



Hepatitis A in Switzerland:

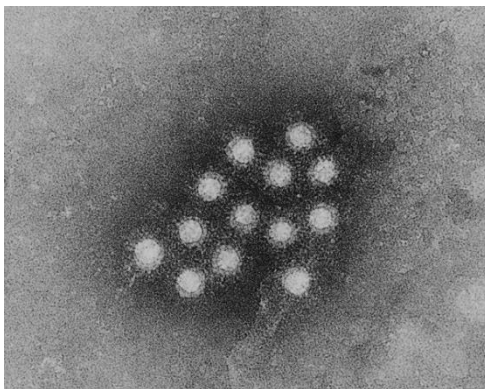
What we learn from surveillance data

Claudia Schmutz, Sarah Huang, Daniel Mäusezahl

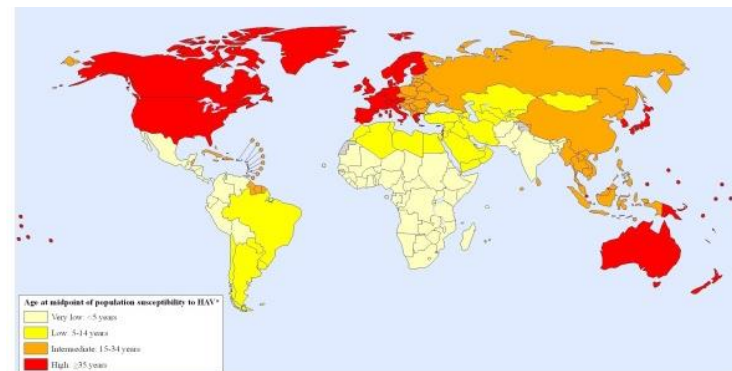
Swiss Public Health Conference 2017, Basel

Characteristics of hepatitis A

- **Viral** infection causing acute hepatitis – **no chronic infections**
- Prolonged disease duration / **relapses** can occur over several months
- **Signs and symptoms** include fever, malaise, anorexia, nausea, abdominal discomfort, diarrhoea, vomiting, fatigue, jaundice
- **Asymptomatic** or mild in **young children**
- More often **symptomatic** with **increasing age**
- **Faecal-oral transmission** (person-to-person or contaminated food/water)
- **Incubation period: 15-50 days**



Hepatitis A virus (Source: CDC/Betty Partin)



*Age at midpoint of population susceptibility to HAV is defined as the age at which half of the population in that age group does not have anti-HAV IgG antibodies, indicating no past exposure to the virus. Age-specific seroprevalence estimates for 2005 for each of 21 world regions were derived from curves fit to pooled data collected between 1995 and 2008, respectively, as reported in Jacobson, 2010.

