HepHIV 2014
5-7 OCTOBER BARCELONA
HIV and Viral Hepatitis: Challenges of Timely Testing and Care

The HIV and viral hepatitis epidemics in Europe: recent trends and regional differences

Prof Jens Lundgren
WHO Collaborating Centre on HIV and Viral hepatitis
CHIP, Dept of Inf Dis, Rigshospitalet, Univ of Copenhagen

WHO Collaborating Centre on HIV and Viral Hepatitis

The problem in WHO-Europe: estimated total # currently infected

	population		HBsAg+		Chronic HCV		HIV+	
	Total # (mill)	% of total	Total # (mill) /prevalence	% of total	Total # (mill) /prevalence	% of total	Total # (mill) /prevalence	% of total
Overall adults:								
EU/EFTA	**430**	**58**	**4.5 (1.0%)**	**34**	**5.5 (1.3%)**	**36**	**0.9 (0.2%)**	**36**
Non-EU/EFTA	**300**	**42**	**8.8 (2.9%)**	**66**	**9.5 (3.1%)**	**64**	**1.5 (0.5%)**	**64**
Total	**730**	**100**	**13.3 (1.8%)**	**100**	**15.0 (2%)**	**100**	**2.4 (0.3%)**	**100**

Globally (% from Europe): 240 mill HBsAg+ (6%), 140 mill with chronic HCV (3%), and 35 mill HIV+ (7%)

Sources: WHO, UNAIDS, ECDC, Hope *et al* Epidemiol Inf 2013, Razavi *et al,* JVH 2014

Range of prevalence, comparing Hep B and C findings (systematic review)

HepHIV 2014 5-7 OCTOBER BARCELONA

	HBsAg			HCV	
	No of Country studies	Range of prevalence		No of Country studies	Range of prevalence
General population	**13**	**0.1% to 5.6%**		**13**	**0.4% to 5.2%**
Antenatal screening	11	0.1% to 4.4%		6	0% to 1.7%
Migrants	***5***	***1.0% to 15.4%.***		***5***	***0% to 23.4%***
MSM	3	<1% to 4%		3	0.07% to 2.9%
PWID	***21***	***0% to 21.3%***		***29***	***5.3% to 90%***
Blood Donors (1st time)	24	0% to 5.2%		23	0.02% to 3.3%

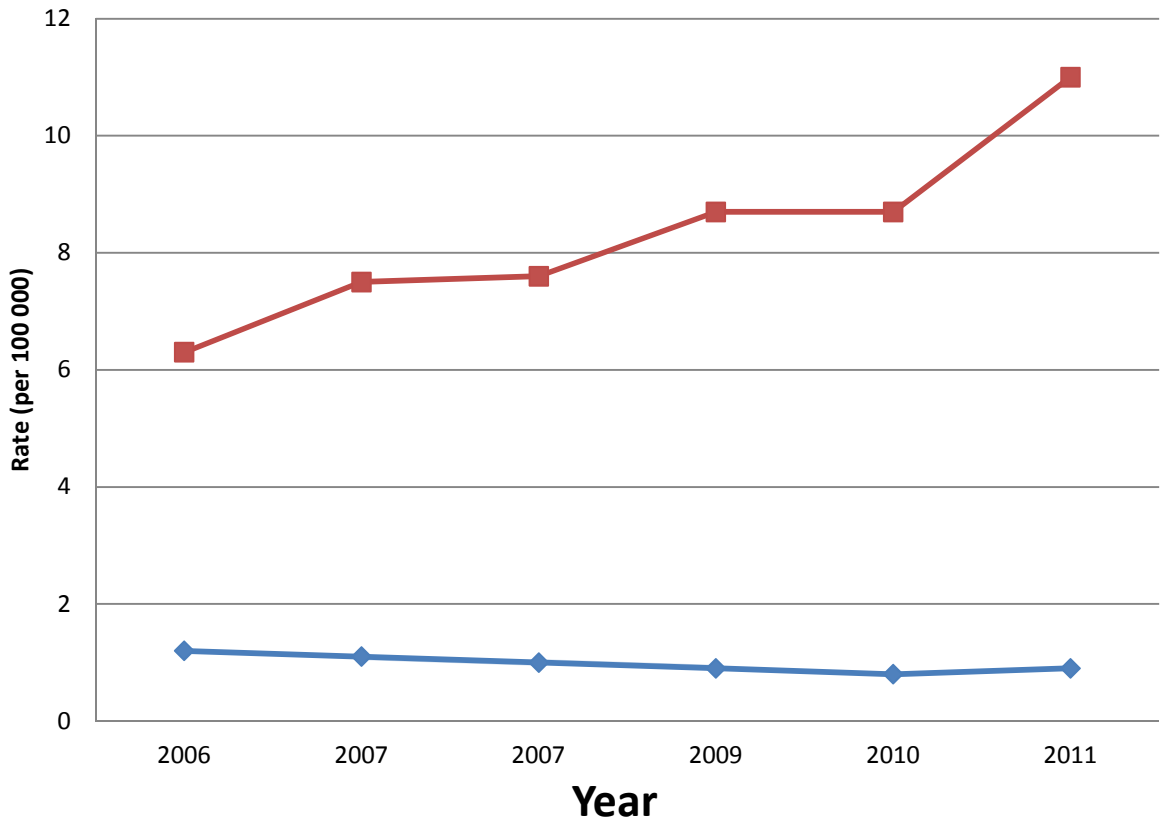
ECDC - 2014

Key issues arising from hepatitis B and C data collections by ECDC

- A clear interpretation of the data collected was challenging on account of the many complexities of surveillance:
- Many countries **only** collect data on **acute** hepatitis cases
- **Under-reporting** noted to be a major issue by some countries
- Countries provided data using a range of **different case definitions**
- Difficulties with defining cases as **acute or chronic**
  - **Many** cases (especially hepatitis C cases) were classified as **unknown**
- **Data completeness** issues for many of the variables
- **Discrepancy** between data and findings from sero-prevalence surveys, with reported data lower than expected in several countries in South-eastern Europe where prevalence is highest

