

# Achieving WHO recommendations for Hepatitis C Virus Elimination in Belgium - The disease burden of hepatitis C in Belgium: an update of a realistic disease control strategy

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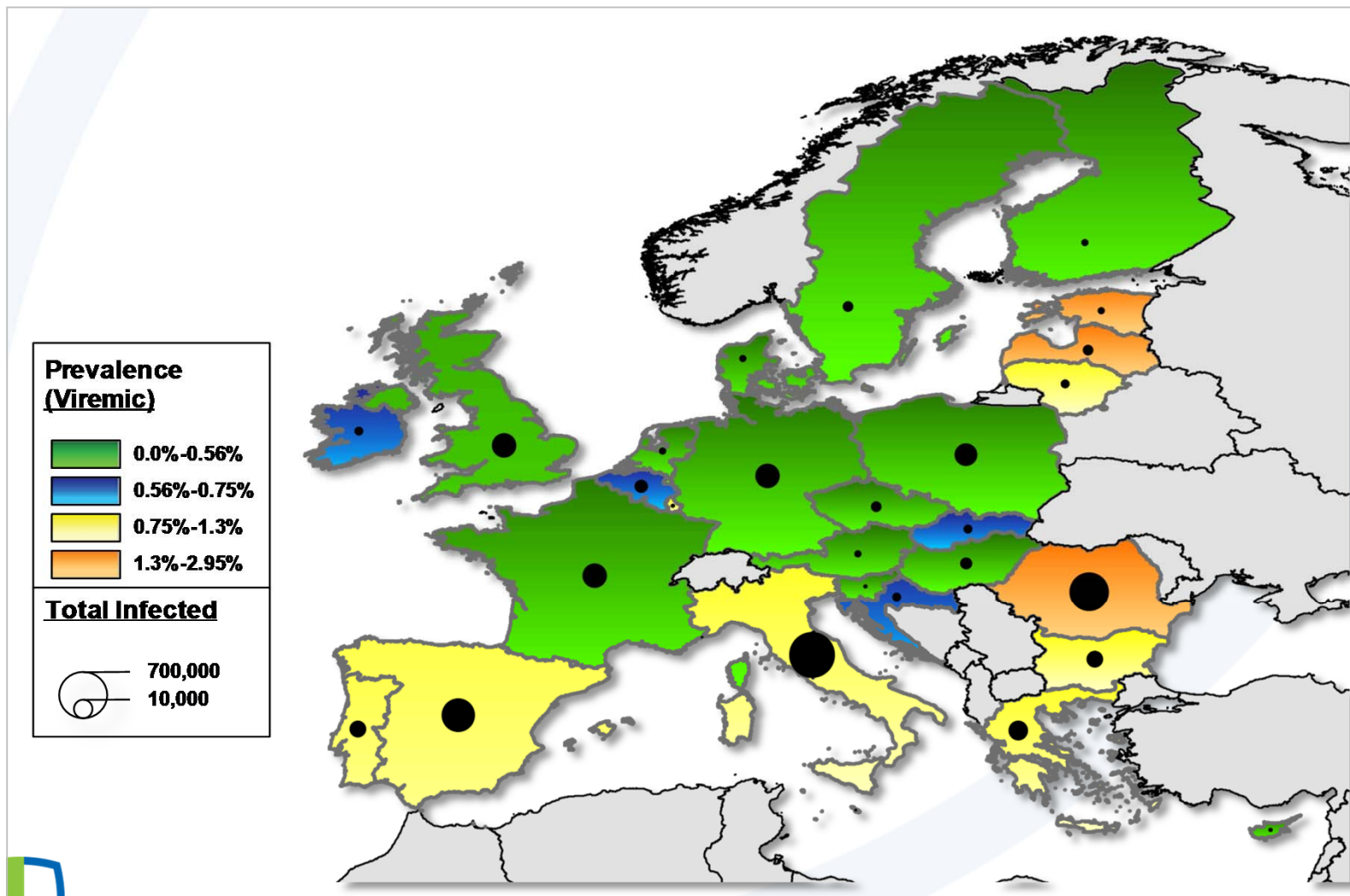
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# HCV a global health problem

What did the discussion start with in 2013?



