



## Epidemiology of Viral Hepatitis in Germany

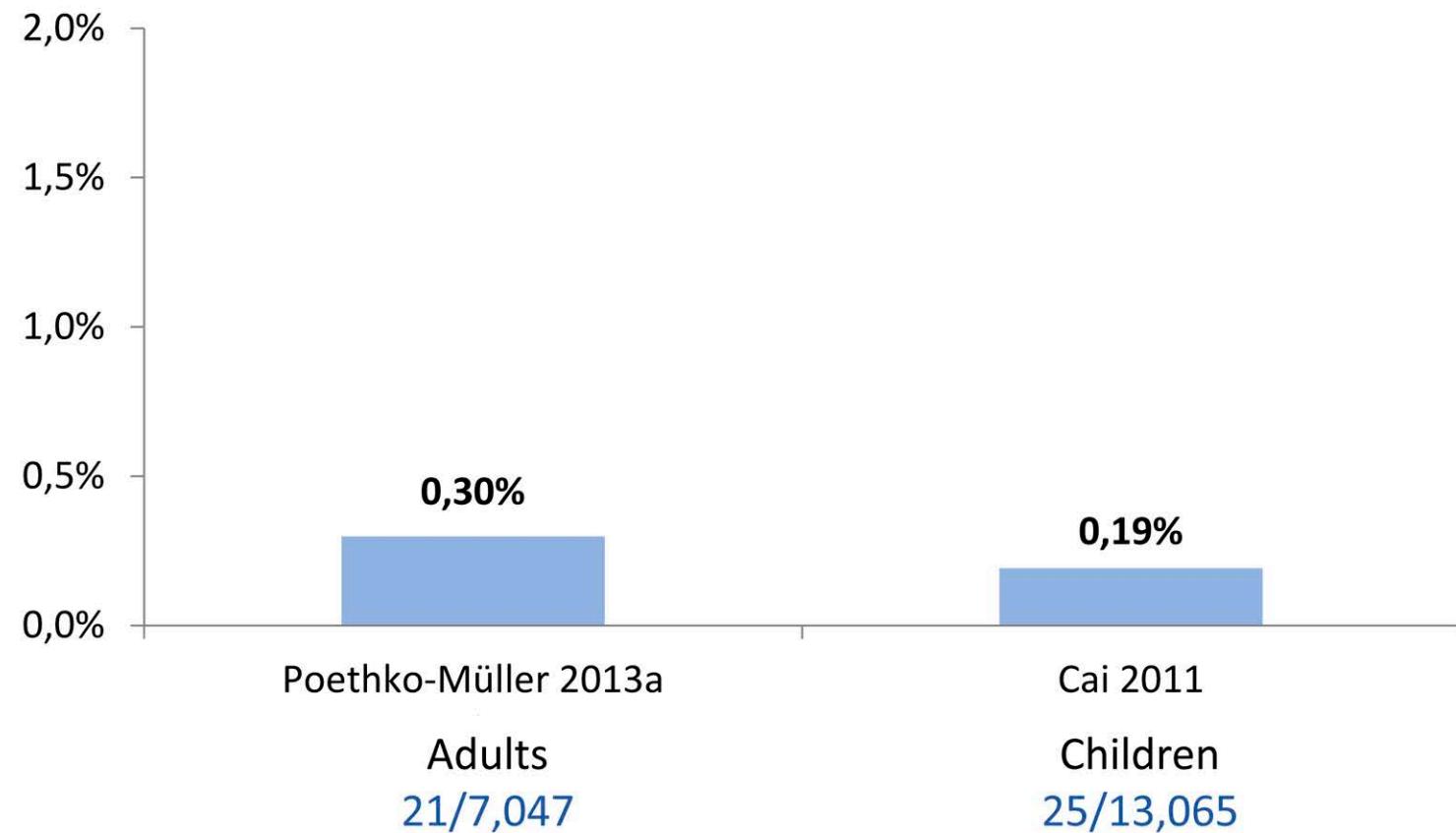
Dr. Ruth Zimmermann MPH  
Robert Koch Institute

Elimination of Viral Hepatitis in Europe: the German strategy  
30 Nov 2016, Berlin



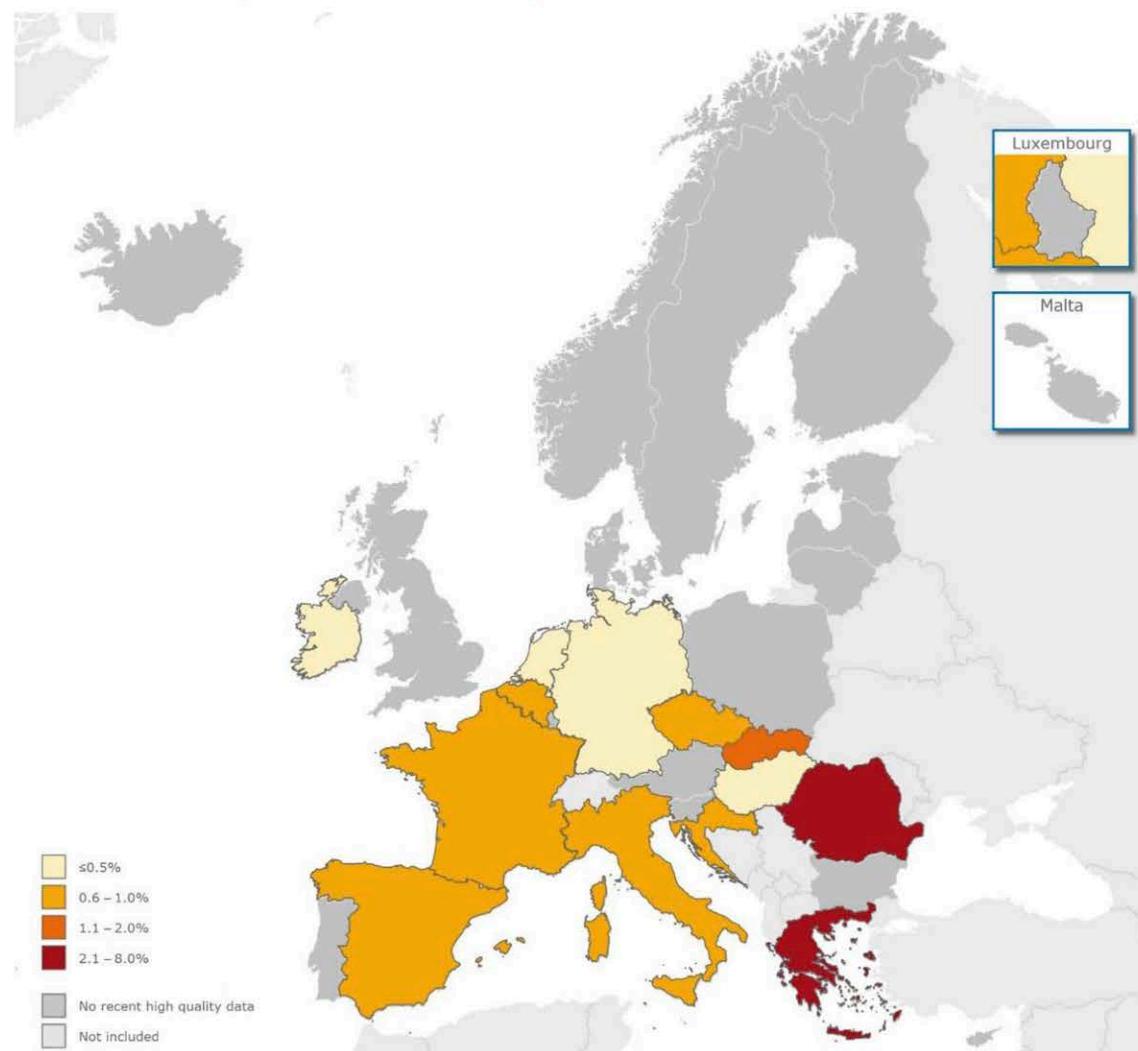
# Hepatitis B prevalence in the general population