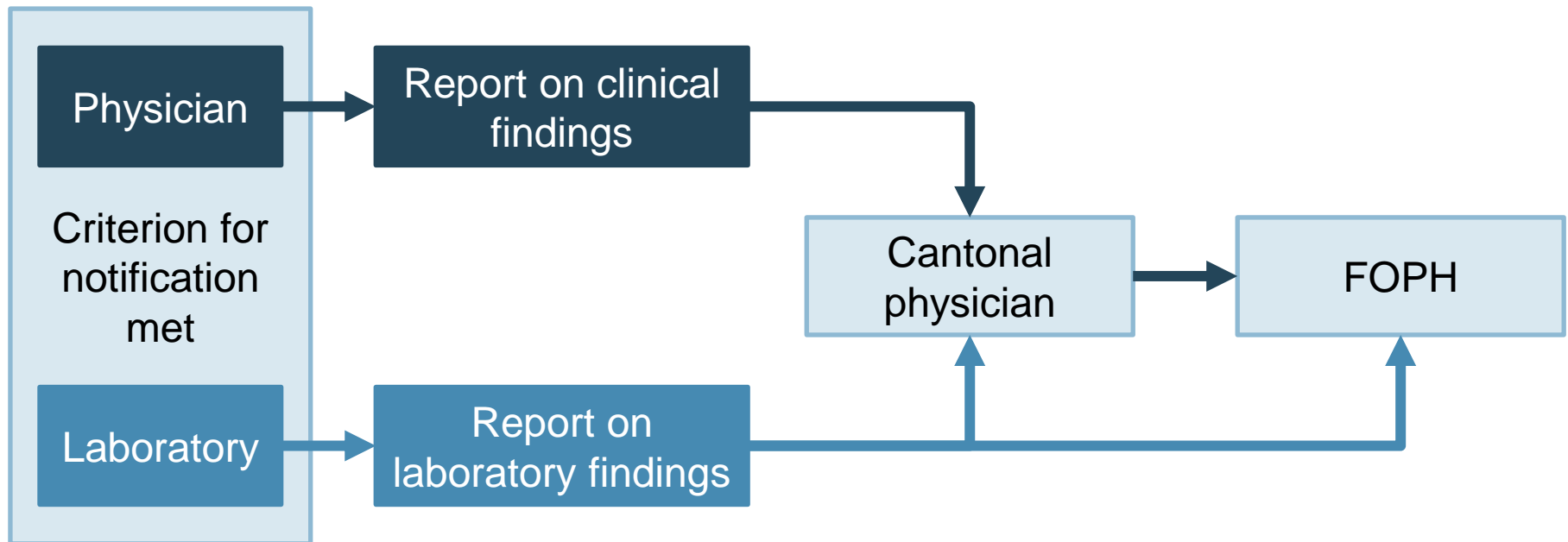
Global risk map of HAV susceptibility in 2005

(Source: Hanafiah *et al.*, 2011, doi: 10.1186/1476-072X-10-57)

Hepatitis A – a notifiable disease in Switzerland

National Notification System for Infectious Diseases (NNSID)

- Based on Epidemics Act (revised 2016)
- Currently 54 notifiable observations (diseases / laboratory findings)
- Report within 2 hours, **24 hours** or 1 week