# HCV prevalence and total infected subjects in the European Union



# Historical inputs were used to generate the base case and to calibrate the model

Historical Input	Estimate	Estimate Year	Source
Anti-HCV Prevalence	0.87%	1994	Beutels 1997
Age and Gender Distribution	Shown Above	2004	De Maeght 2008, WIV
Spontaneous Clearance Rate	80.0%	2009	Deltenre 2010
Percent Diagnosed (anti-HCV)	58%	2009	Deltenre 2010
Annual Newly Diagnosed	2,850	2010	Gerkens 2012
Annual Number Treated	710	2010	Gerkens 2012; IMS Health

- Beutels M, Van Damme P, Aelvoet W, et al. Prevalence of hepatitis A, B and C in the Flemish population. *Eur J Epidemiol* 1997; 13: 275-80.
- De Maeght S, Henrion J, Bourgeois N, de Galocsy C, Langlet P, Michielsen P, Reynaert H, Robaey G, Sprengers D, Orlent H, et al. A pilot observational survey of hepatitis C in Belgium. *Acta Gastroenterol.Belg.* 2008 Jan;71(1):4-8.
- HepC Report, WIV, Peillaboratoria 2010
- Deltenre P, Moreno C, Mathurin P, et al. Impact of current treatment practice and different scenarios improving screening, access to treatment and treatment efficacy on hcv-related mortality in belgium : a mathematical modeling approach. *XXIIth Belgian Week of Gastroenterology* . 2010.
- Gerkens S, Martin N, Thiry N, Hulstaert F. [Hepatitis C: Screening and Prevention] *HEPATITIS C: SCREENING EN PREVENTIE*. Belgian Health Care Knowledge Center (KCE); 2012.



# Baseline estimates for Belgium

	Historical (Min-Max)	Year	2013 Estimate (Uncertainty Interval)
<b>HCV Infected Cases</b>	87,500 (12,400 - 114,100)	1994	
Anti-HCV Prevalence	0.9% (0.1% - 1.1%)		
<b>Total Viremic Cases</b>	70,000 (10,000 - 91,200)	1994	67,100 (24,800-78,600)
Viremic Prevalence	0.7% (0.1% - 0.9%)		0.6% (0.3% - 0.8%)
Viremic Rate	80.0%		80.0%
<b>HCV Diagnosed (Viremic)</b>	22,900	2010	28,600
Viremic Diagnosis Rate	32.7%		42.6%
Annual Newly Diagnosed	2,850	2010	2,850
<b>New Infections</b>			910
New Infection Rate (per 100K)			8



- Beutels M et al. Eur J Epidemiol 1997; 13: 275-80.
  - HepC Report, WIV, Peillaboratoria 2010
  - Deltenre P, et al. XXIIth Belgian Week of Gastroenterology . 2010.
  - Gerkens S, Martin N, Thiry N, Hulstaert F. Belgian Health Care Knowledge Center (KCE); 2012.
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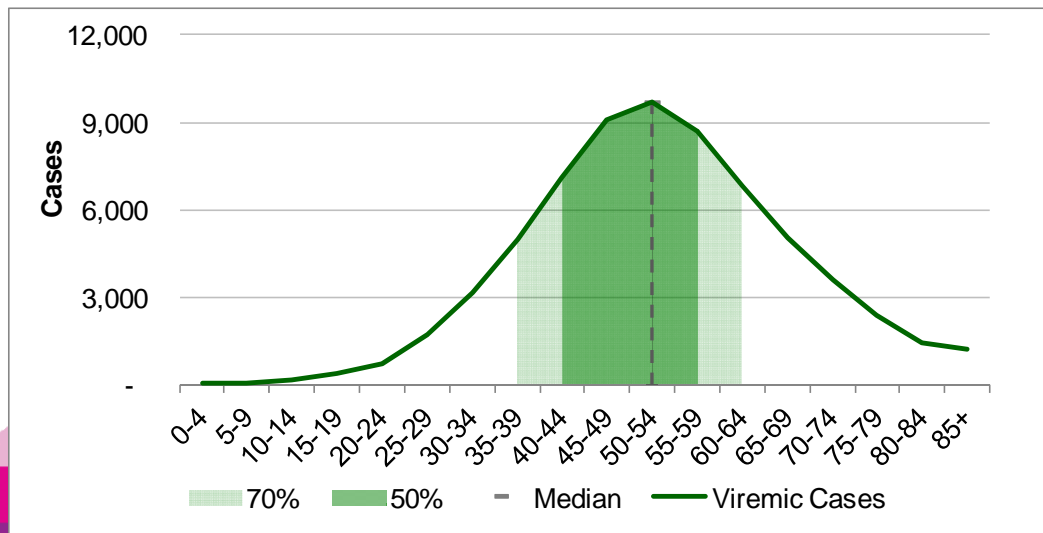
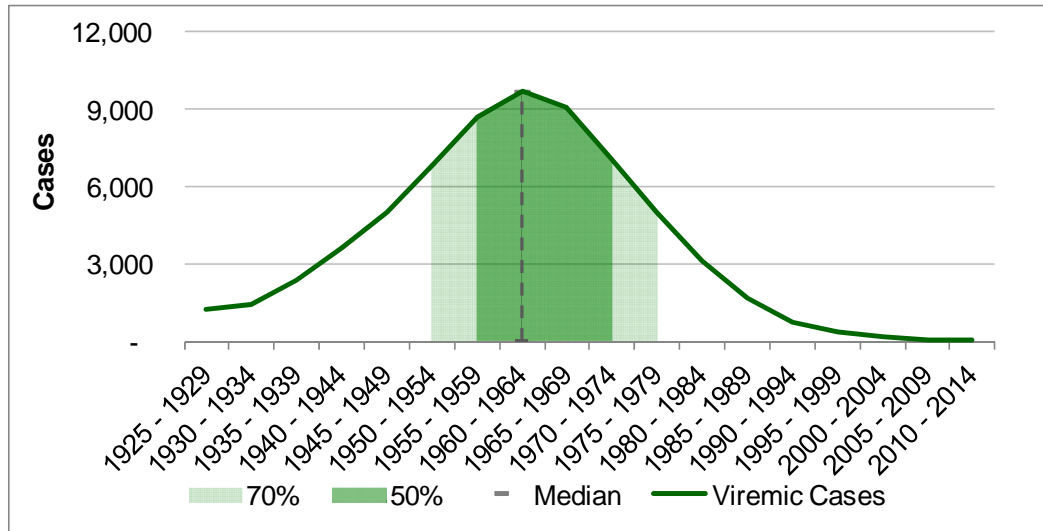
## Genotype distribution in Belgium and other European countries