HBsAg





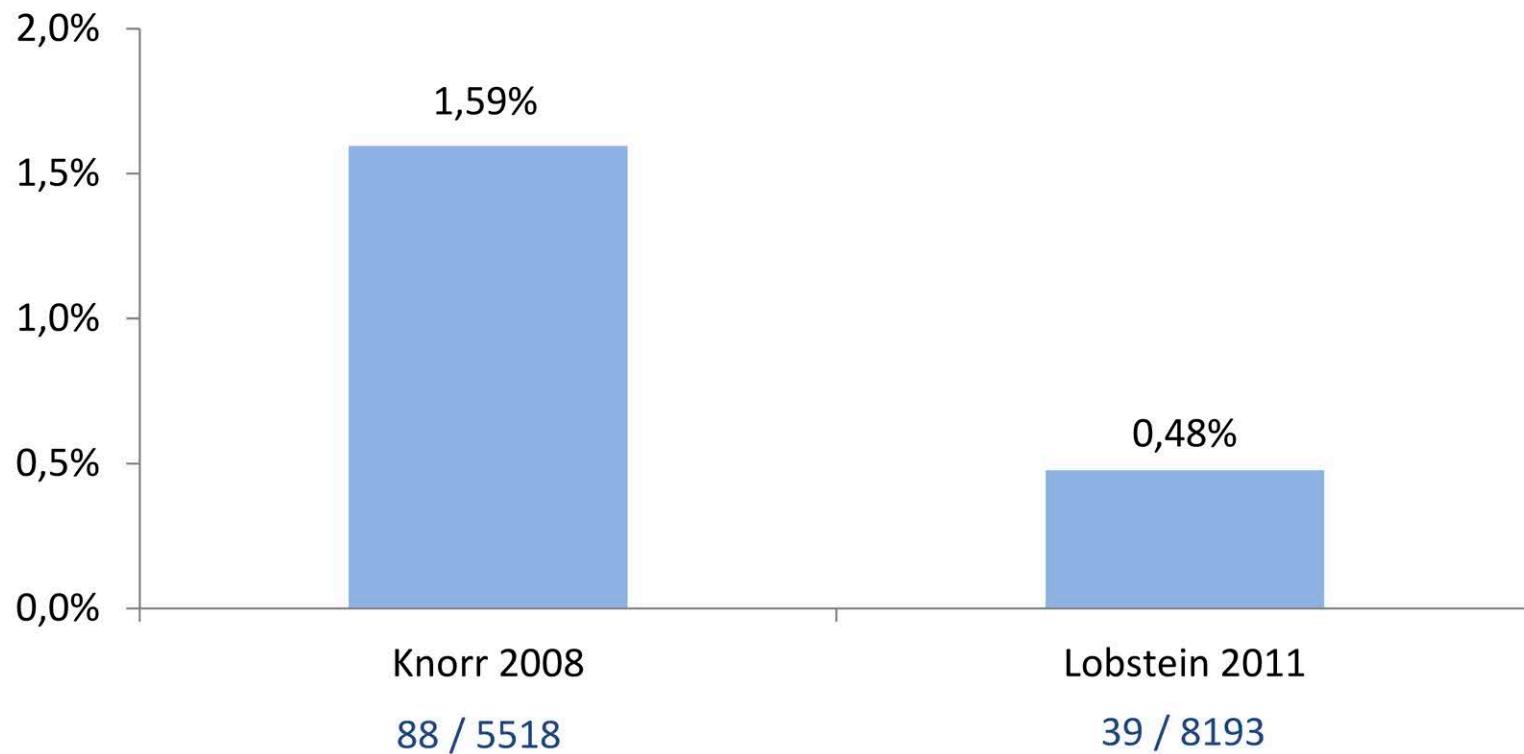
# HBsAg prevalence in the adult general population, EU/EEA, 2005–2015 (ECDC 2016)





