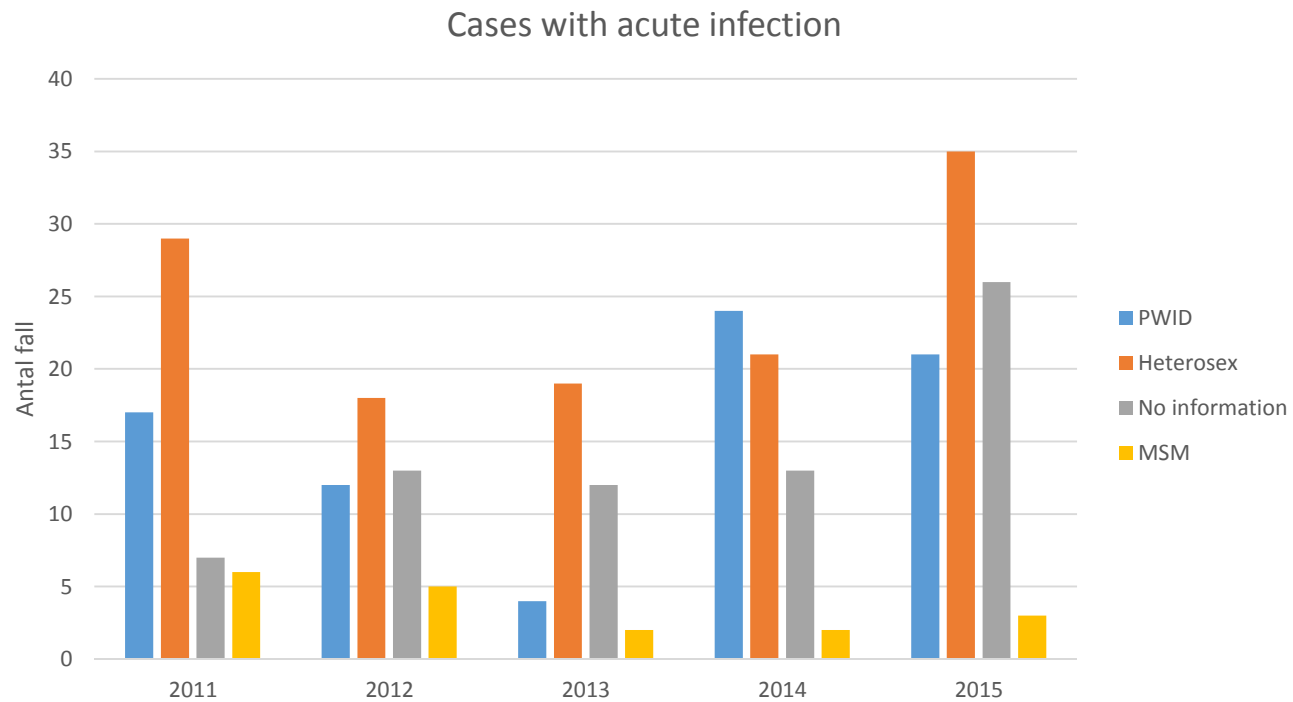
Hepatitis B in Sweden

Cases in Sweden, type of infection



Hepatitis B

Cases in Sweden, routes of infection



Molecular epidemiology

Study at Public Health Agency of Sweden (PHA)

Sequencing of samples from acute cases 2013- -

- A. Distribution of genotypes, resistance and vaccine escape mutation.
- B. Investigations and analysis of outbreaks.

Samples for genotyping at Public Health Agency

Year	2013	2014	2015
Acute infected, reported	78	107	151
Acute infected, samples to PHA	36 (46%)	65 (61%)	102 (68%)