Genotype	1	2/3	Others (4)
Belgium	61%	25% (6.0%/19%)	14%
France	56%	32%	13%
Germany	60%	37%	3%
Italy	62%	34%	4%
Spain	65%	23%	12%
UK	44%	53%	3%

Strategies	Year of Therapy Access	SVR G1	SVR G2	SVR G3	SVR G4	Annual Treated (maximum)
Base	2013	60%	65%	40%	40%	710
Increase Treatment and SVR, with accelerated, <b>base</b> , and delayed access timelines	2014 / <b>2015</b> / 2017 2016 / <b>2018</b> / 2020	60% 90%	85% 90%	70% 90%	60% 90%	2,260



# Distribution of all infected cases by 5-year birth cohort and by age, as well as 55% and 70% of the infected population, 2014

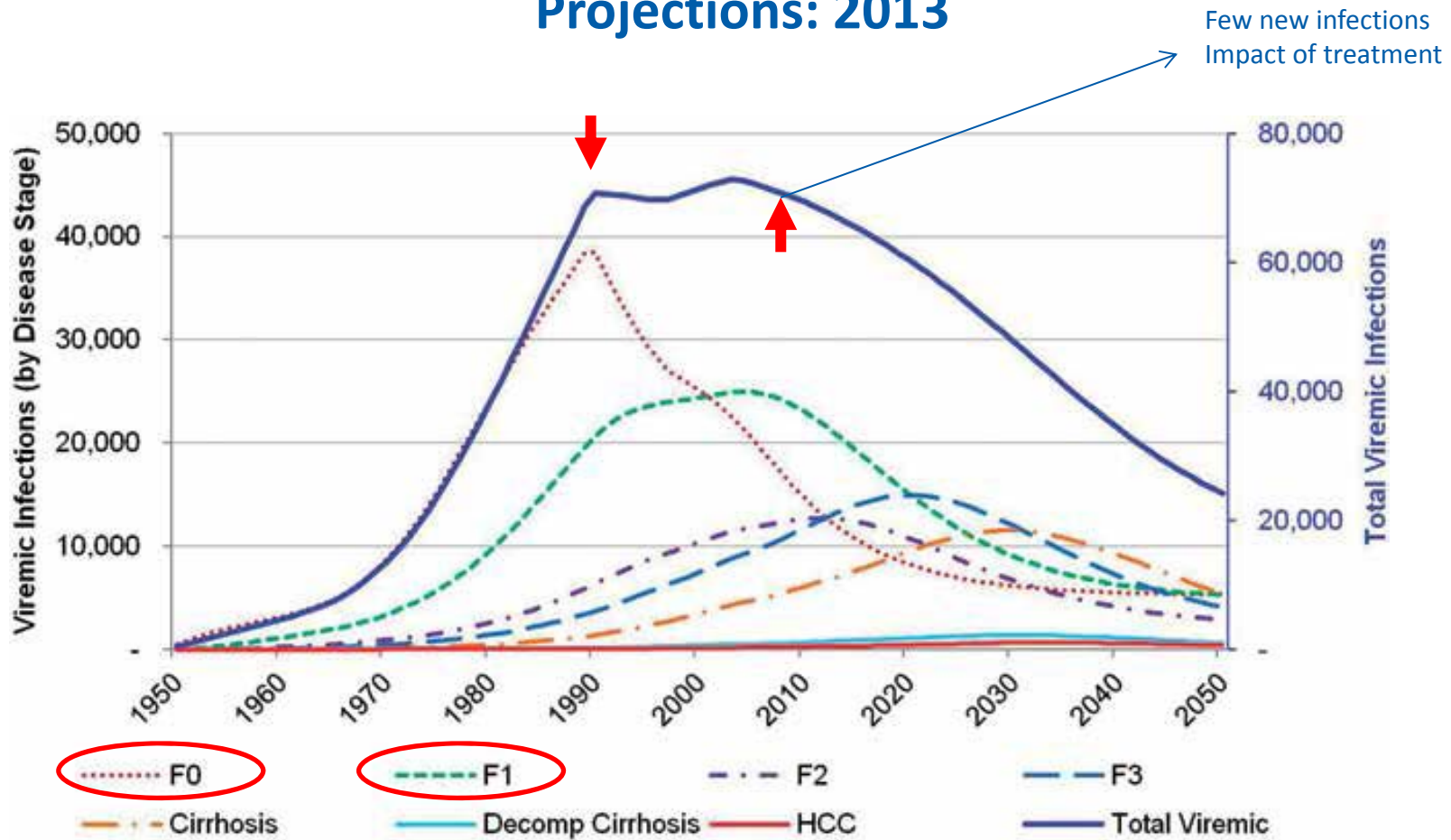


More than 50% of the viremic HCV infected population was calculated to be born between 1955-1974 (40-59 years of age), with 70% born between 1950-1979 (35-64 years of age)



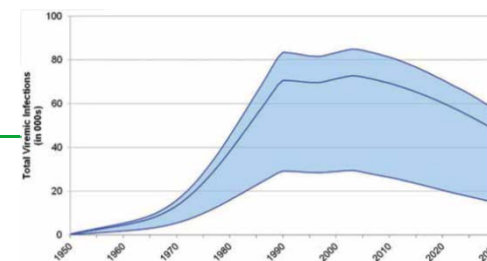
# Change in HCV disease burden over time

## Projections: 2013



H. Razavi et al. *Journal of Viral Hepatitis* 2014  
 pages 34-59, 8 APR 2014 DOI: 10.1111/jvh.12248  
<http://onlinelibrary.wiley.com/doi/10.1111/jvh.12248/full#jvh12248-fig-0004>