Acute and chronic diagnosed HBV cases in select EU/EEA countries, 2006-2011

Numbers per 100000 population

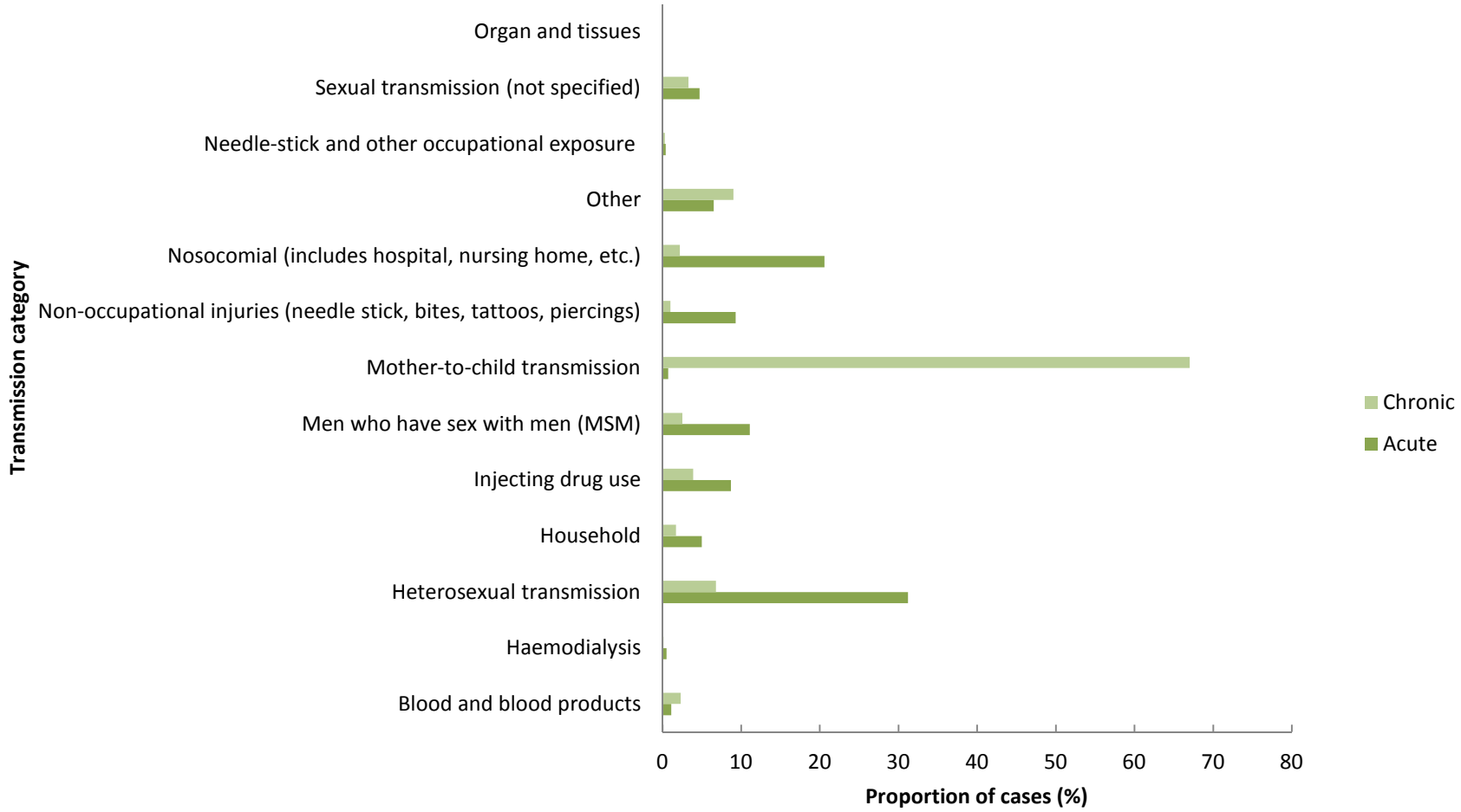


Interpretations: More infections or more comprehensive testing of those already infected ?

Source: Country reports from countries with consistent reporting of both acute and chronic infections between 2006 and 2011 (Denmark, Estonia, Finland, Ireland, Norway, Slovakia, Slovenia, Sweden and the United Kingdom (excluding Scotland)).

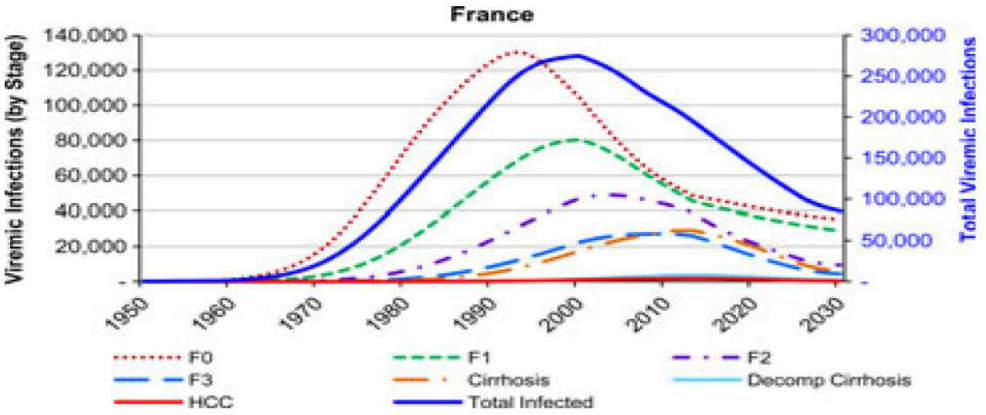
ECDC - 2014

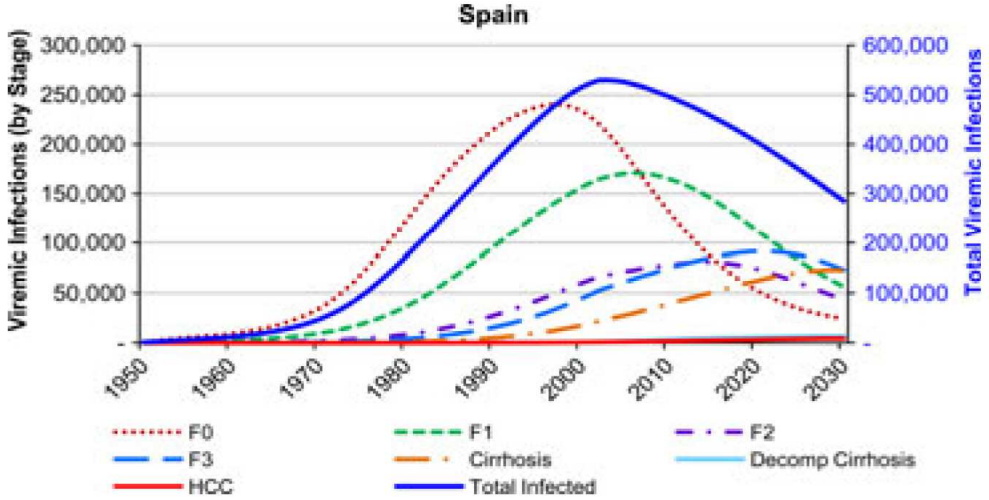
Transmission category of hepatitis B cases by acute and chronic disease status, EU/EEA countries, 2012