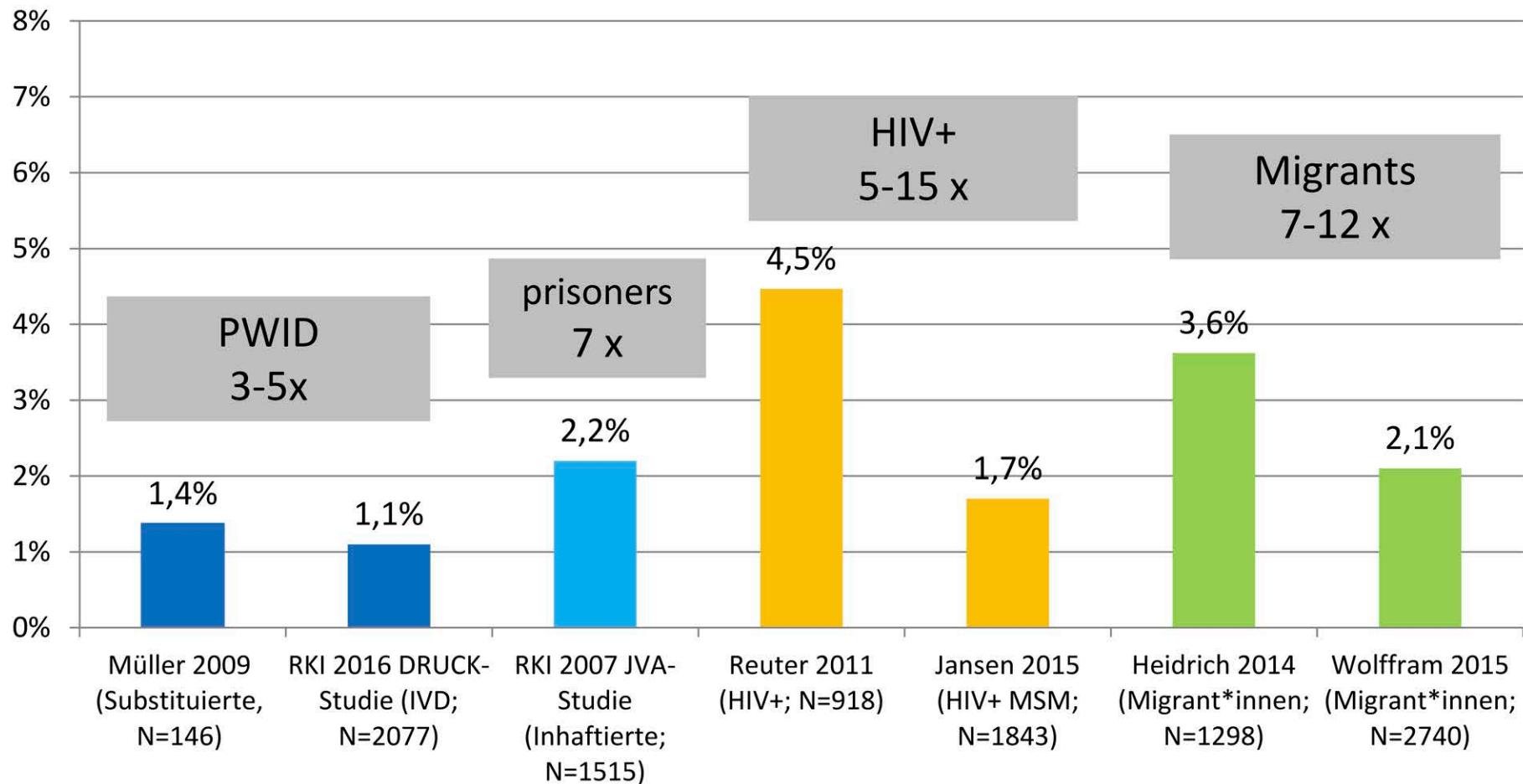
# Hepatitis B among pregnant women

HBsAg





# HBsAg-Seroprevalence in key population groups





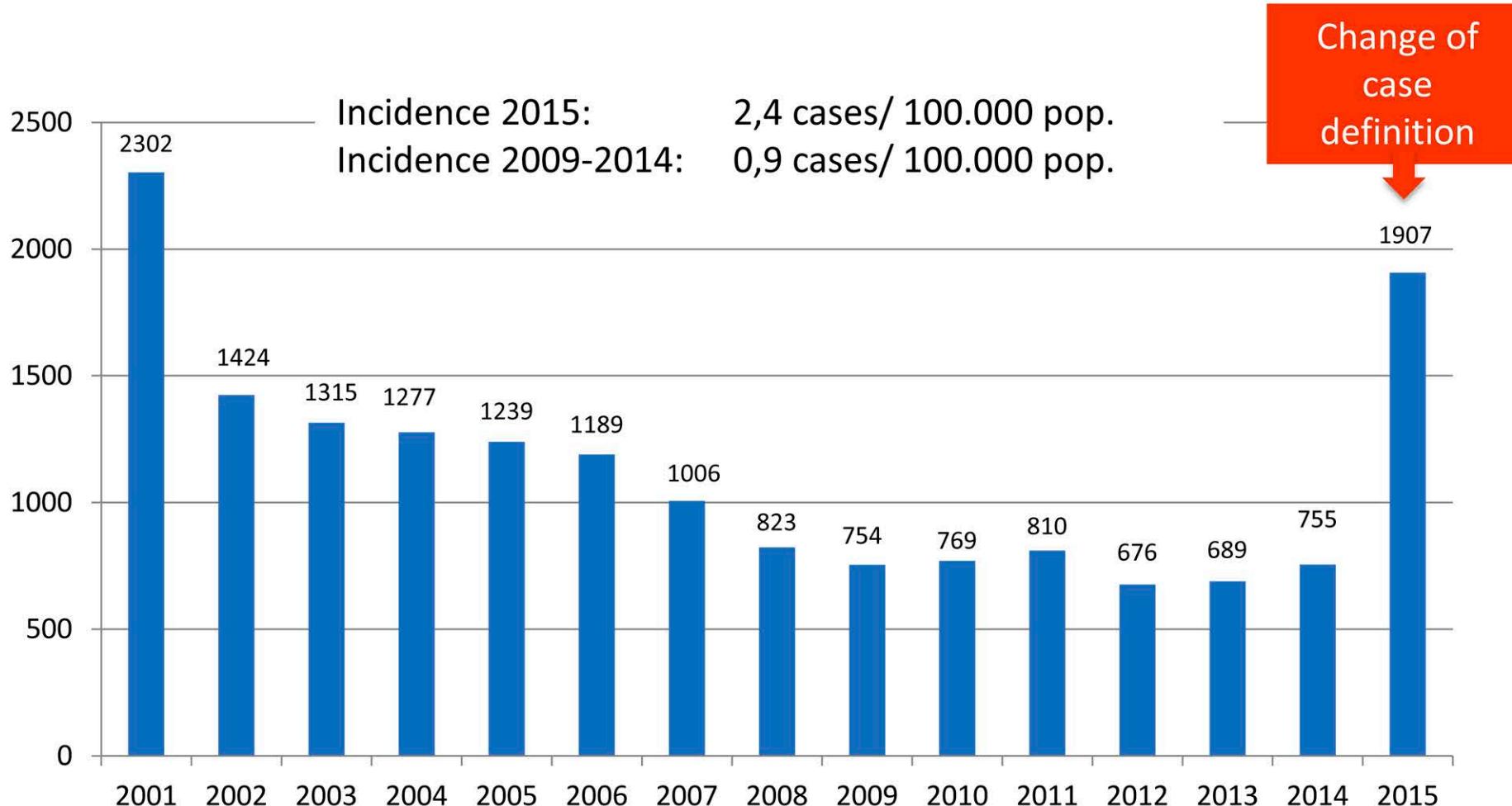
# Burden of chronic Hepatitis B in the 10 migrant groups from intermediate/ high endemic countries in Germany

Country of origin*	population	CHB prevalence			Estimated number of CHB cases		
		%	lower	upper	CHB cases	lower	upper
Turkey	1,318,420	<b>4.3</b>	3.7	4.9	<b>56,560</b>	48,782	64,339
Kazakhstan	800,500	<b>4.9</b>	3.3	6.6	<b>39,625</b>	26,737	52,513
Russian Federation	975,500	<b>2.9</b>	2.2	3.6	<b>28,192</b>	21,071	35,313
Romania	449,920	<b>5.5</b>	5.2	5.7	<b>24,701</b>	23,576	25,780
Vietnam	85,430	<b>12.5</b>	11.5	13.5	<b>10,662</b>	9,790	11,533
China	77,620	<b>10.2</b>	9.4	11.1	<b>7,941</b>	7,257	8,624
Afghanistan	75,320	<b>10.5</b>	5.9	15.1	<b>7,878</b>	4,406	11,351
Former Yugoslavia	175,260	<b>4</b>	1.3	6.6	<b>6,975</b>	2,313	11,637
Bosnia&Herzegovina	159,380	<b>3.6</b>	2.3	5	<b>5,785</b>	3,602	7,969
Ukraine	205,970	<b>2.2</b>	1.2	3.2	<b>4,531</b>	2,369	6,673



# Notified Hepatitis B cases

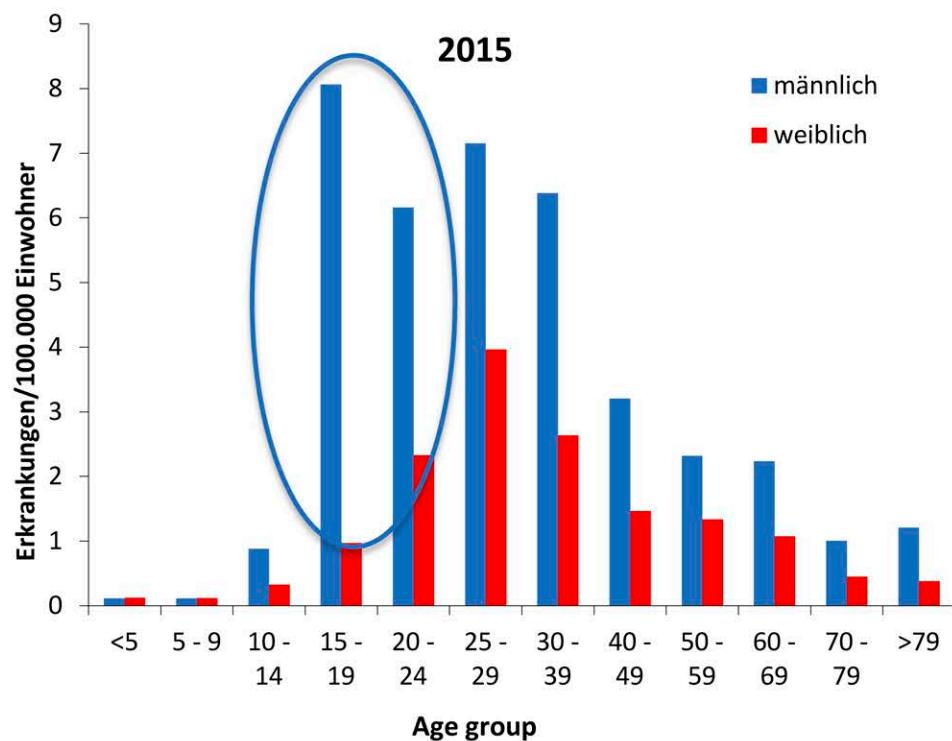
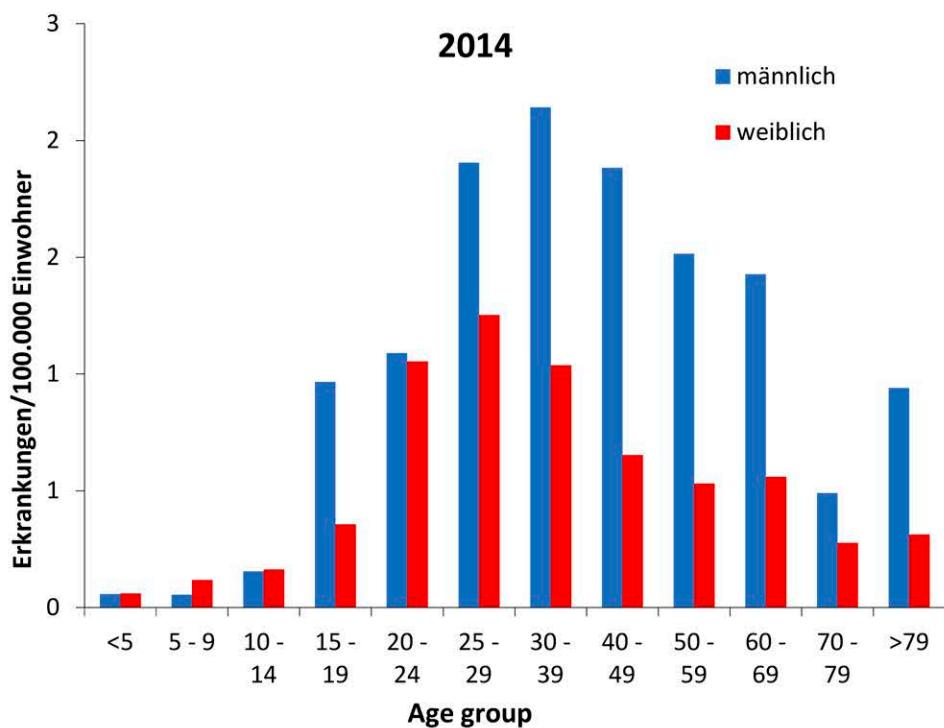
Germany 2001-2015