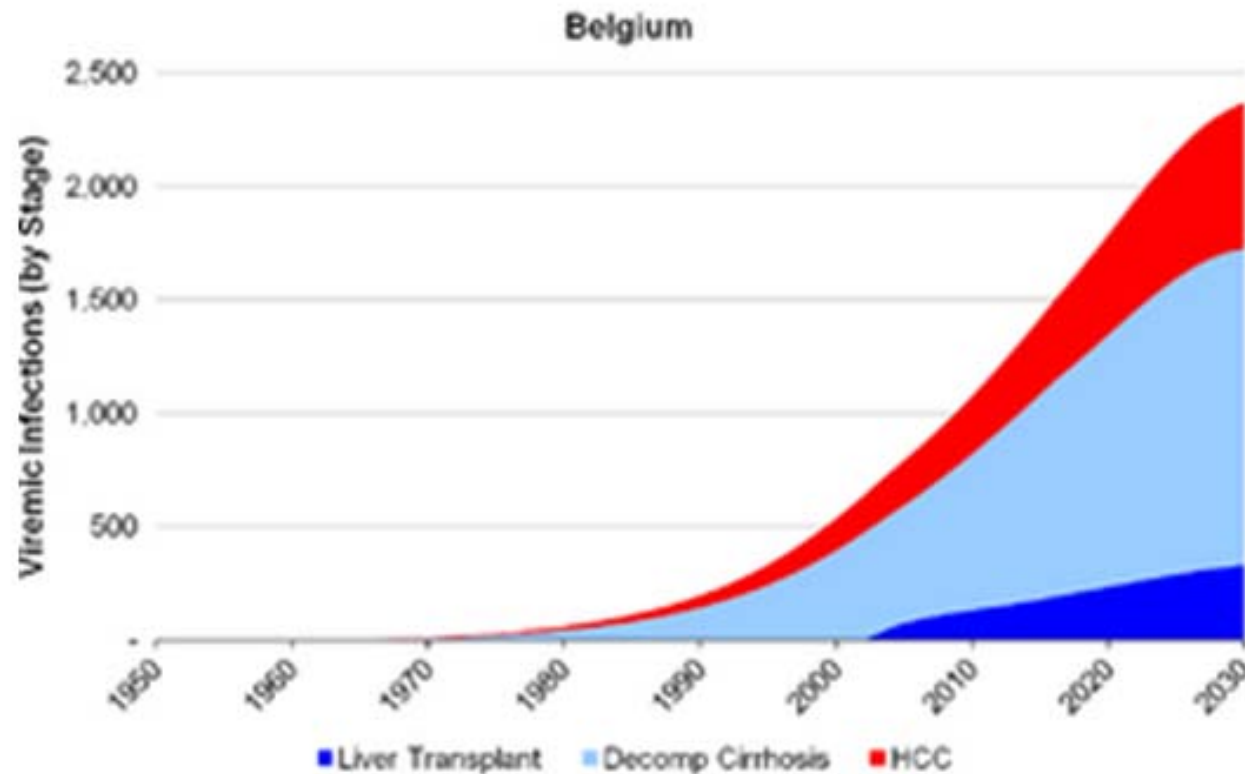
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## Change in the number of liver transplants, decompensated cirrhosis cases and HCC cases over time: projections 2013

SOC 2013: Peg/IFN + RBV +/- boceprevir/telaprevir (SVR 40%-65%, based on genotype)  
710 patients were treated annually



H. Razavi et al. *Journal of Viral Hepatitis* 2014  
pages 34-59, 8 APR 2014 DOI: 10.1111/jvh.12248  
<http://onlinelibrary.wiley.com/doi/10.1111/jvh.12248/full#jvh12248-fig-0004>