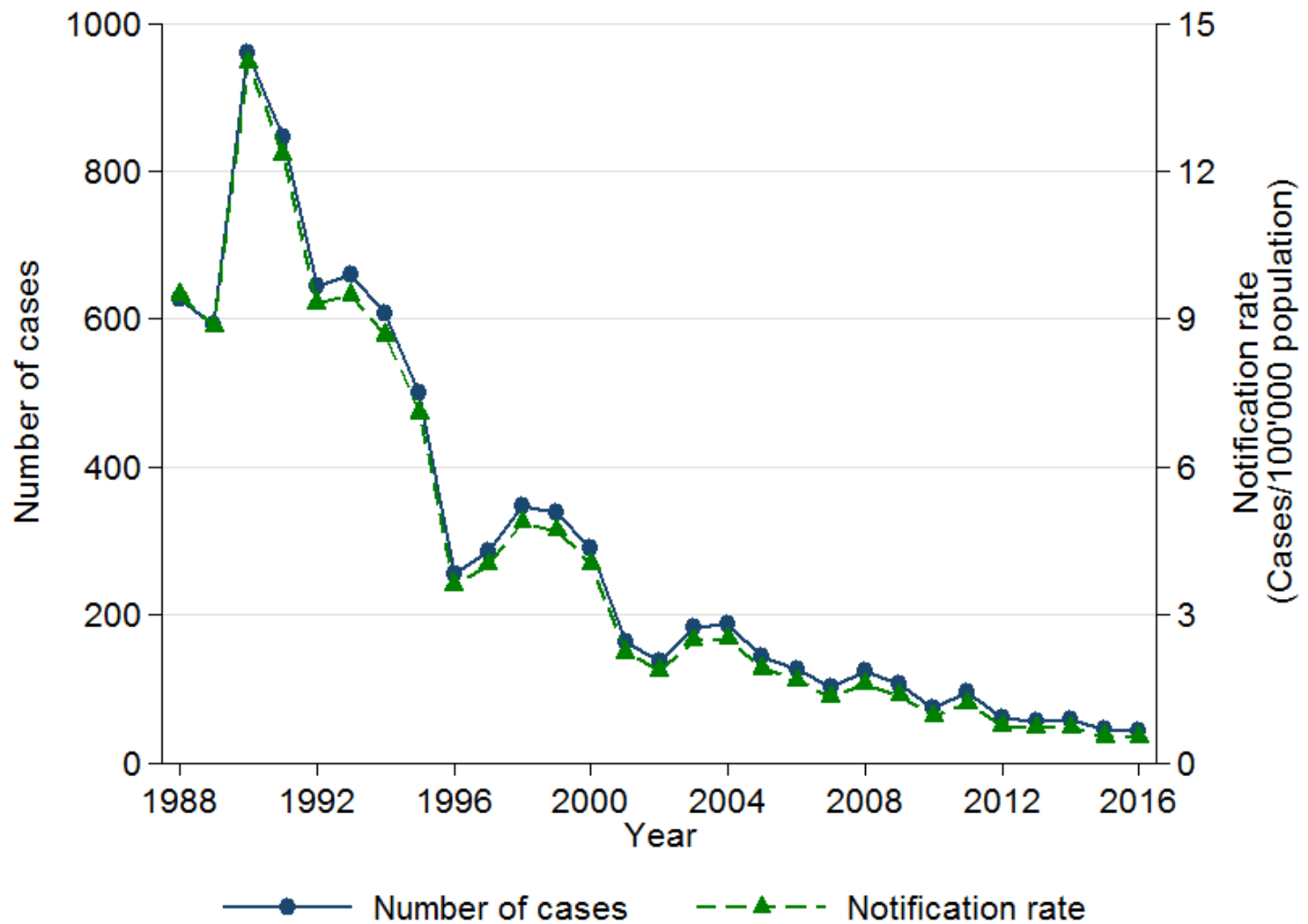


Hepatitis A surveillance data

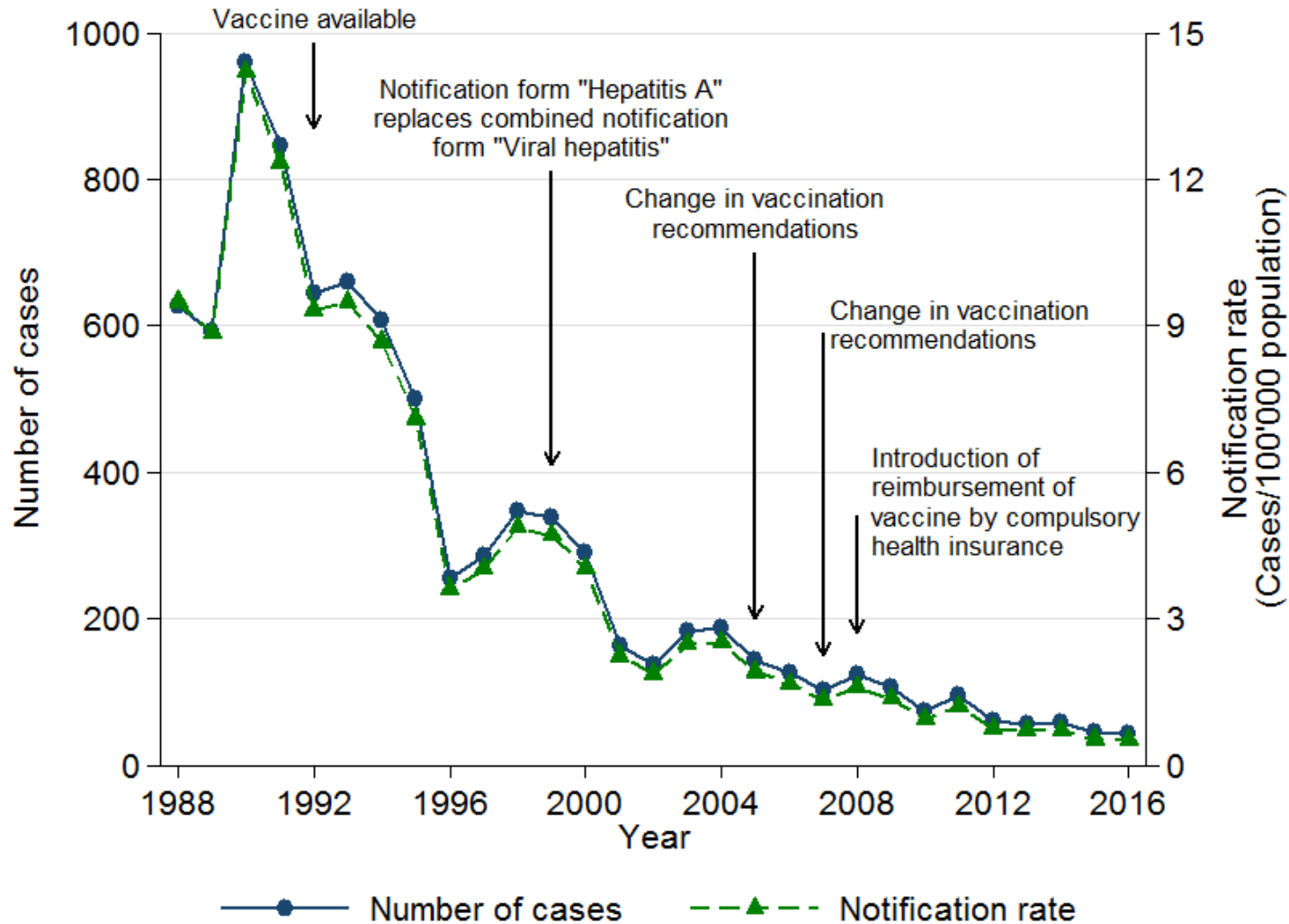
Data sources

- Hepatitis A cases: **NNSID data** from **1988-2016**
 - Age & sex
 - Signs & symptoms
 - Vaccination status
 - Hospitalisation
 - Sequelae & death
 - Risk factors & exposure
- Notification rates: **Population statistics** from Federal Statistical Office