# Notified Hepatitis B cases by age group and gender

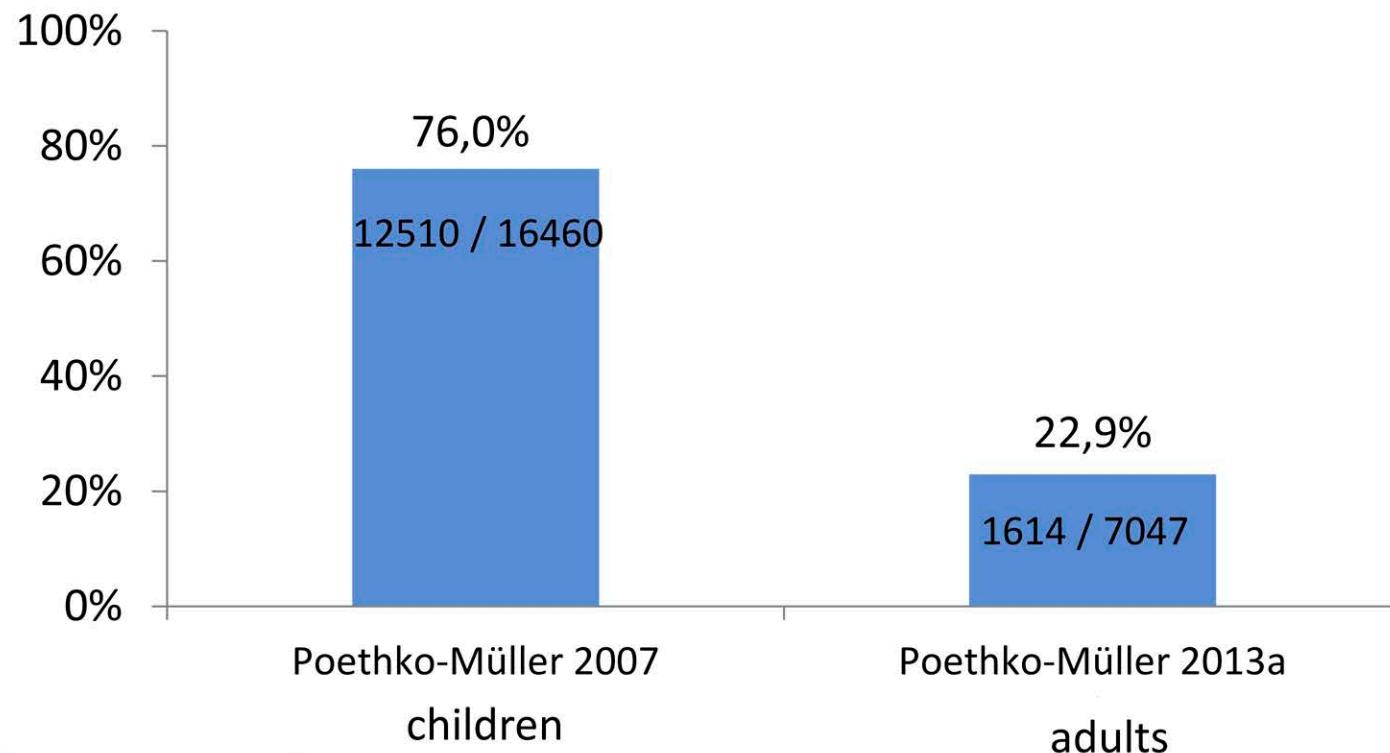
2014 and 2015





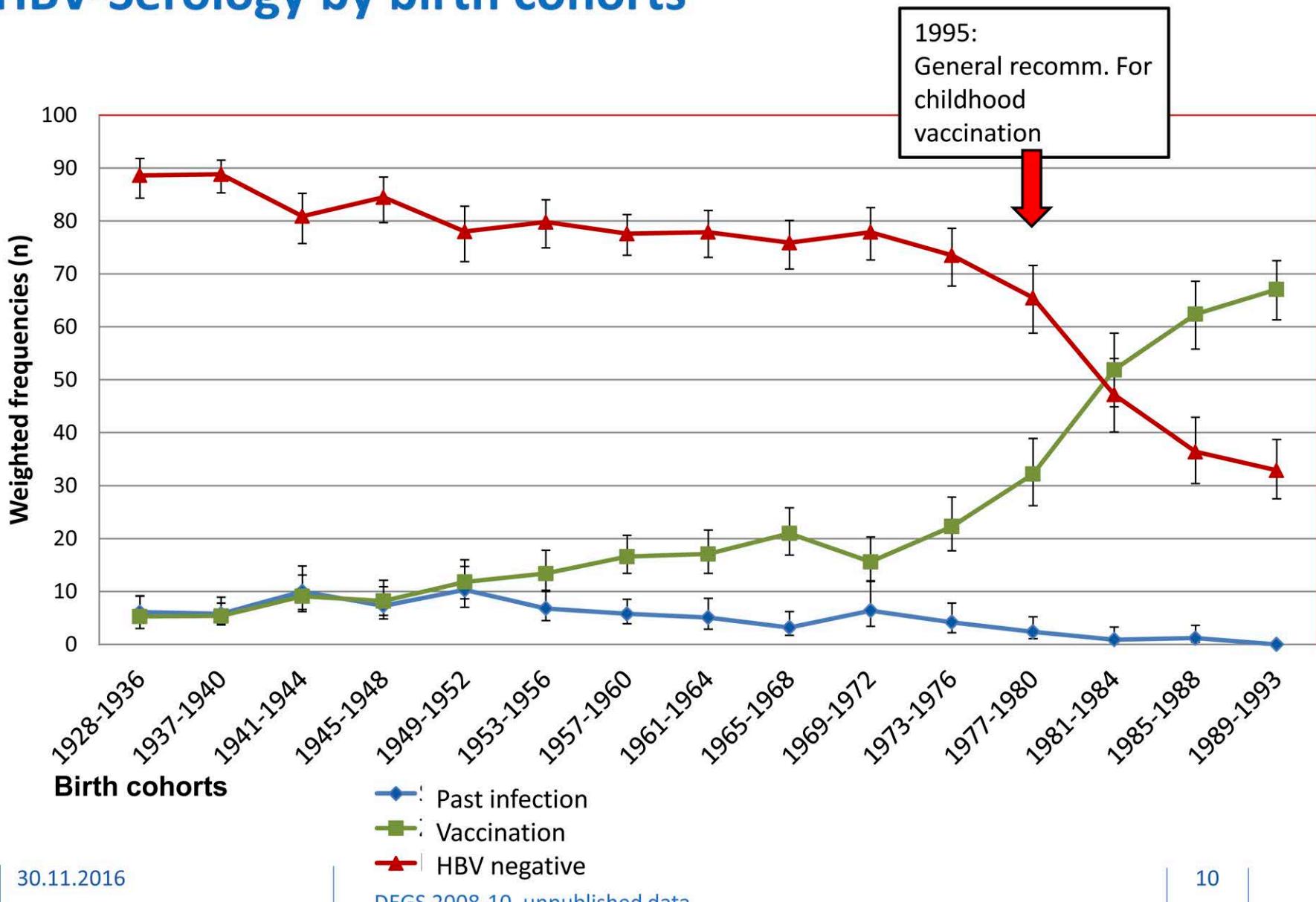
## HBV vaccination of the general population

- Recommendation to vaccinate risk groups since 1985
- General recommendation to vaccinate children since 1995



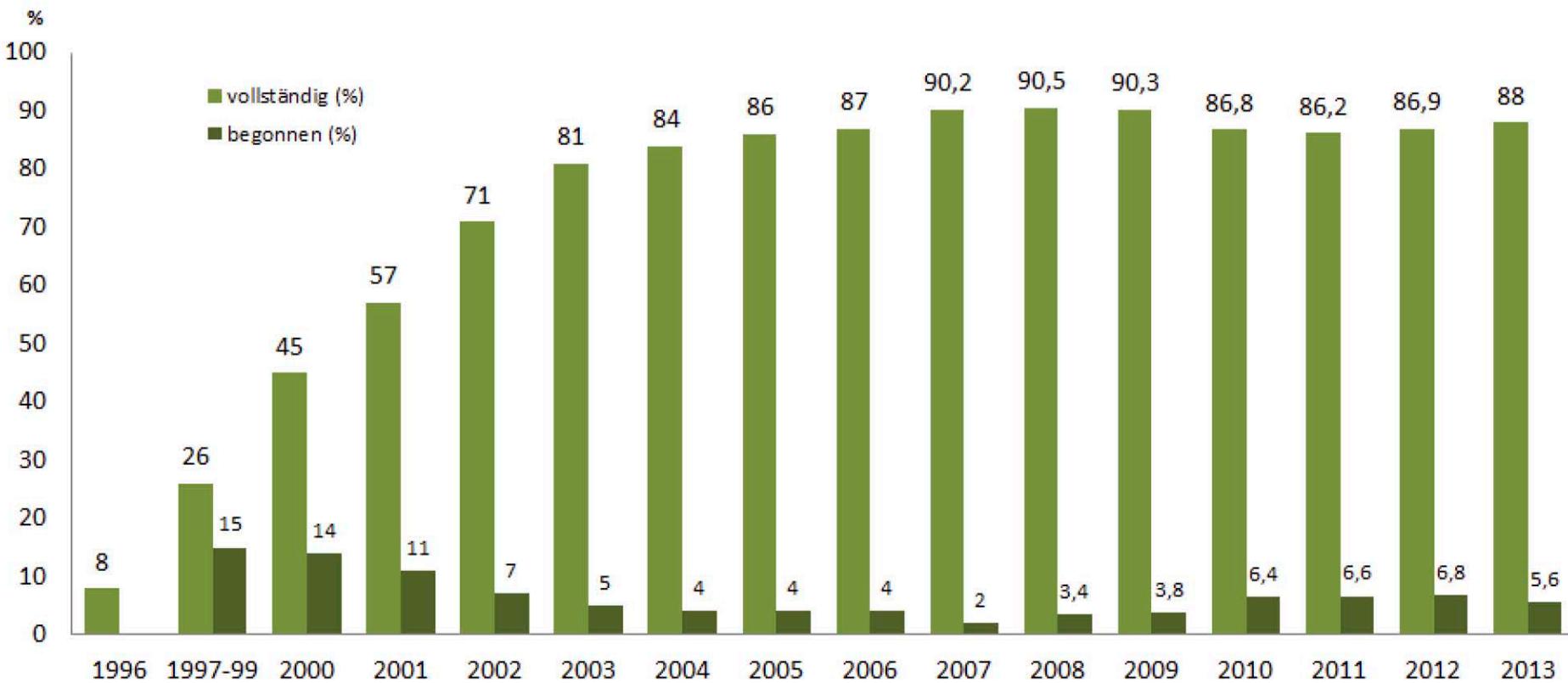


# HBV-Serology by birth cohorts





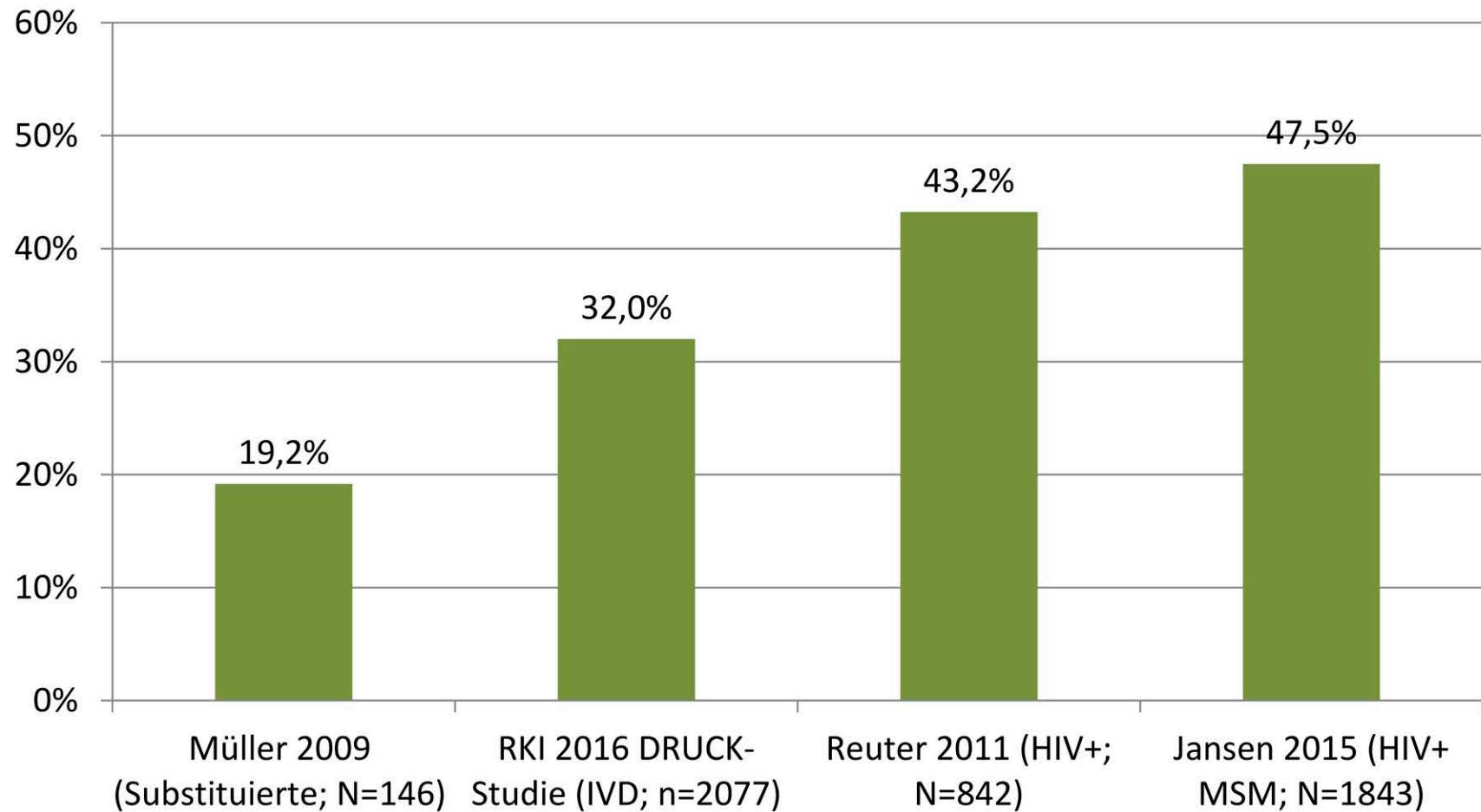
# Proportion of vaccinated pre-school children



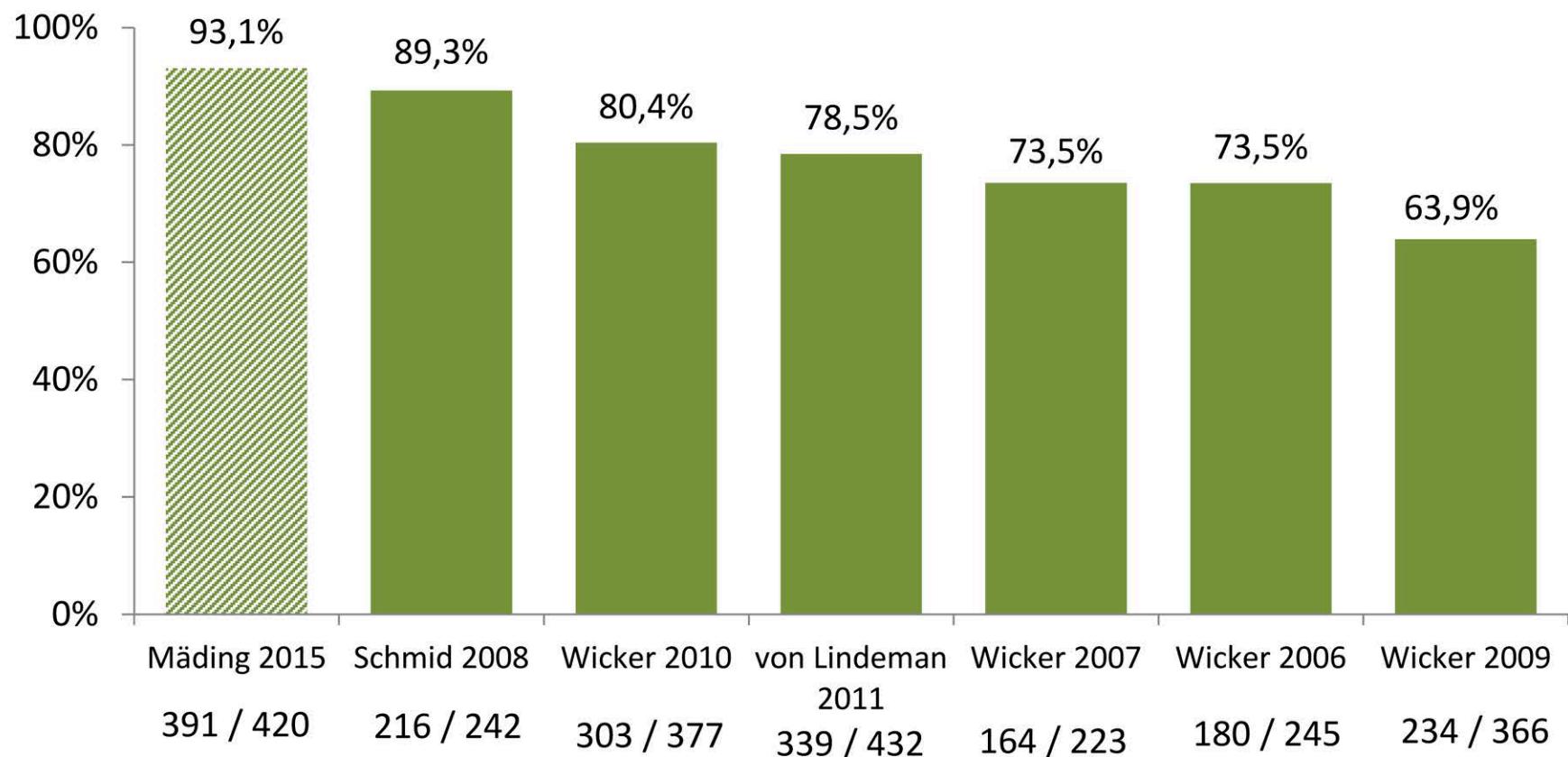
RKI 2013. *Epid Bull* 2015; 16: 131-5.