# Statement

Current efforts are largely insufficient



Treatment strategies must be refined

→ new medication at the horizon

We can and must do better



**grrrrrrrrr**



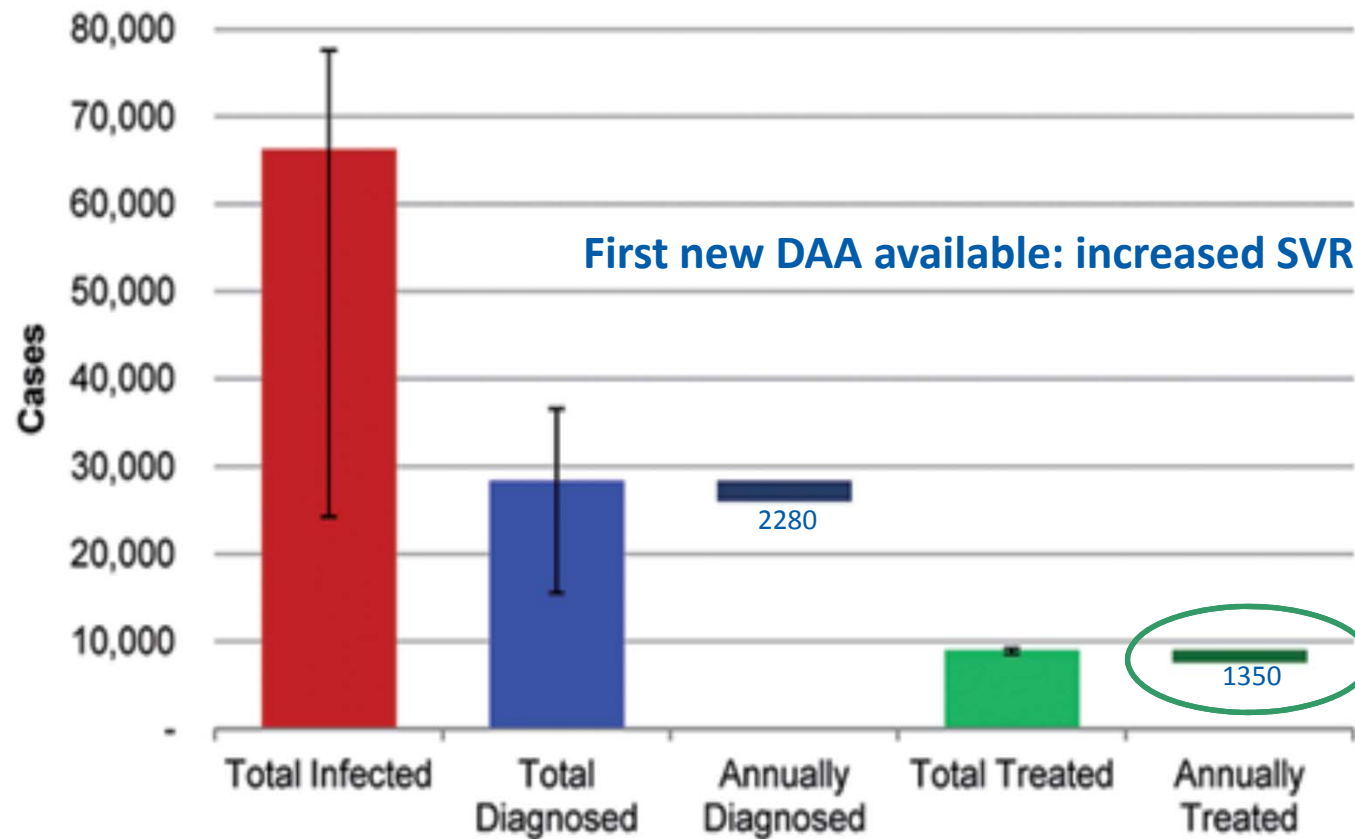
# What changed in 2015?