Hepatitis A notification rate, 1988-2016



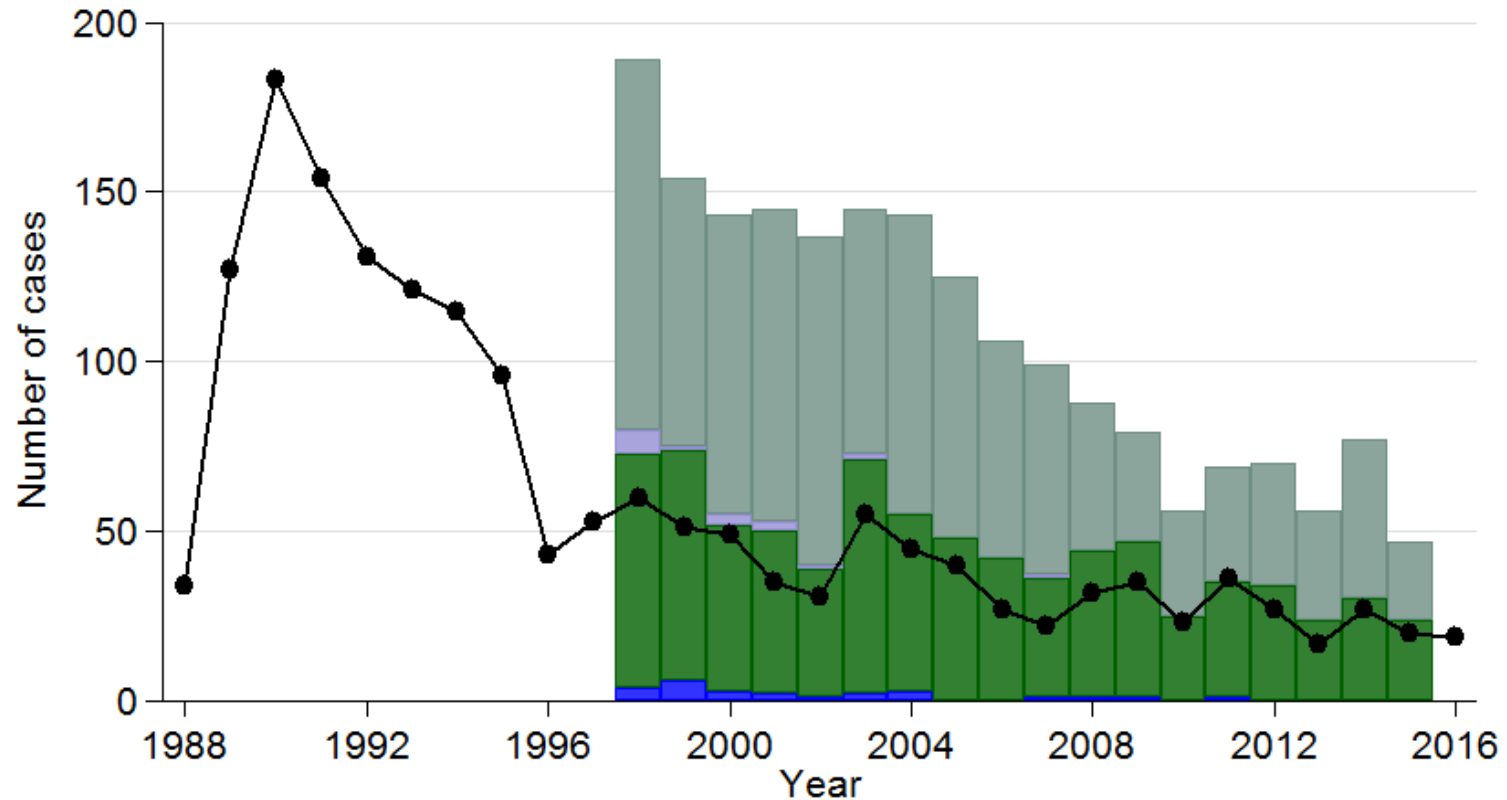
Hepatitis A notification rate, 1988-2016