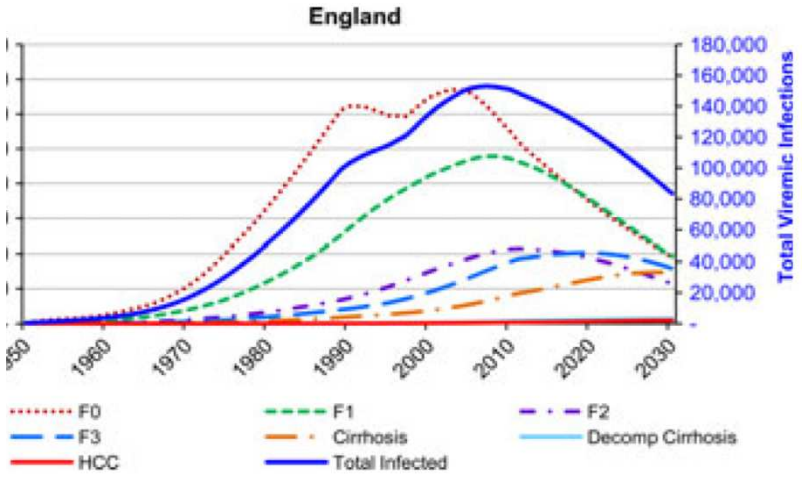


ECDC - 2014

Viraemic HCV prevalence overall and according to stage of liver disease







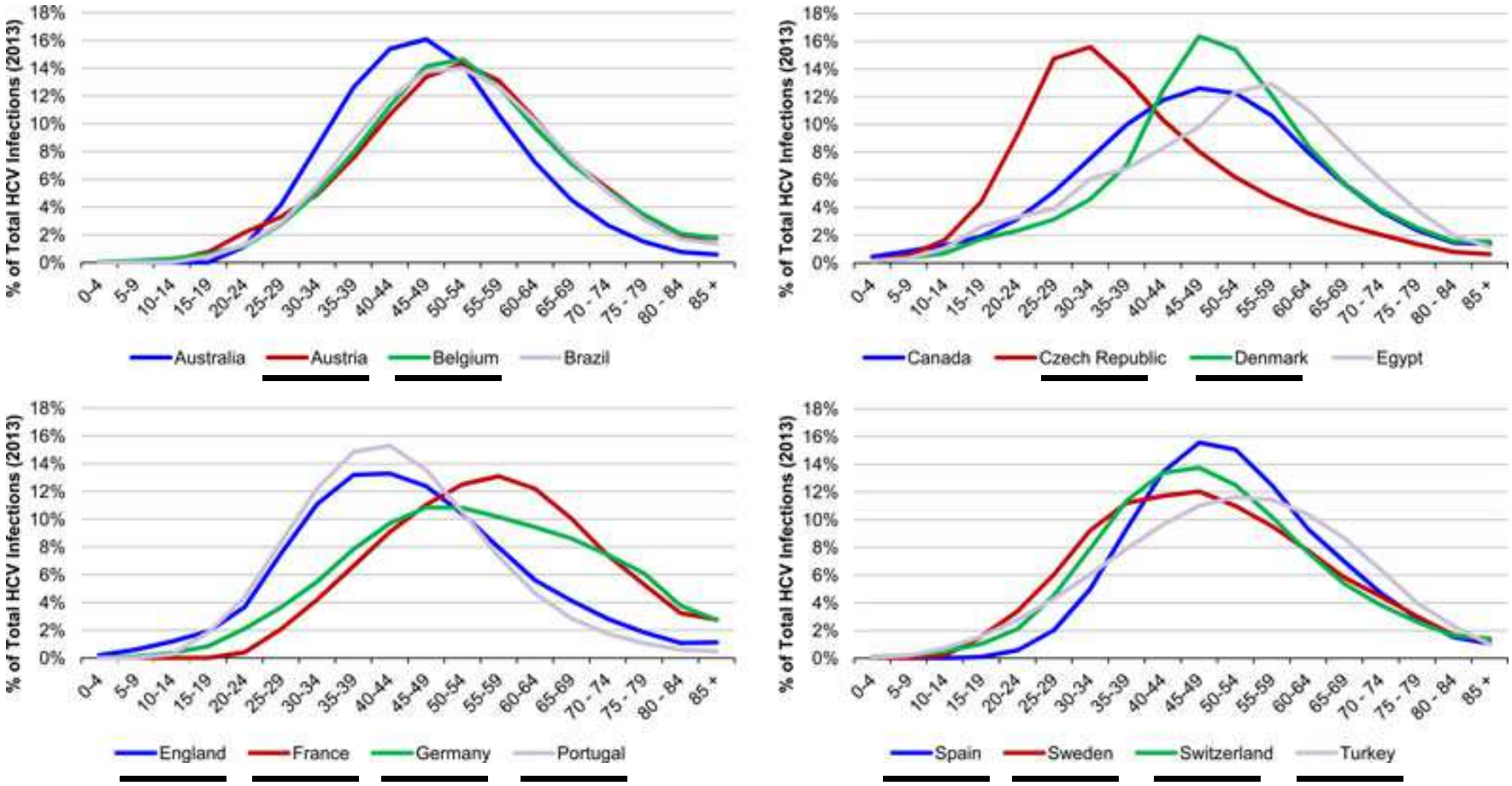
Razavi *et al,* JVH 2014

Required number of new HCV infections in 2030 to keep current prevalence constant

	Current number of new cases	Number of new cases required	% increase
Australia	8800	7810	−11
Austria	580	1310	126
Belgium	910	2330	156
Brazil	12 700	55 310	336
Canada	5600	9430	68
Czech Republic	1400	1260	−10
Denmark	350	630	80
Egypt	168 600	378 058	125
England	4000	7515	88
France	4200	13 097	212
Germany	5000	15 320	206
Portugal	810	9029	1015
Spain	2800	16 590	493
Sweden	1400	1910	36
Switzerland	1050	2360	125
Turkey	5300	17 400	228

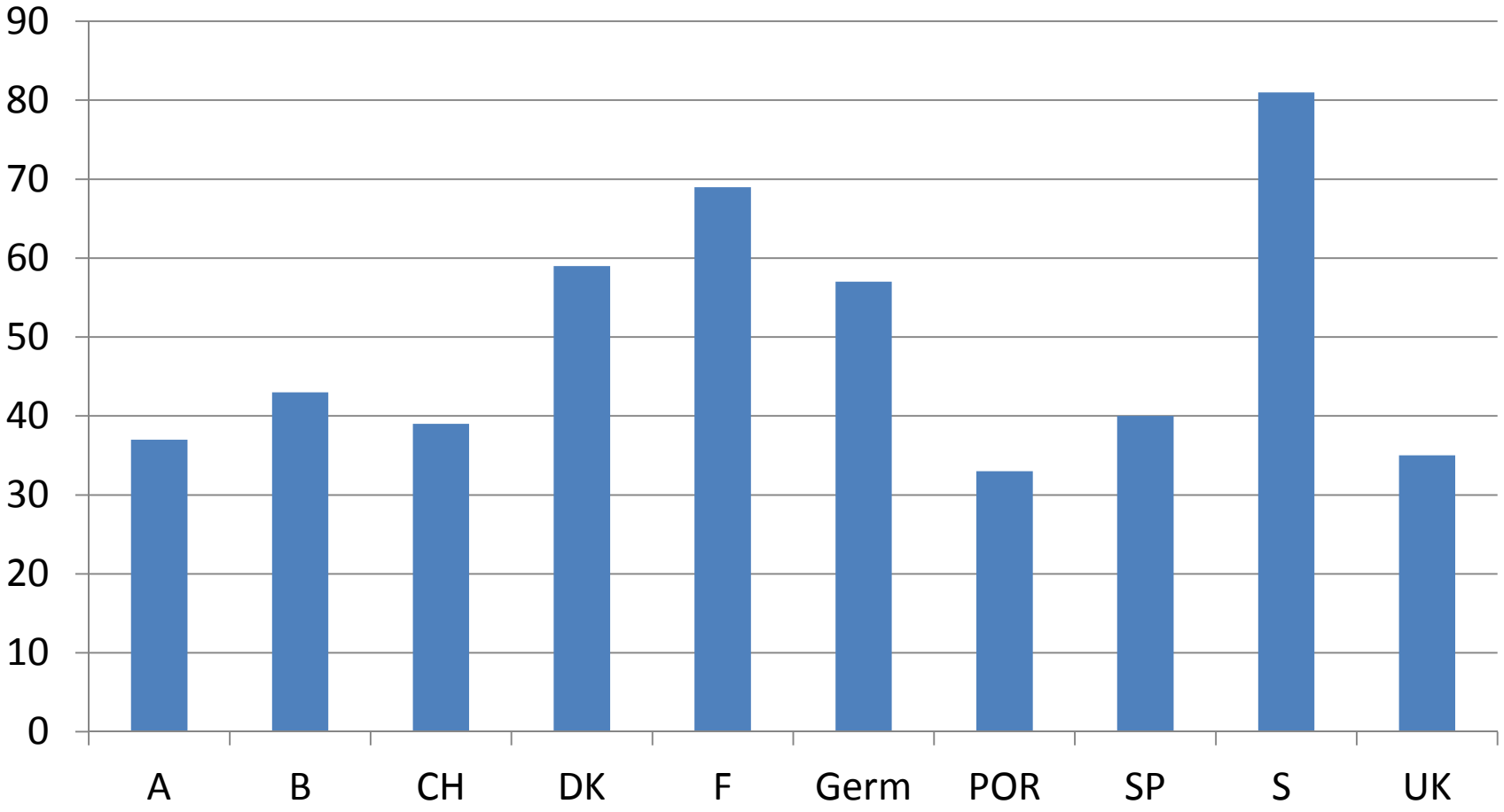
Razavi *et al,* JVH 2014

Age distribution of viræmic HCV cases in 2013 in 12 European countries and elsewhere