# Cascade of care (2015)

total viremic cases, total diagnosed (historical), annually diagnosed,

total treated (historical) and annually treated

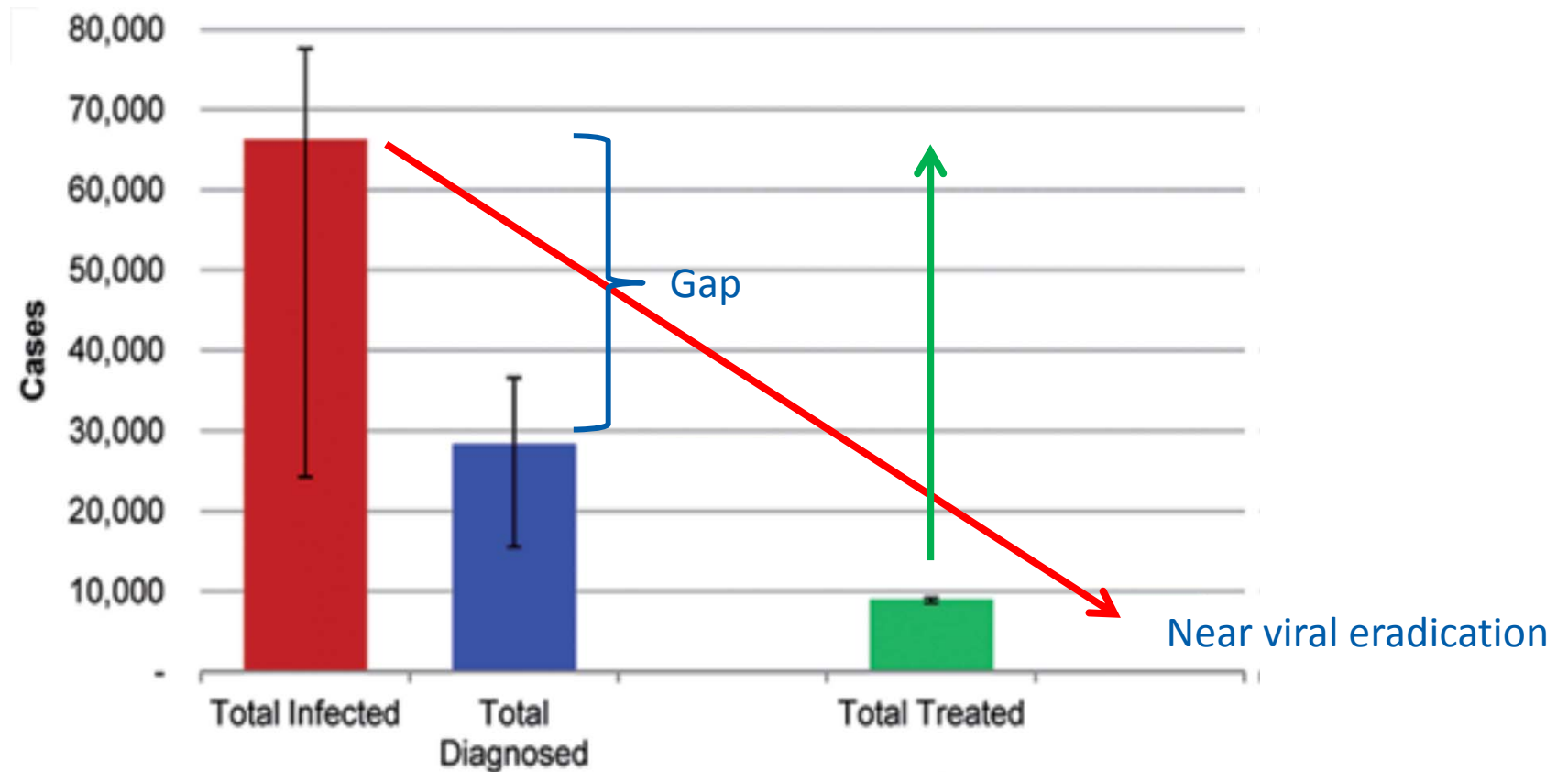