Molecular epidemiology

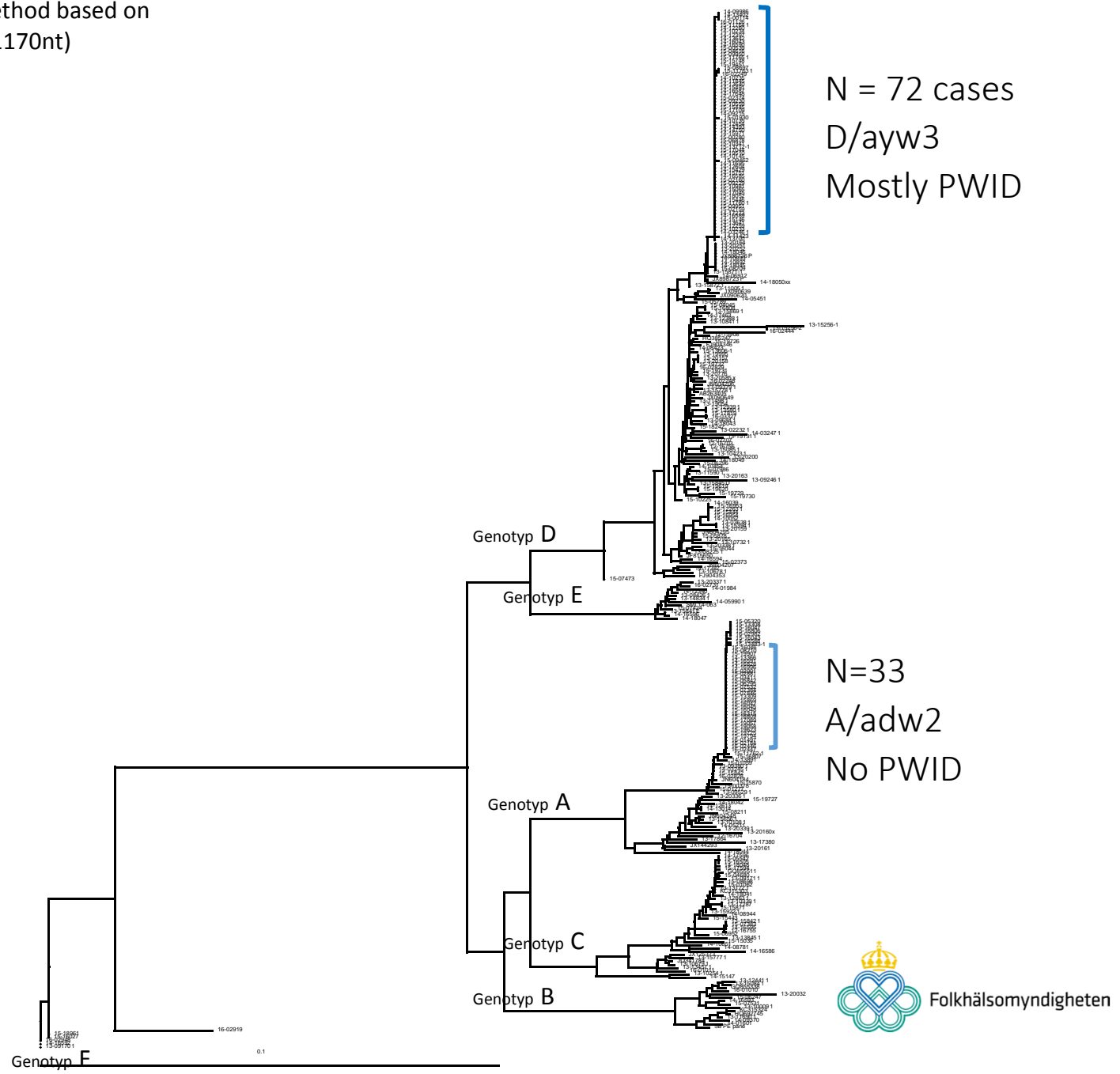
Distribution of genotypes – acute hepatitis B

Year, number	Genotype					
	A	B	C	D	E	F
2013, n=36 (47%)	2 (6%)	3 (8%)	7 (19%)	20 (56%)	3 (8%)	1 (3%)
2014, n=65 (61%)	7 (9%)	1 (1%)	7 (9%)	44 (56%)	5 (6%)	1 (1%)
2015, n=102 (68%)	39 (38%)	1 (1%)	7 (7%)	52 (51%)	1 (1%)	3 (3%)

No drug resistance.

No vaccine escape mutations.

Phylogenetic Tree, NJ method based on analysis of HBV S-gene (1170nt)

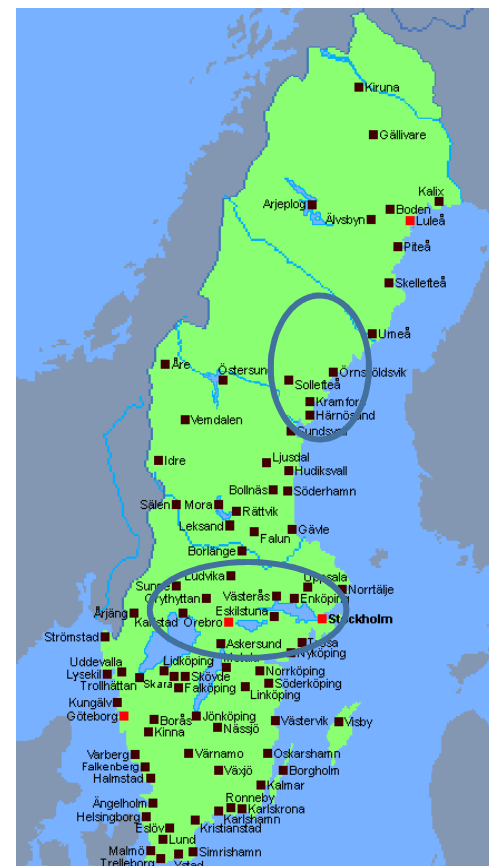


Sid



Summary of outbreak

- Outbreak among PWID
 - Genotype: D/ayw3
 - Start 2014, one case 2016
 - Eight counties (see map)
 - 50 % PWID, 30 % sexual partners (20 % unknown)
 - Male: 64%
 - Age (mean): 32 years



Initiatives

- More frequent contact with County Medical Officers
 - Responsible for Communicable Disease Control in Regions
- Prevention
 - Vaccination (free) Campaigns to PWID and their sexual partners
 - Start of 3 new NEP
 - (Increased information about vaccination to travellers)
- Collaboration with social services to reach young PWID