## HBV vaccination among key population groups



## HBV vaccination among Health care workers

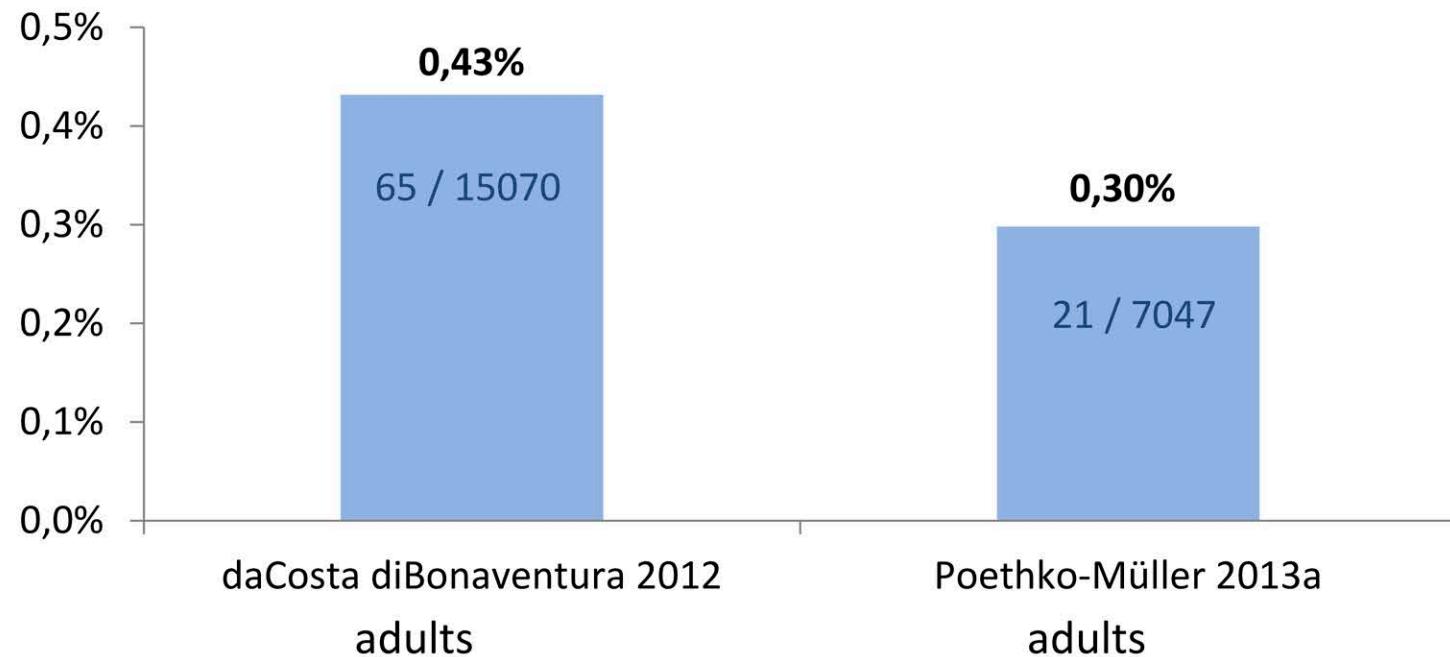




# Hepatitis C

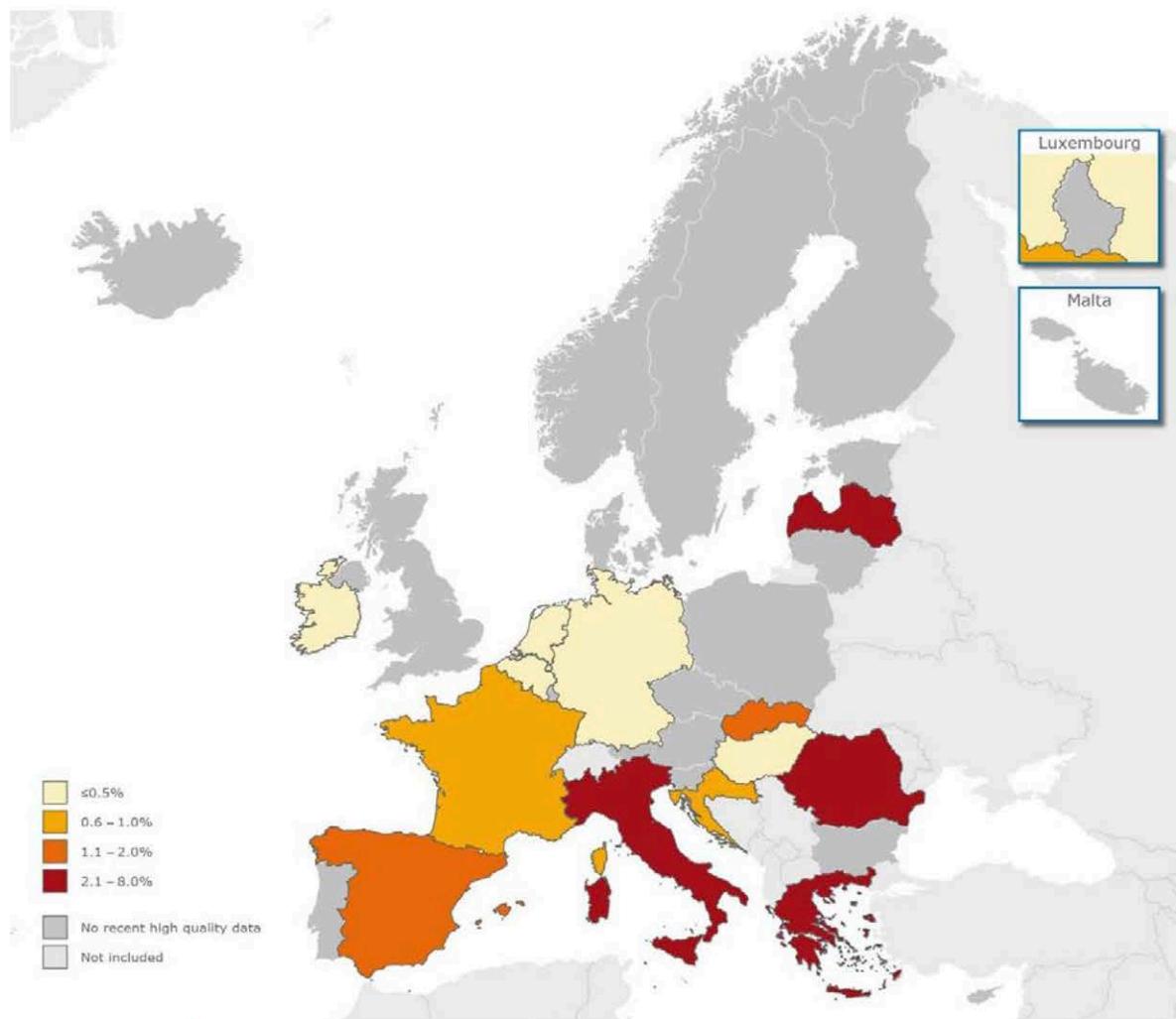


# Prevalence of Hepatitis C in the general adult population (Anti HCV)





# Anti-HCV prevalence in the adult general population, EU/EEA, 2005–2015, ECDC 2016



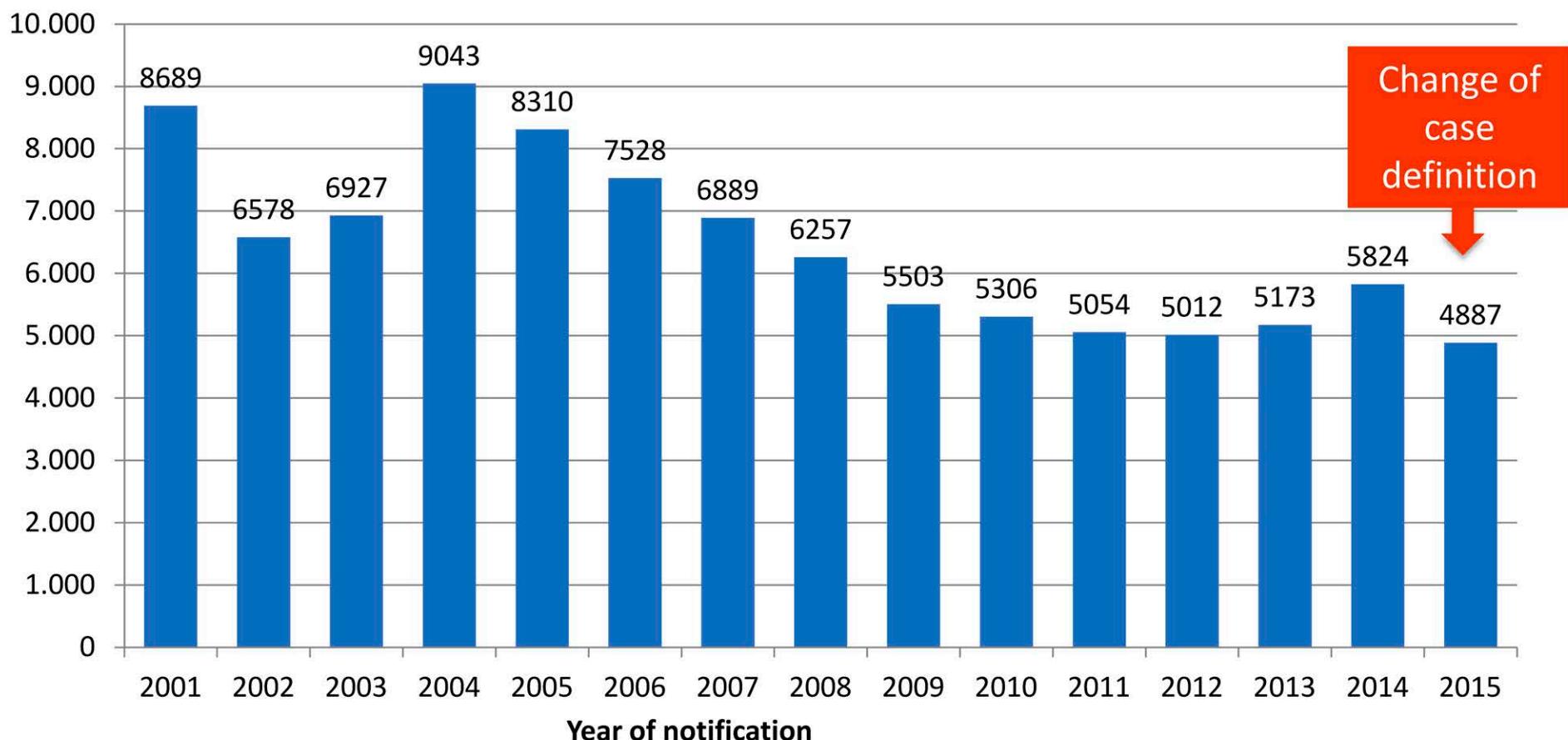


# Notified Hepatitis C cases Germany, 2001-2015

Incidence 2015: 6,1 cases/ 100.000 pop.

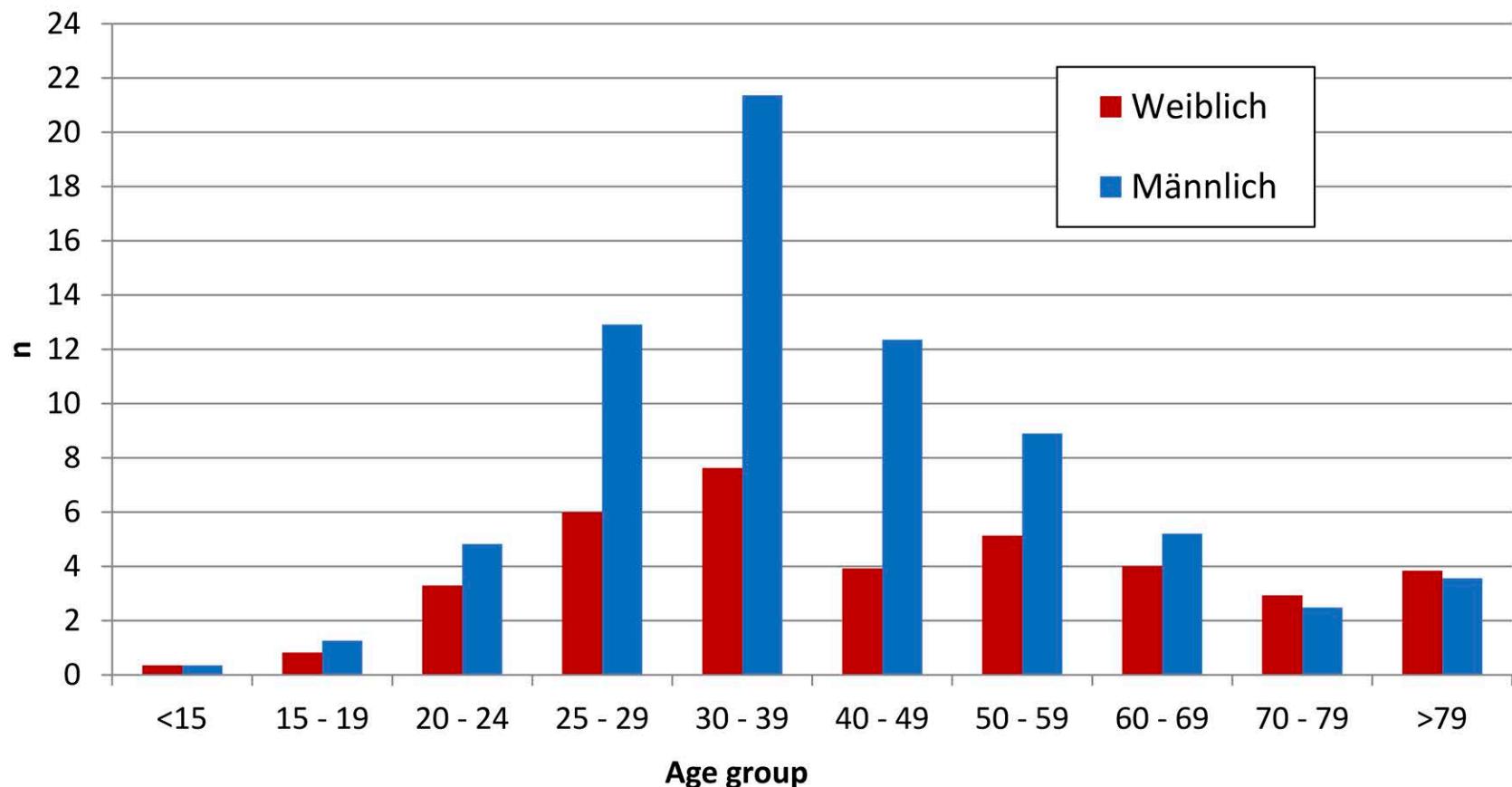
Incidence 2009-2014: 6,4 cases/ 100.000 pop.

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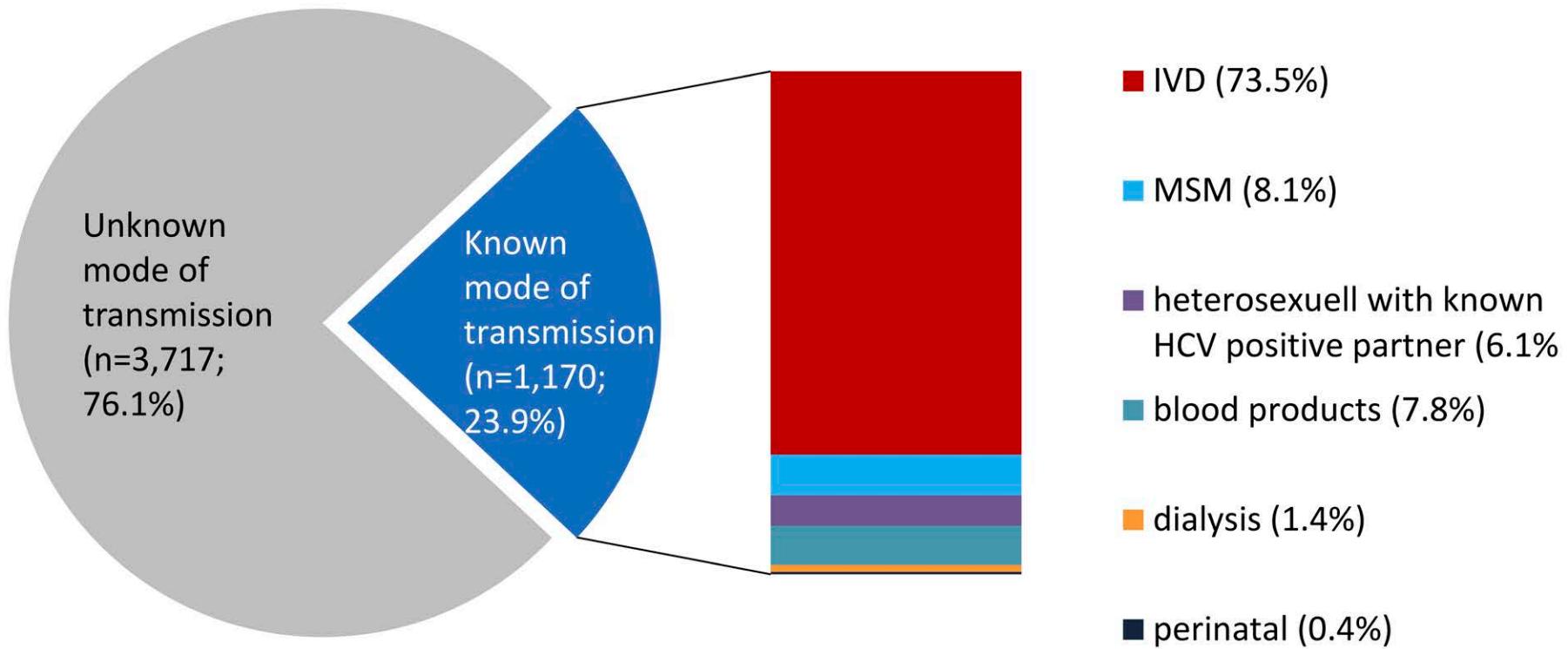


# Notified Hepatitis C cases /100.000 population by age group and gender, 2015



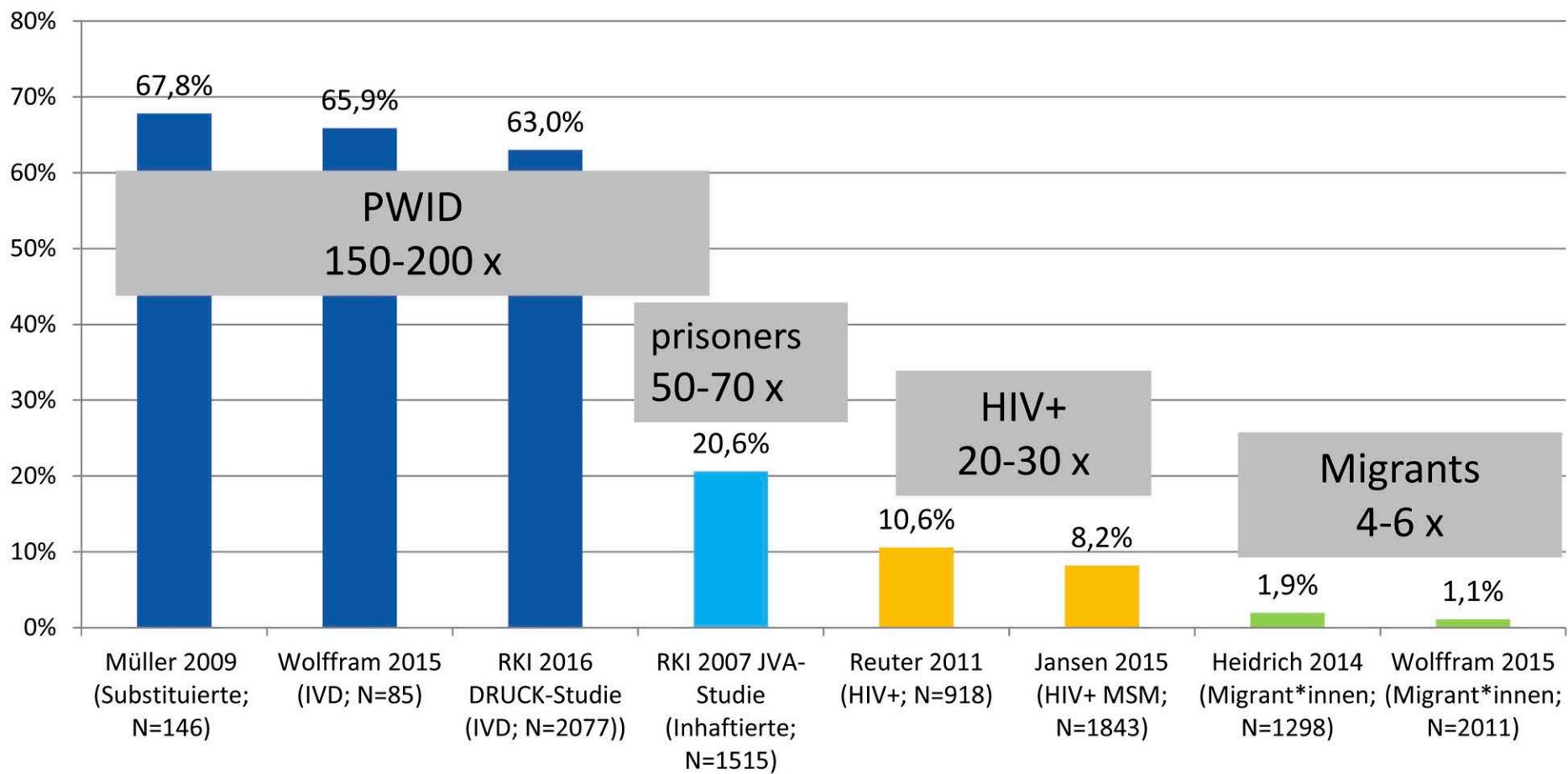


# Mode of transmission among notified HCV cases 2015 (n=4,887)





# Anti HCV Seroprevalence in key population groups



## Proportion of HBV and HCV diagnosed patients

2 studies:

- *Wolffram 2015*: HBV- und HCV-Screening status among Check-up patients in GP practices , N=21.008
- *Vermehren 2012*: HCV- screening status among patients in accident and emergency care (Berlin & Frankfurt), N=28.809
- Data collection: 2008-2012
- Proportion of migrants 14% und 32%
  
- *Wolffram 2015*:  
**85% of HBsAG+ and 65% of Anti-HCV+ persons were undiagnosed**
- *Vermehren 2012*:  
**35% of Anti-HCV+ persons were undiagnosed**



## Conclusions

- ⇒ low prevalence of hepatitis B and C in the general population
- ⇒ Intermediate to high prevalence in relevant key population groups
  - HBV: migrant populations
  - HCV: PWID, HIV-co-infected MSM, migrant populations?
  - Further research needed and ongoing
- ⇒ HBV vaccination coverage in key population groups (PWID/migrants/refugees, others) needs to be improved
- ⇒ High proportion of undiagnosed for both infections





**Thank you  
for your attention**

Epidemiology of viral hepatitis in  
Germany