# WHO recommendation

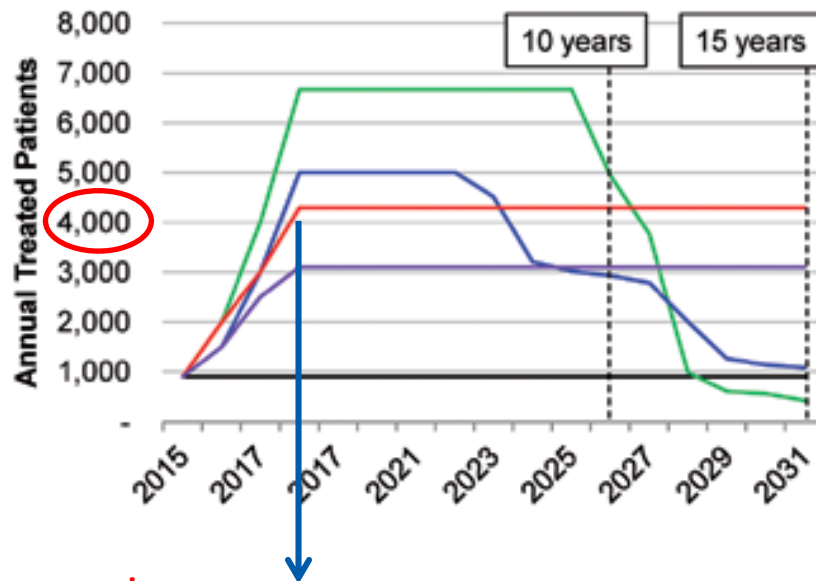
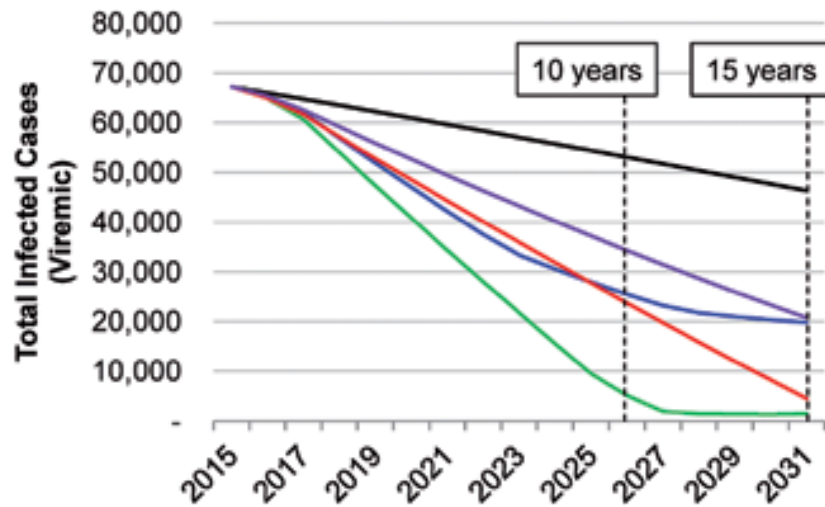
- 90% reduction in new cases
- 65% reduction in liver related deaths by 2030