Hepatitis A case characteristics

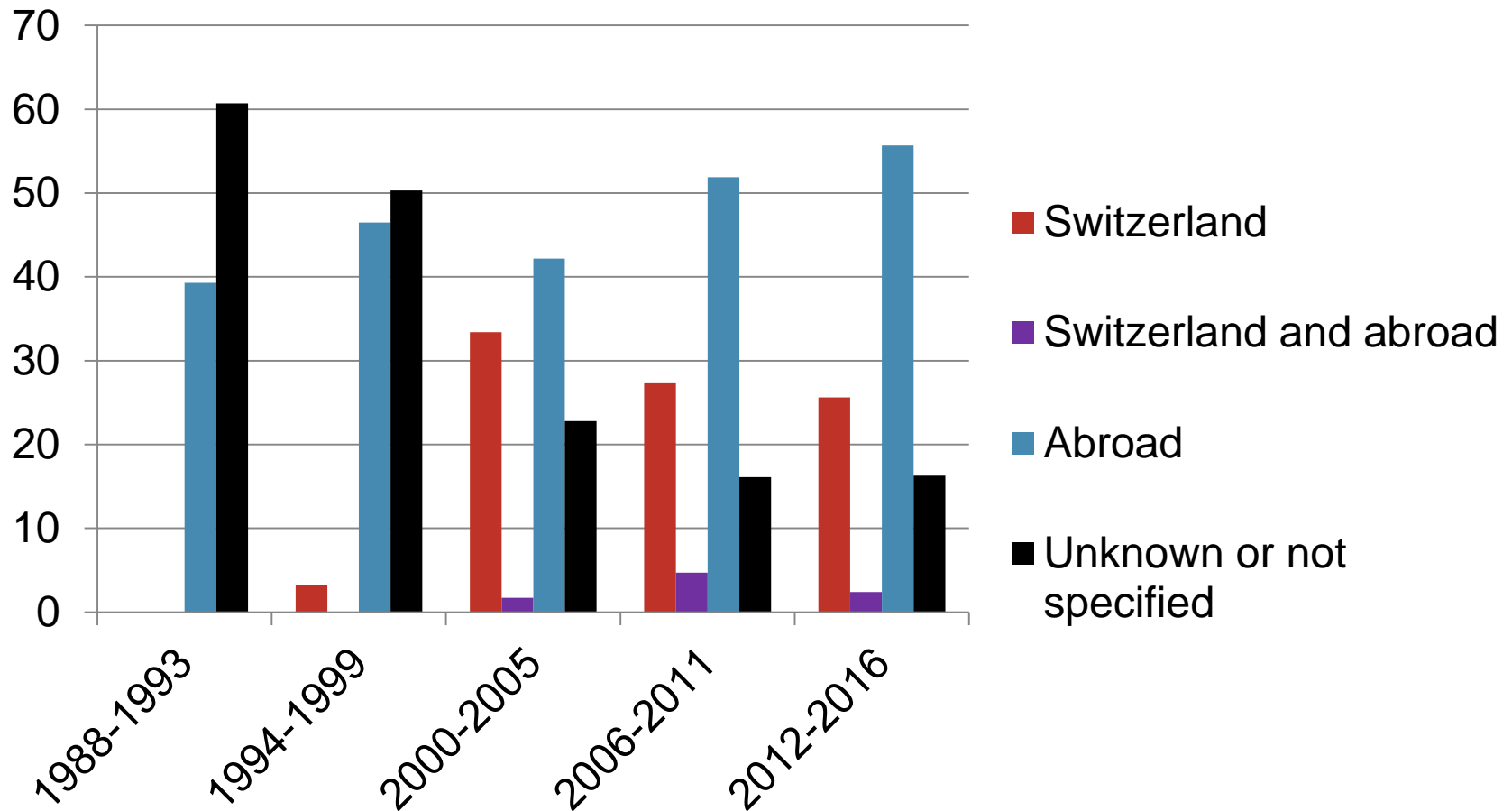
	1988-1993	1994-1999	2000-2005	2006-2011	2012-2016
Total cases	4328	2334	1105	626	262
Age (median)	25	28	31	38.5	43
Males	65%	61%	60%	56%	52%
Swiss / FL	84%	75%	74%	75%	70%
Vaccinated	5%	3%	2%	5%	5%
Hospitalised	21%	20%	25%	31%	45%
Deaths	0.5%	0.4%	0.1%	0.9%	1.2%

Hepatitis A: Hospitalisations

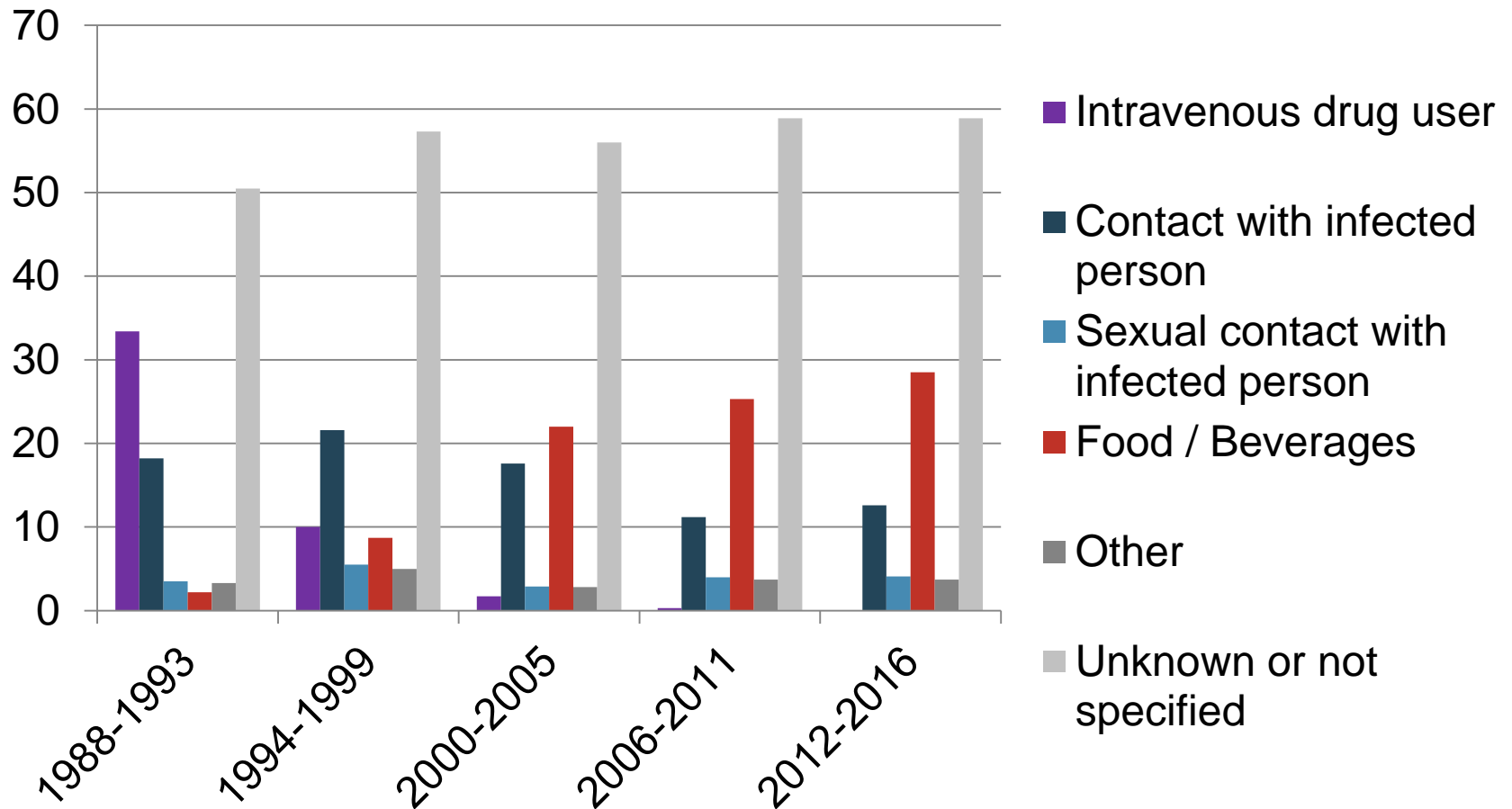


- Main diagnosis B15.0: Hepatitis A with hepatic coma
- Main diagnosis B15.9: Hepatitis A without hepatic coma
- Secondary diagnosis B15.0: Hepatitis A with hepatic coma
- Secondary diagnosis B15.9: Hepatitis A without hepatic coma
- Number of notified, hospitalised cases

Hepatitis A: Where are people exposed?



Hepatitis A: Which risk exposures are reported?



Epidemiology of hepatitis A in Switzerland

- **Decreasing trend since 1990**

- Vaccination
- Drug scene
- Decreasing also in other countries (→ travel)



- **Clear risk groups “disappeared”**

- Targeted interventions (including vaccination)
- Low case numbers



- **More hospitalised cases**

- Age of cases increased
- Changing awareness among physicians?



Conclusions

- Repeated changes in **notification forms**
 - Make interpretation of **long-term trends** cumbersome
 - Should be **kept to a minimum & well-documented**
- Need for **continued surveillance**
 - **Detect** outbreaks
 - Adjust **vaccination recommendations**
- Need for **continued vaccinations**
 - **Prevent** cases & outbreaks
- **Be aware**
 - **Susceptibility** increases
 - Disease **severity** increases (higher age at infection)



THANK YOU FOR YOUR ATTENTION!

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