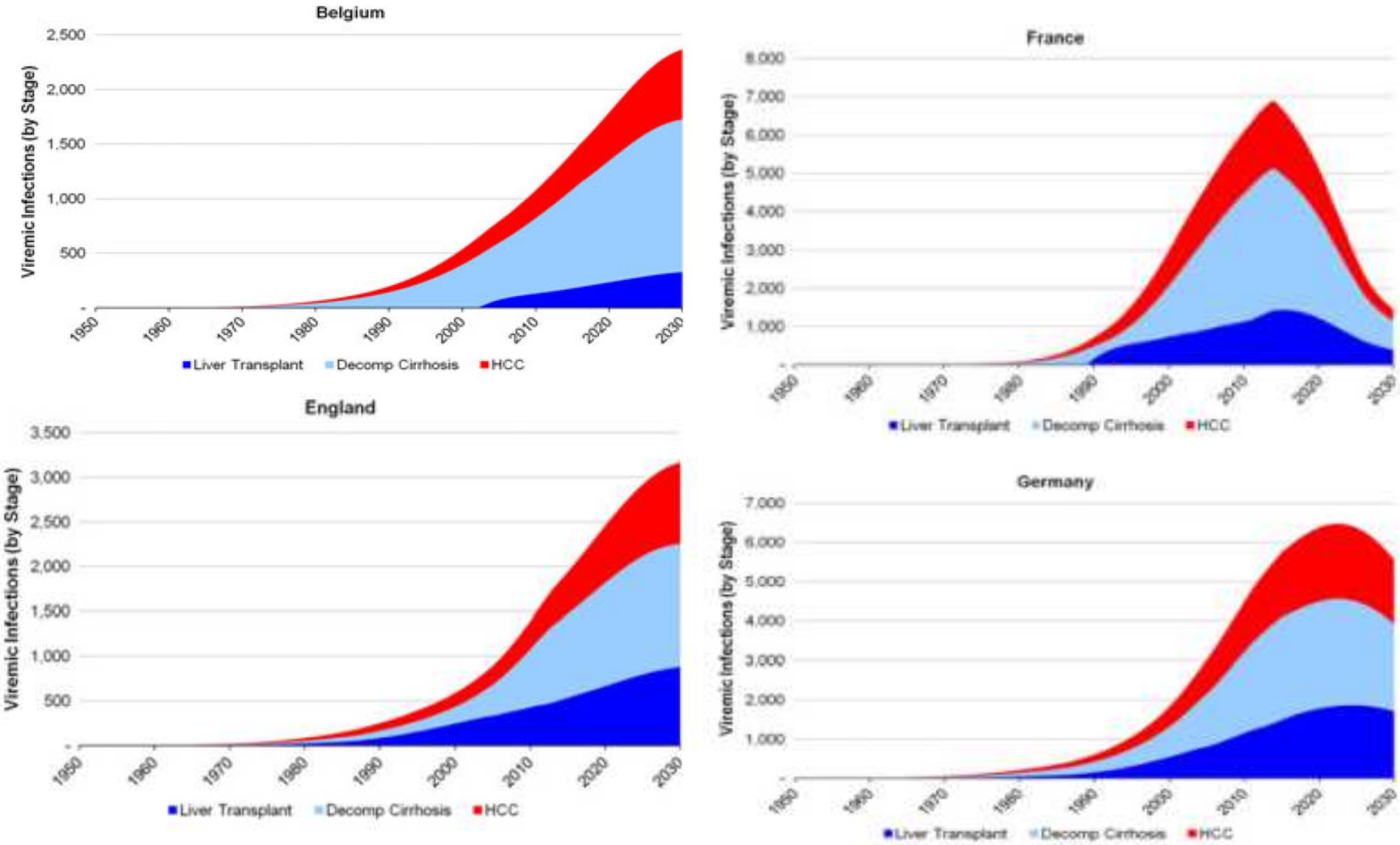
Razavi *et al,* JVH 2014

% of viraemic HCV infected diagnosed in Europe



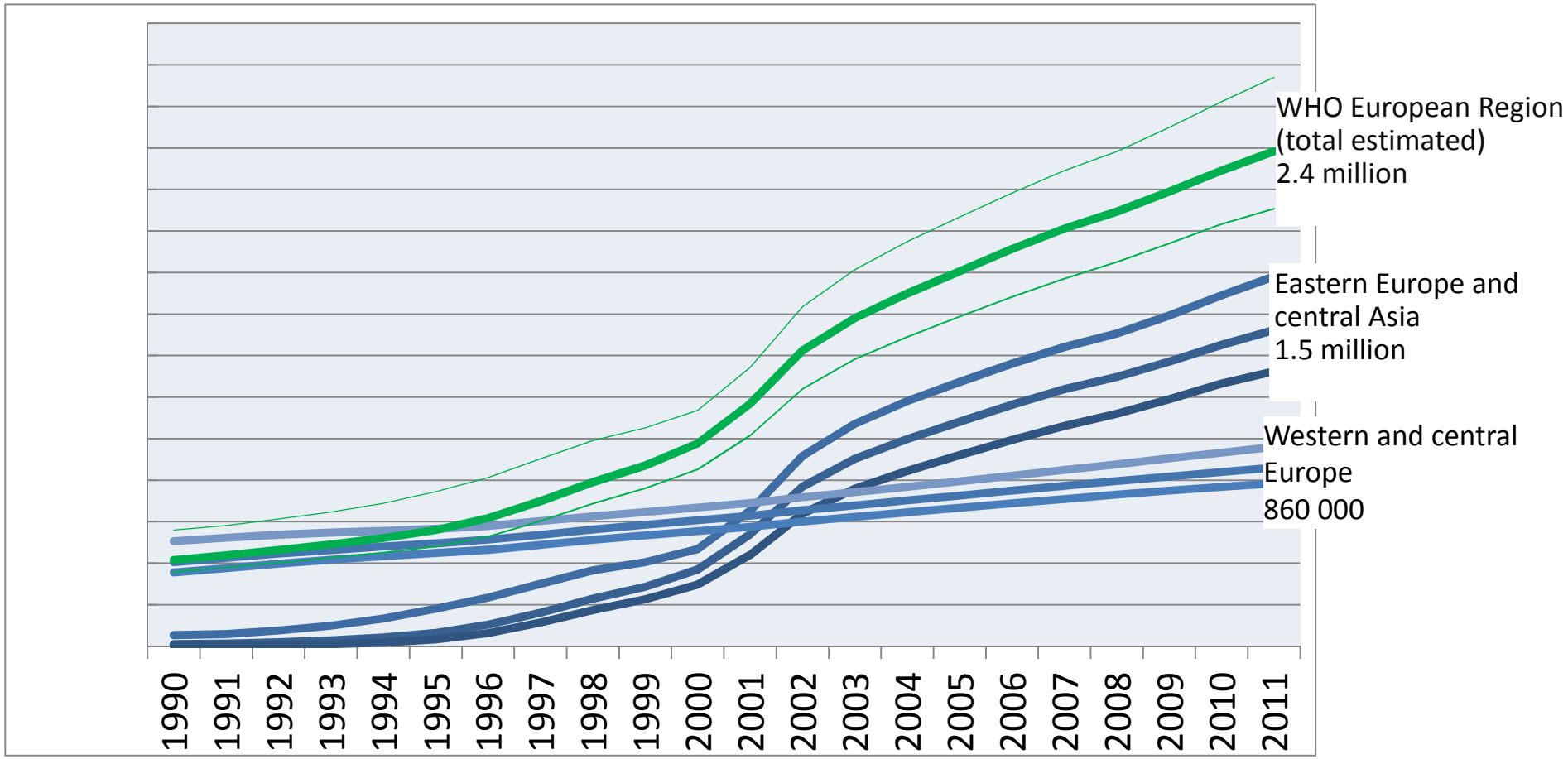
Razavi *et al,* JVH 2014

Predicted time trends in severe manifestations of HCV: assuming current diagnostic rate and treatment offer/efficacy



Razavi *et al,* JVH 2014

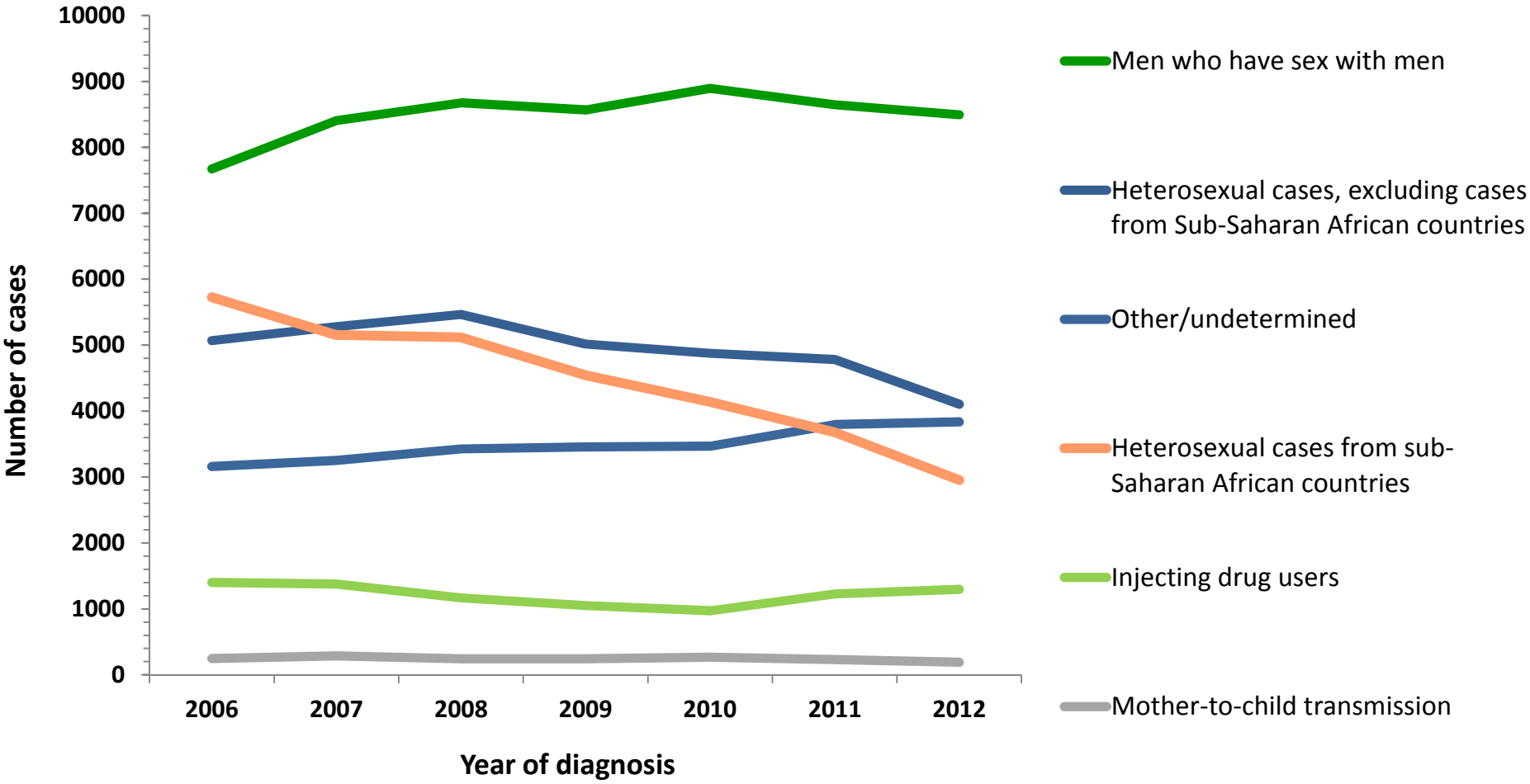
Estimated number of people living with HIV in WHO European Region, 1990-2011



Source: UNAIDS. Global report: UNAIDS report on the global AIDS epidemic 2012.

HIV infections reported EU/EEA, 2006-2012

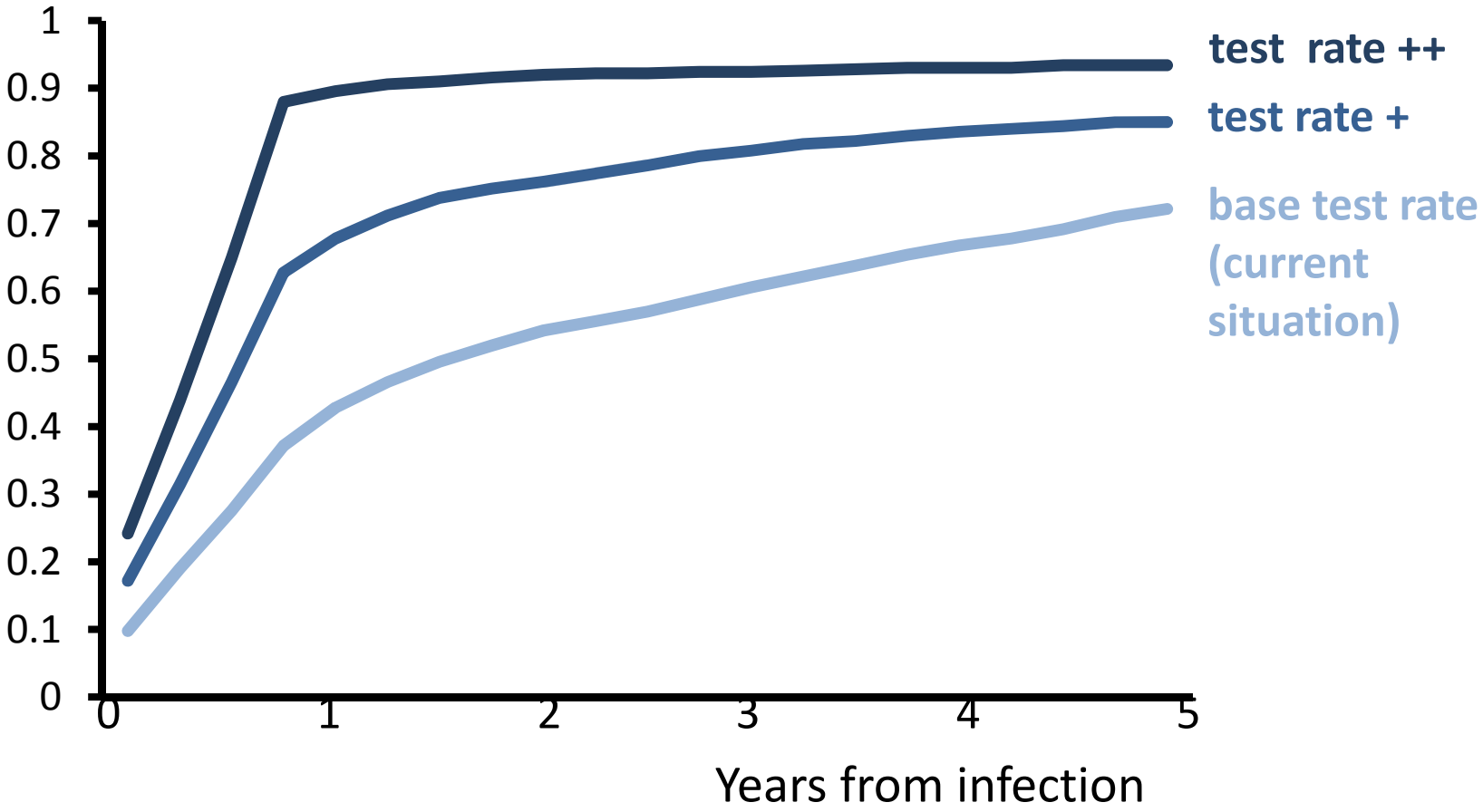
Transmission mode and origin, adjusted for reporting delay



Predominant mode of transmission : men who have sex with men

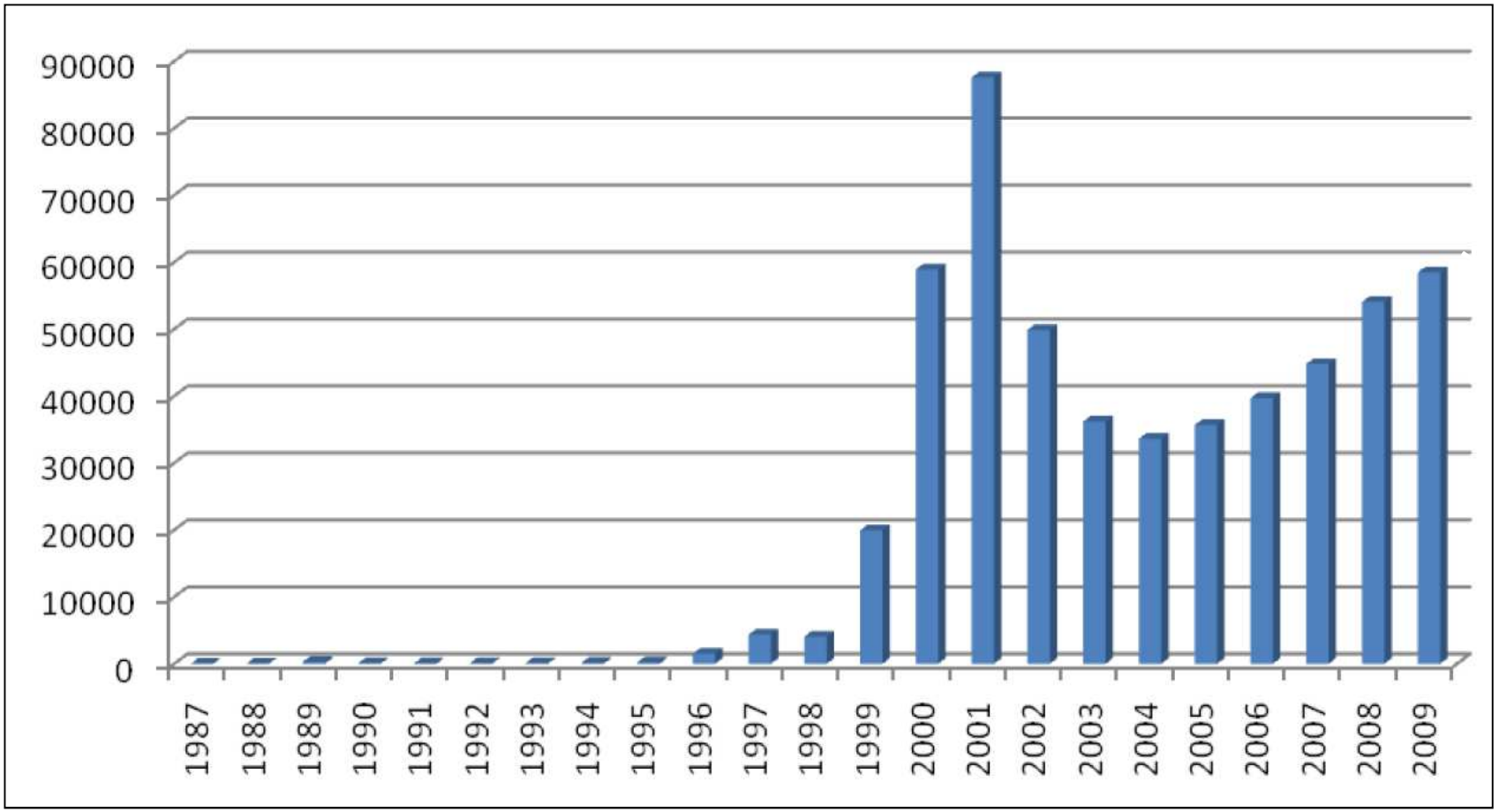
HIV in UK MSM – timeliness of diagnosis related to testing intensity

Probability of having been diagnosed



Phillips, CROI 2014

The number of new cases of HIV infection in Russian citizens, 1987 - 2009

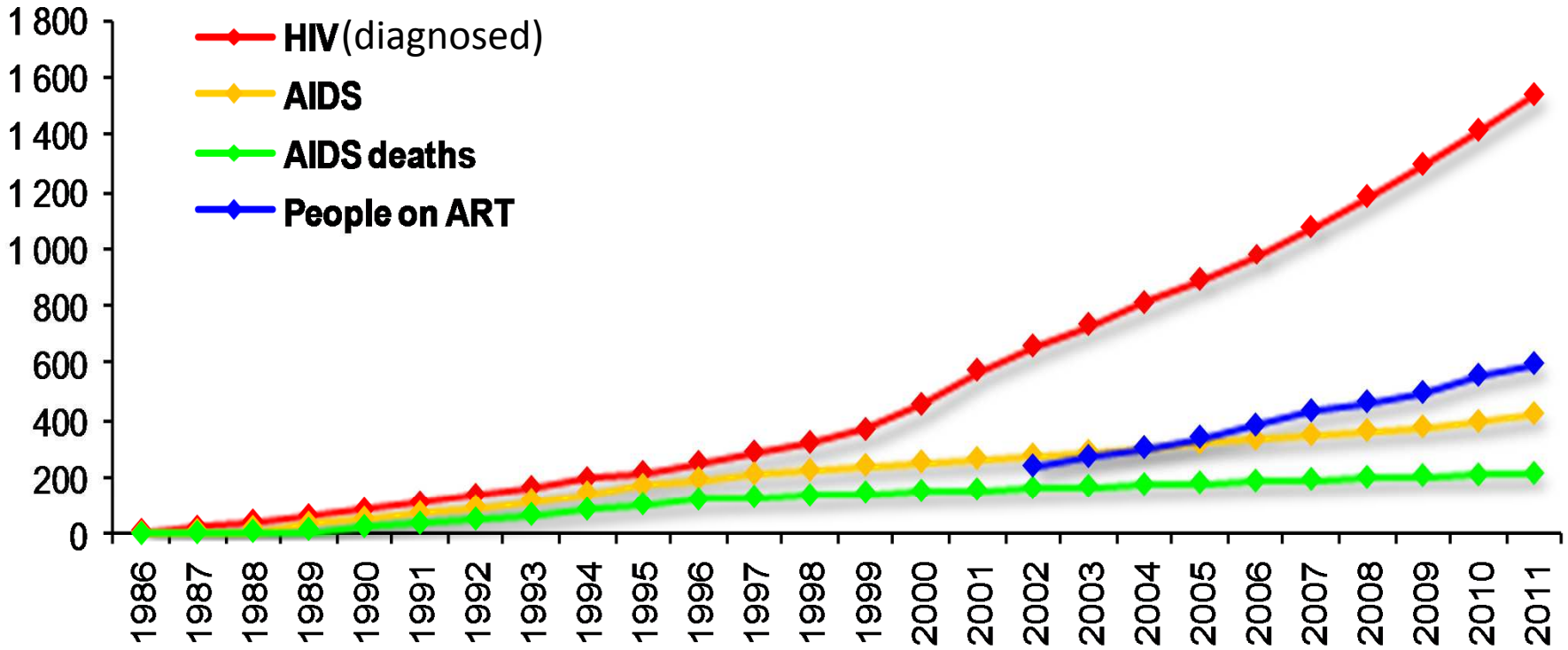


*: numbers continue to increase in 2010/11 (app 70,000)

20-25 million HIV tests per year – www. hivrussia.org

UNAIDS Country Report

HIV infection increasing faster than treatment: WHO European Region, 1985–2011



Sources: ECDC/WHO. HIV/AIDS surveillance in Europe 2011. Stockholm: ECDC; 2012; Federal Scientific and Methodological Center for the Prevention and Control of AIDS, Russian Federation; Ukrainian AIDS Centre, Ukraine; WHO/UNICEF/UNAIDS monitoring and reporting on the Health Sector Response to HIV/AIDS.

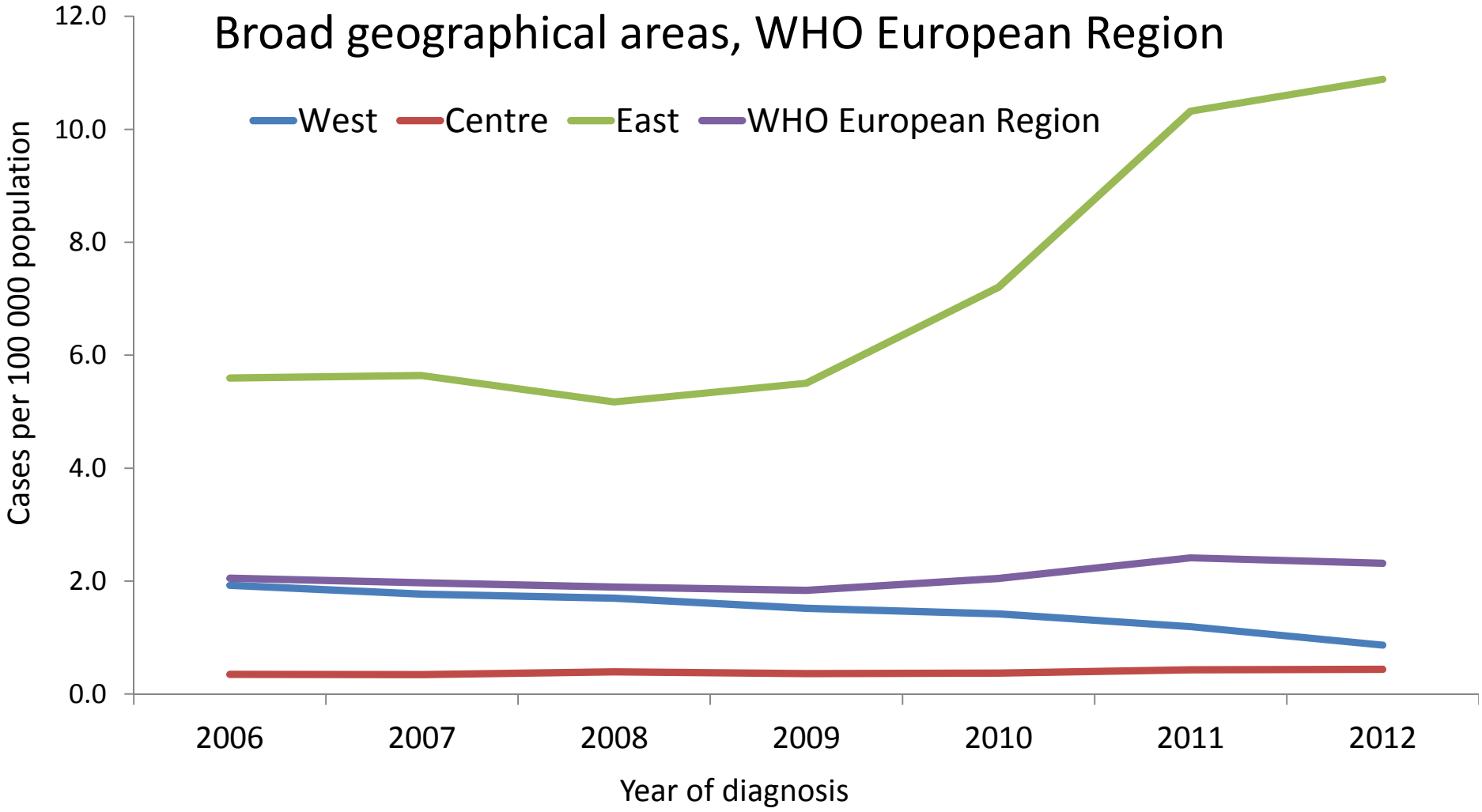
Surveillance markers of burden of disease from chronic infections

- Death from disease
  - When effective therapy exist - not a sensitive marker
    - Reflect failure of health system to exploit therapy benefit
  - Classification of cause of death is challenging
    - Due to infection or not ?
- Severe disease
  - Important – requires notification
    - Exist for HIV but not for viral hepatitis
  - Reflect failure of health system to provide timely initiation of preventive therapy
    - Issues with left side of ”continuum of care”
      - i.e. diagnosis, linkage and/or retention to care

Effective therapy

	Therapy	Introduced	Response rate
HBV	TDF ETV	2004 (app)	+90%
HCV – < 2014	Peg Inf-RBV	2004 (app)	30-60%
HCV – ≥ 2014	DAA (inf free)	2014	+90%
HIV	ART	1997	+90%

AIDS diagnoses, 2006–2012



Data from Sweden, Russia and Uzbekistan not included. Data from Ukraine obtained through the Ukrainian Centre for Socially Dangerous Diseases Control

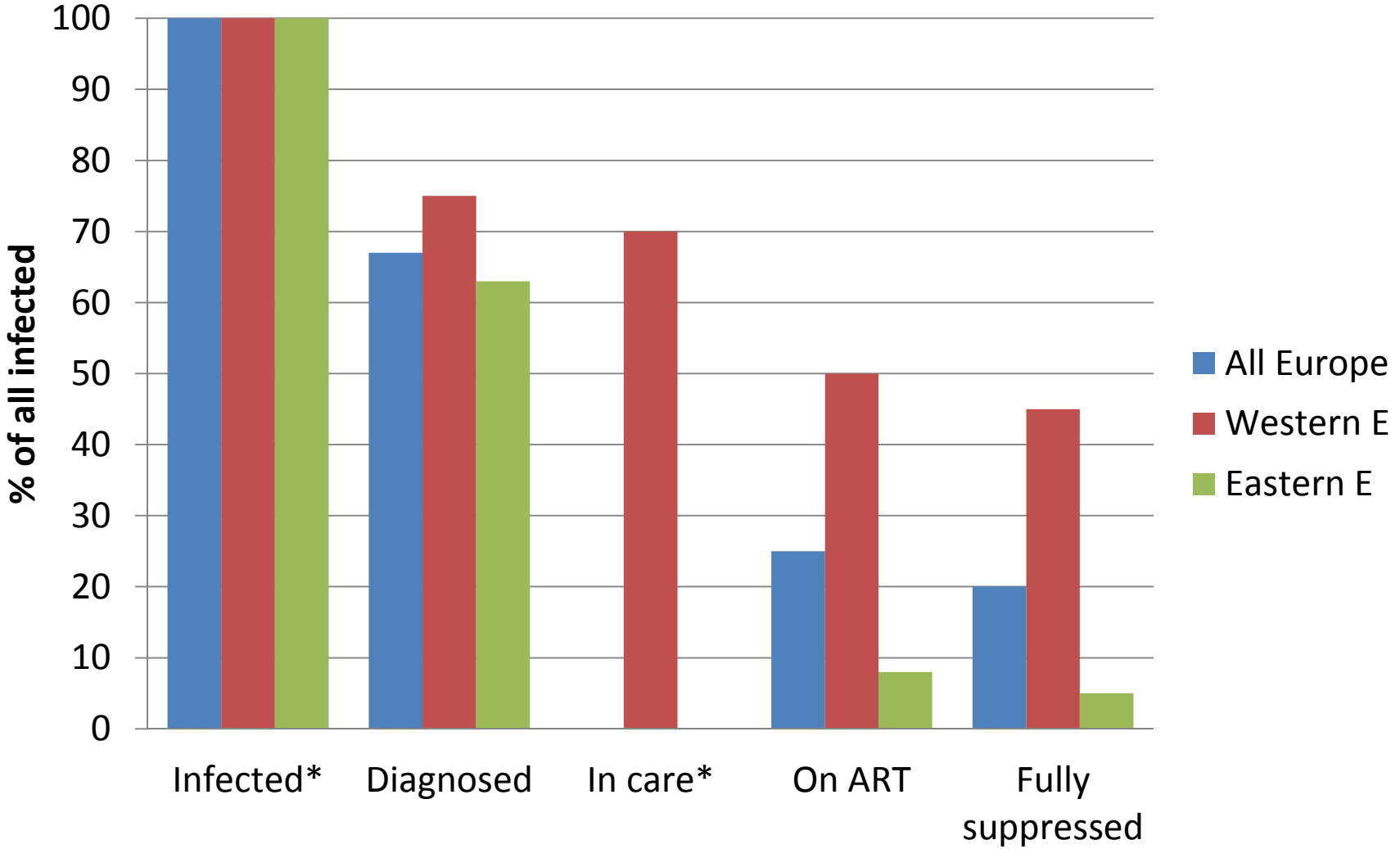
Summary

- Prevalence of HBV and HVC 5-6 fold higher than for HIV
  - Surveillance info better for HIV than HBV / HCV
  - 2-3 fold in Eastern than in Western region for all 3
  - % of infected diagnosed higher for HIV (app 2/3) than for HBV / HCV (projected < 50%)
- HCV prevalence projected to decline by 2030
  - advanced liver disease will increase
- Disease burden substantially larger in Eastern regions – limited access to therapy

Acknowledgements

- ECDC
  - Andrew Amato, Caroline Daamen, and colleagues
- WHO
  - Martin Donoghoe, Stefan Wiktor and colleagues
- WHO CC on HIV and Viral Hepatitis
  - Dorthe Raben, Lars Peters, Jeff Lazarus and colleagues

Treatment cascade in Europe

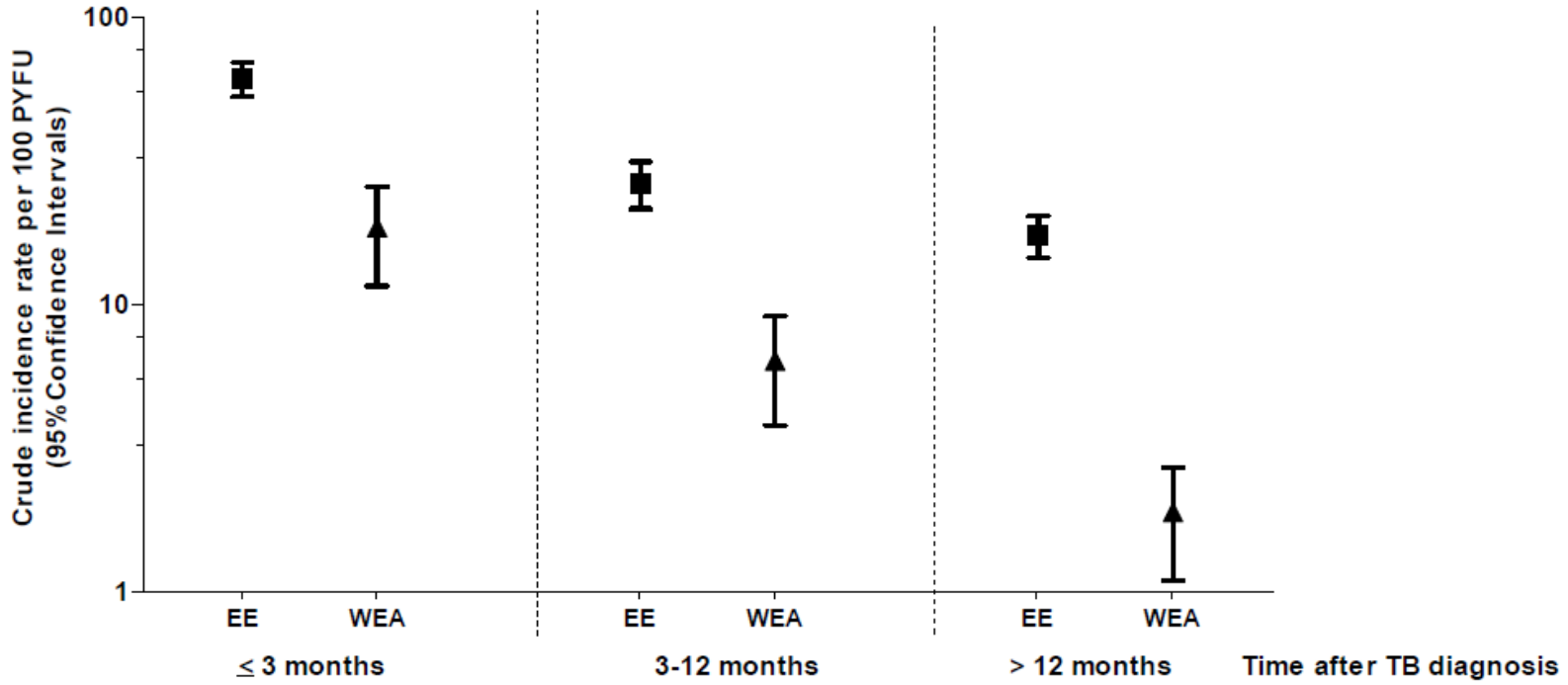


*: n=2.4 mill – 0,86 in Western and 1.4 mill in Eastern Europe

*: incomplete data on number of persons in care in Eastern Europe

Mortality after TB in HIV+ remains high in Eastern Europe (EE)

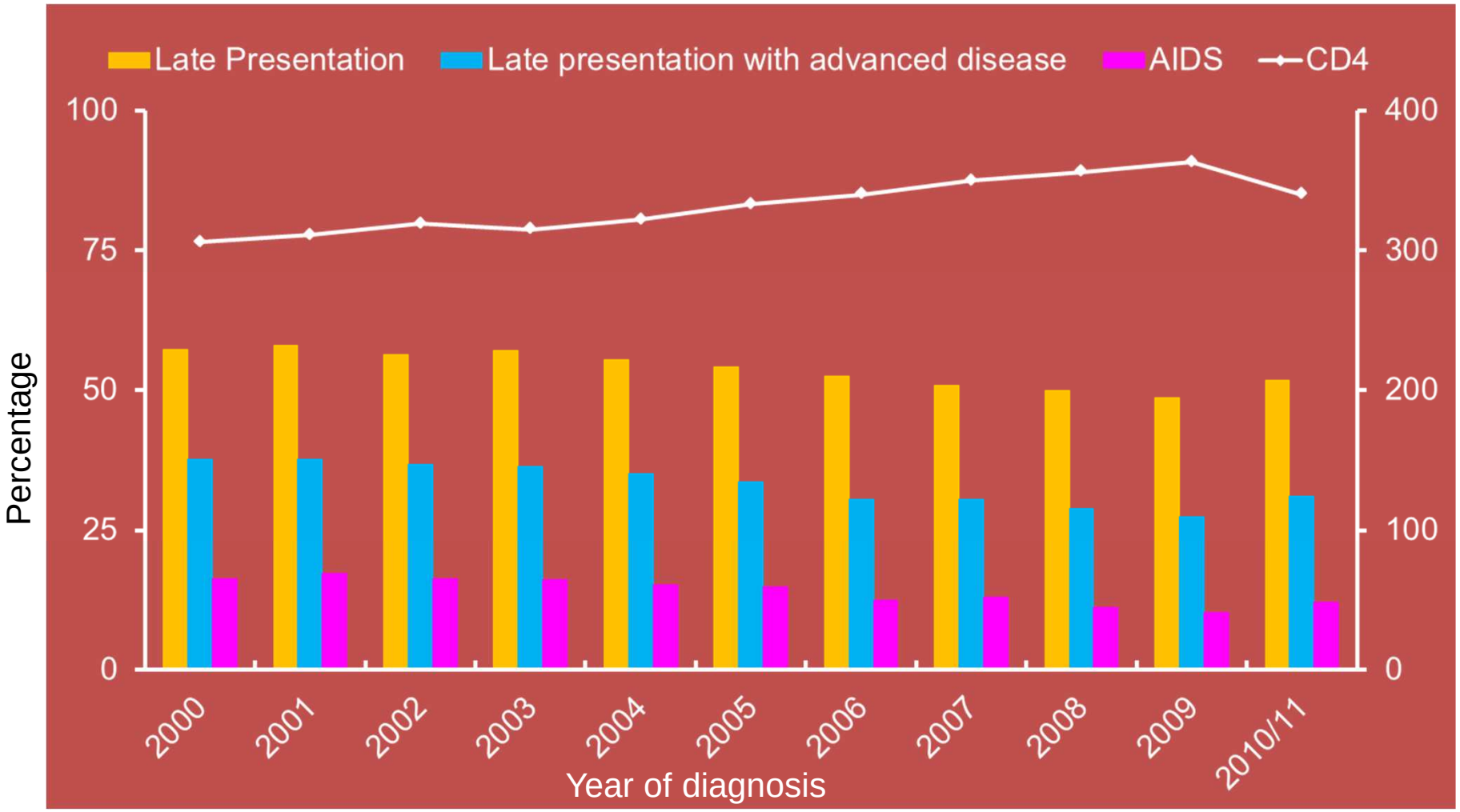
but decreases markedly in Western Europe/Argentina (WEA)



TB remains leading cause of deaths among HIV+ in EE

Podlekareva *et al*, ERJ 2013

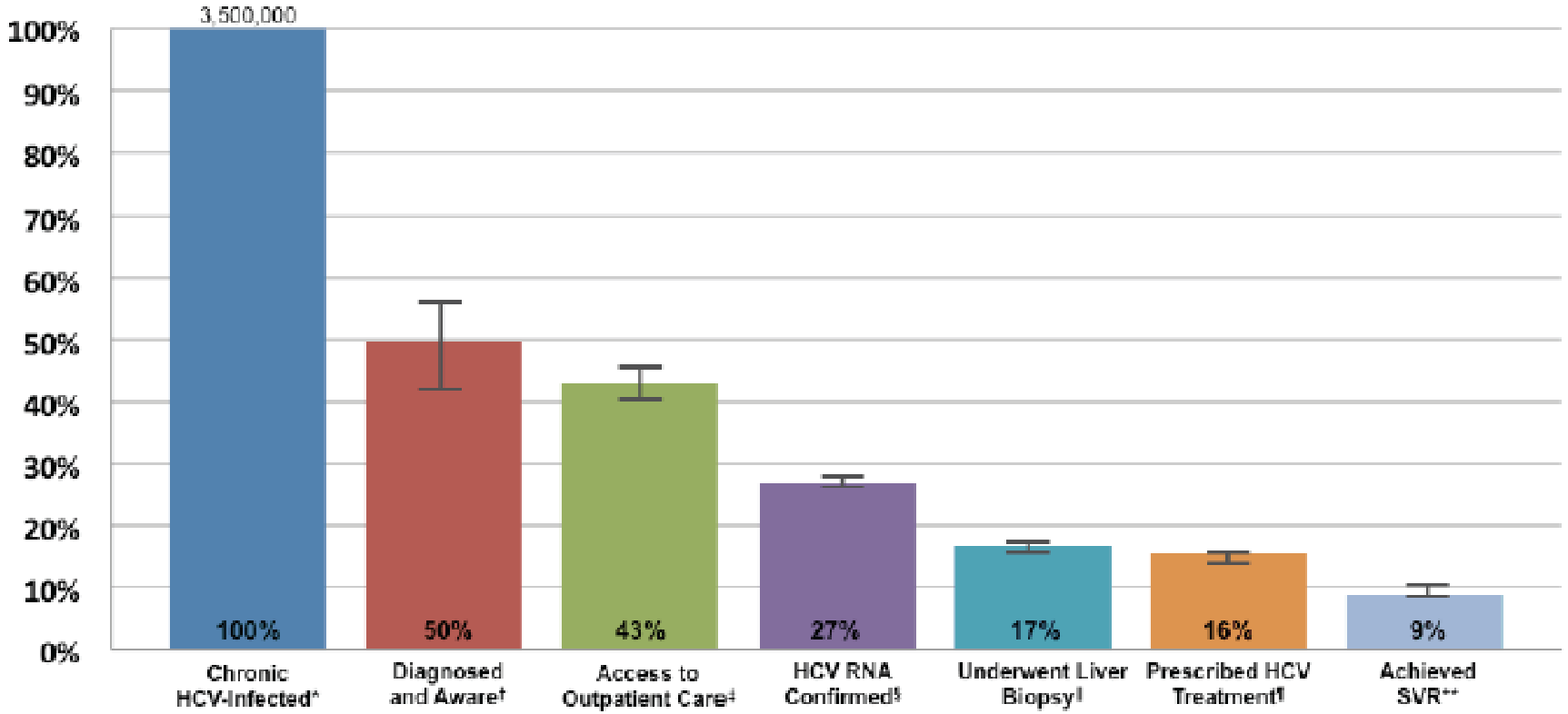
Changes over time in late presentation and CD4 count at HIV-diagnosis : COHERE 2000-2011



N	7367	7404	8046	7756	8591	8663	8251	8618	9057	7548	3223

Mocroft et al, PLoS Med 2013;10(9):E1001510

Continuum of care for HCV in USA



Yehia et al. The treatment Cascade for Chronic Hepatitis C Virus Infection in the United States: A Systematic Review and Meta-Analysis. PlosOne 2014.