# Consequences of implementation of WHO targets in Belgium



# How to achieve this objective?



## Red scenario:

- treat ~ 4000 patients from 2018 onwards
- Open to F0 in 2018
- Run out of patients beyond 2024 if no increase in annually diagnosed patients

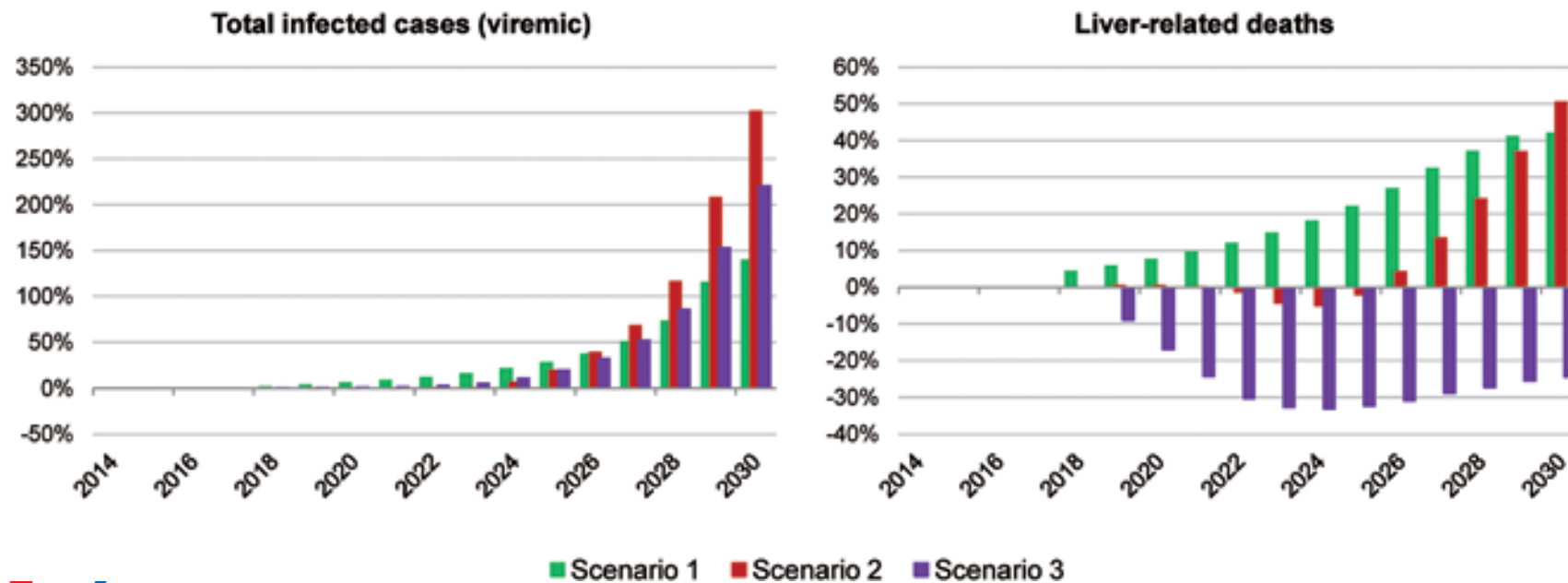


# Delta between the WHO scenario and potential limitations in Belgium

**Scenario 1:** Limiting treatment to 3.000 patients

**Scenario 2:** Discontinuing diagnosis after 2018 (F0, treat 4000 patients annually as long as possible)

**Scenario 3:** Limiting treatment to  $\geq$  F2 patients after 2018 (treat 4000 patients annually, no increase in diagnosis)





# Requirements to achieve WHO recommendations in Belgium

- Increase gradually the number of annually treated patients until 2018
- Open to F0 in 2018
- Maintain a constant treatment rate of 4000 patients per year from 2018 onwards
- Implement screening to increase annually diagnosed patients from 2280 to at least 3030 from 2018 onwards
  - screen risk populations
  - screen baby boomers

## Uncertainties

- True HCV prevalence in Belgium



# Thank you for your attention



Source: