Summary of recommended alternative regimens with treatment durations*

PATIENTS WITHOUT CIRRHOSIS

	Simeprevir / sofosbuvir	Daclatasvir / sofosbuvir	Ombitasvir / paritaprevir / ritonavir / dasabuvir	Ombitasvir / paritaprevir / ritonavir / ribavirin	Sofosbuvir / pegylated interferon / ribavirin
Genotype 1	12 weeks[a]		12 weeks[b]		
Genotype 2		12 weeks			
Genotype 3					
Genotype 4	12 weeks			12 weeks	
Genotype 5					12 weeks
Genotype 6					12 weeks

PATIENTS WITH CIRRHOSIS

	Simeprevir / sofosbuvir	Simeprevir / sofosbuvir / ribavirin	Daclatasvir / sofosbuvir	Sofosbuvir / pegylated interferon / ribavirin
Genotype 1	24 weeks[a]	12 weeks[a]		
Genotype 2			12 weeks	
Genotype 3				12 weeks
Genotype 4	24 weeks	12 weeks		
Genotype 5				12 weeks
Genotype 6				12 weeks

* Treatment durations are adapted from 2015 AASLD and EASL guidelines.

a If genotype 1a-infected patient is positive for Q80K variant, should not choose simeprevir/sofosbuvir regimen

b For genotype 1a-infected patient, treat with ombitasvir/paritaprevir/ritonavir/dasabuvir and ribavirin; for genotype 1b-infected patient treat with ombitasvir/ paritaprevir/ritonavir/dasabuvir.

Genotypes 1 and 4 regimens: strong recommendation, moderate quality of evidence

Genotypes 2 and 3 regimens: strong recommendation, low quality of evidence

Genotypes 5 and 6 regimens: conditional recommendation, very low quality of evidence

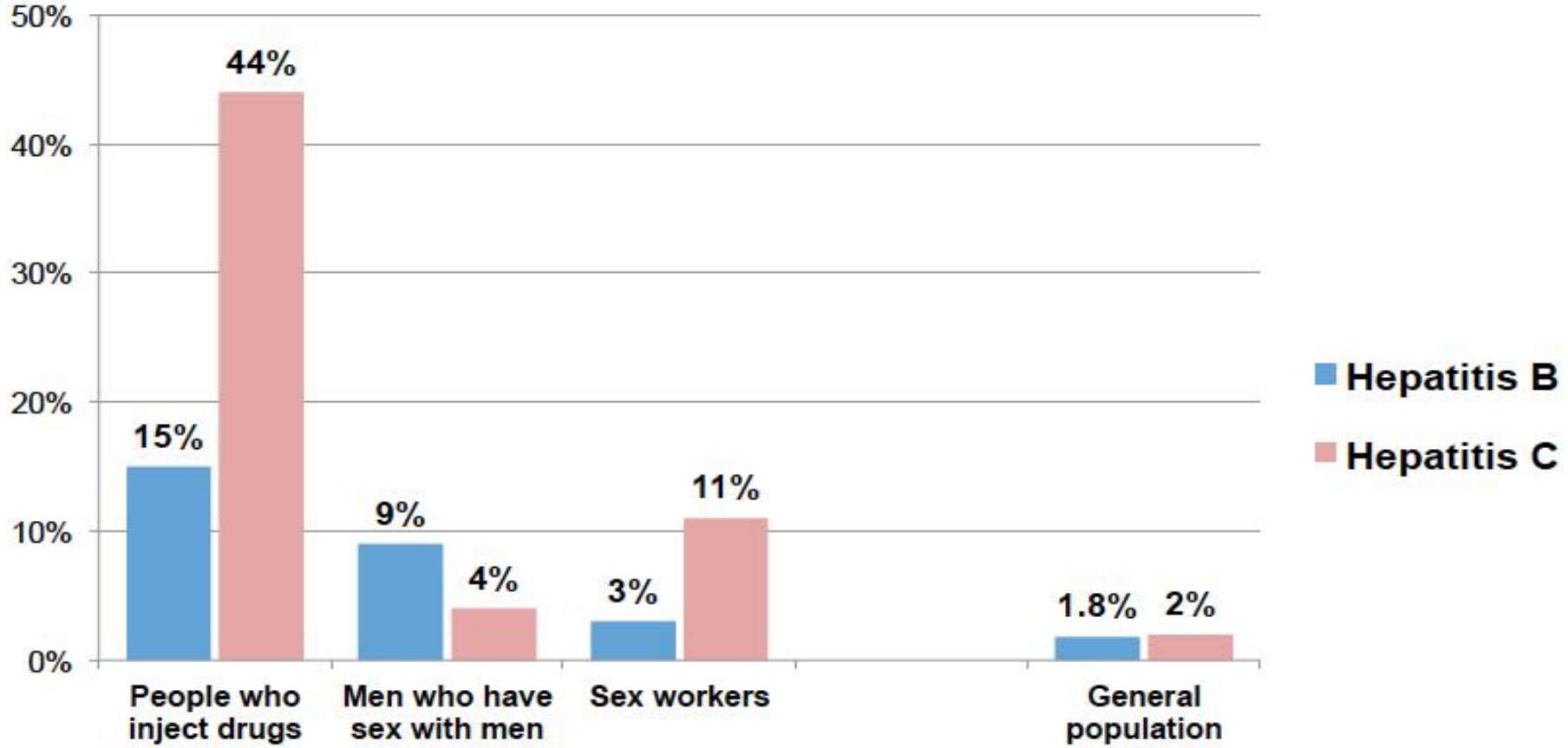
World Health Organization

PRIORITIZATION: Factors to be considered in prioritizing treatment

- **Increased risk of death:**
  - advanced fibrosis and cirrhosis
  - post-liver transplantation
- **Risk of accelerated fibrosis:**
  - coinfection with either HIV or hepatitis B virus (HBV)
  - metabolic syndrome
- **Extrahepatic manifestations and evidence of end-organ damage**
  - debilitating fatigue
  - vasculitis and lymphoproliferative disorders
  - Significant psychosocial morbidity (due to stigma, discrimination, fear of transmission to others)
- **Maximizing reduction in incidence:**
  - PWID
  - men who have sex with men (MSM)
  - prisoners
  - sex workers
  - women with childbearing potential
  - health-care workers

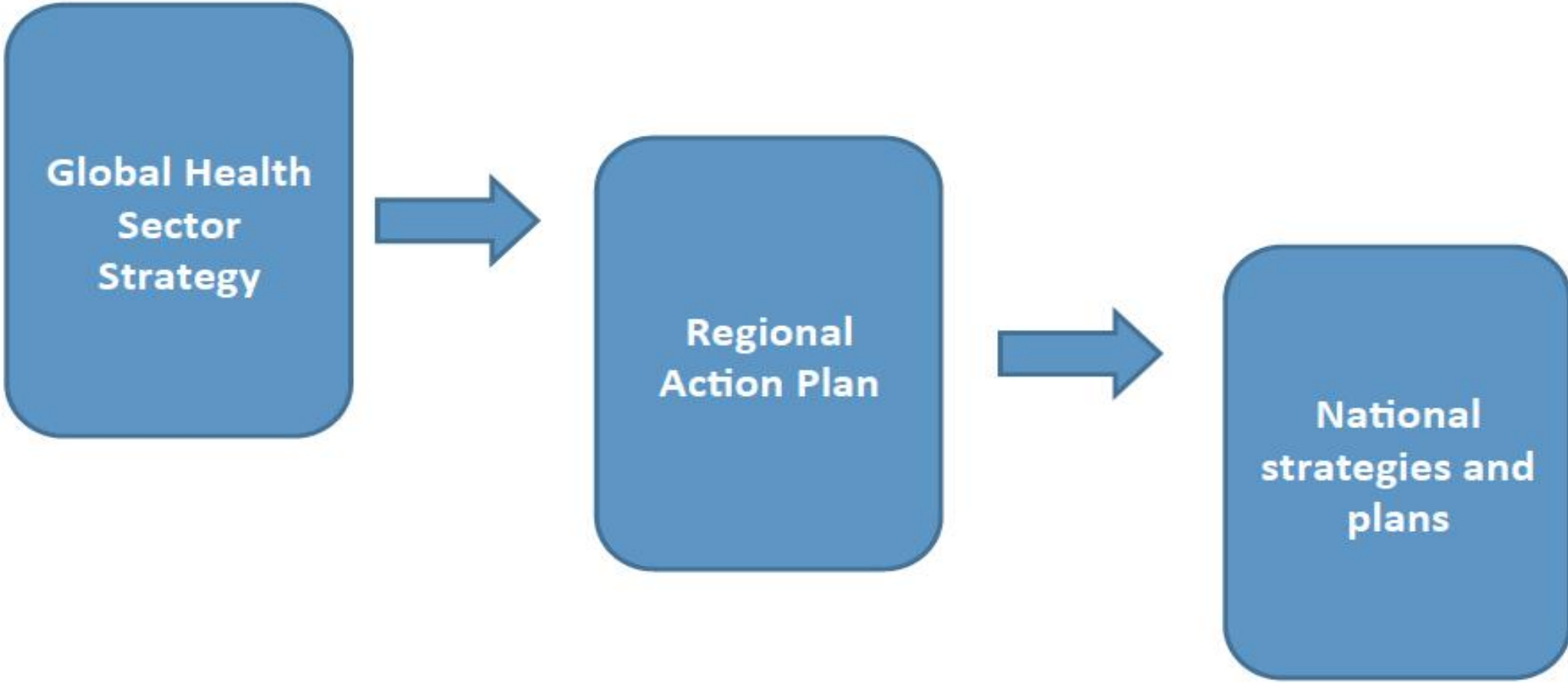
World Health Organization

Hepatitis B and C among "most affected population groups" in the WHO European Region, 2012

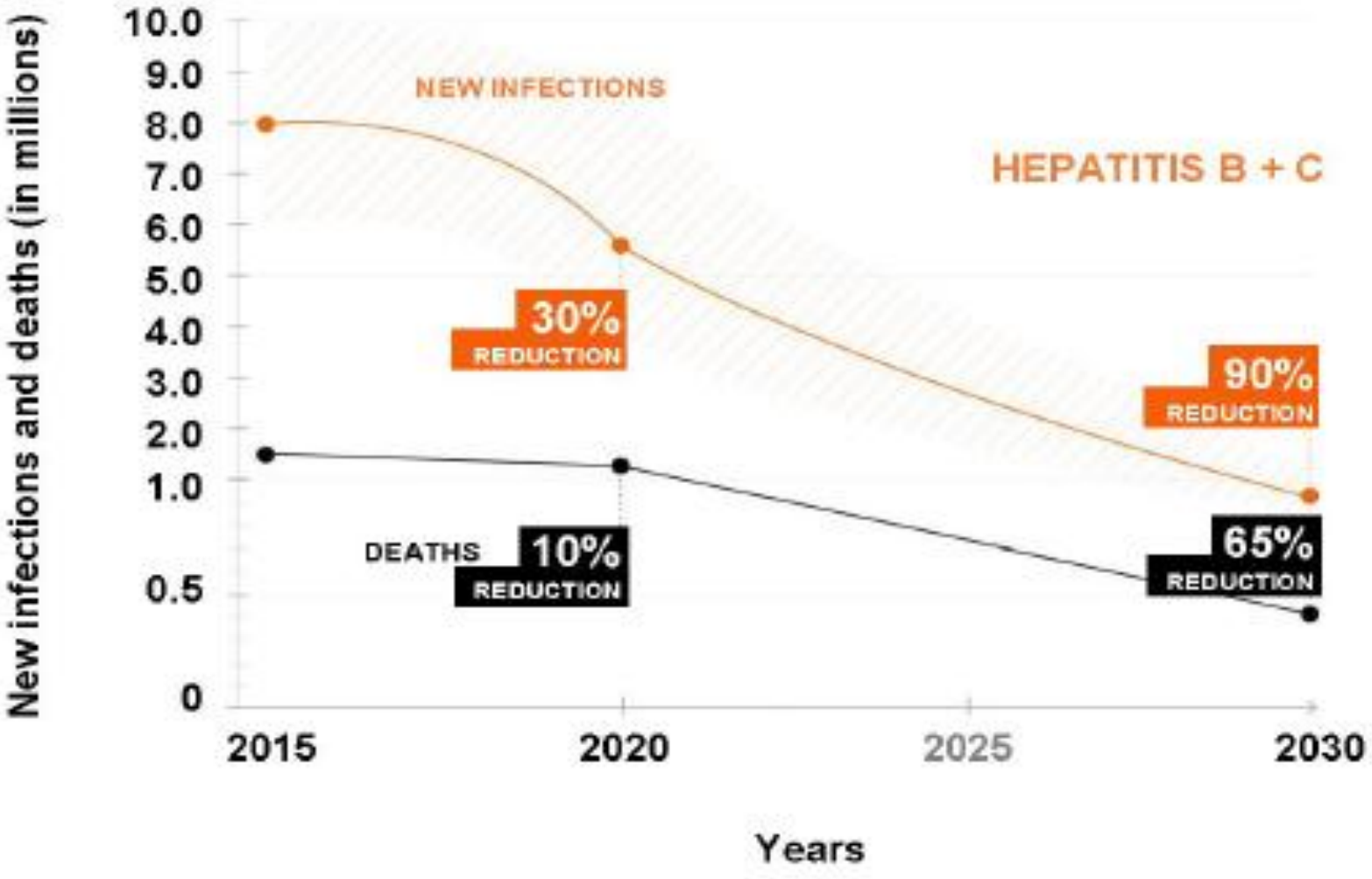


V.D. Hope et al. Epidemiol. Infect (2013) 1-17

National plans – for effective and coordinated response



Targets for reducing new cases and deaths from chronic viral hepatitis B and C infections



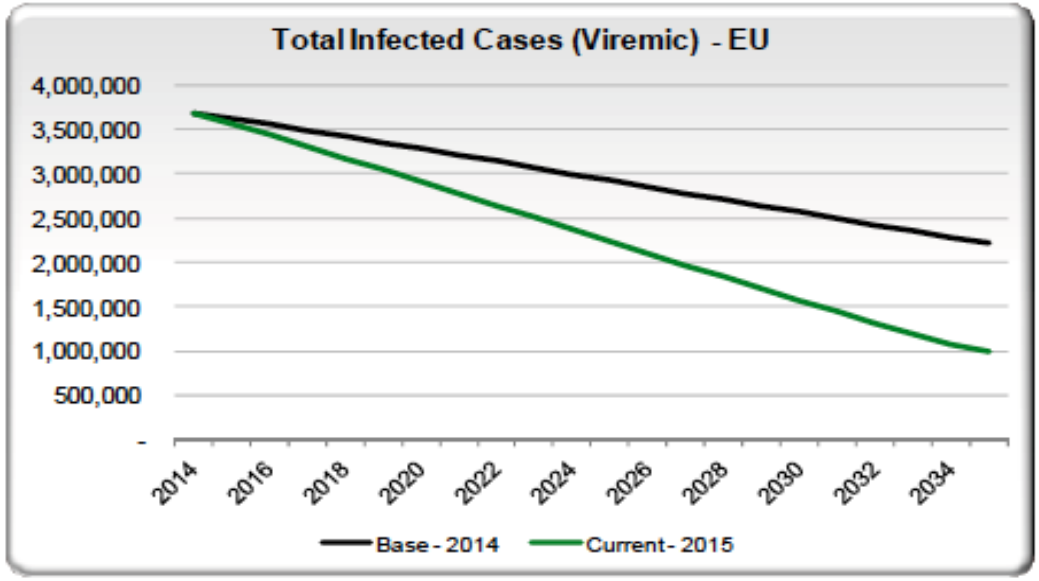
World Health Organization

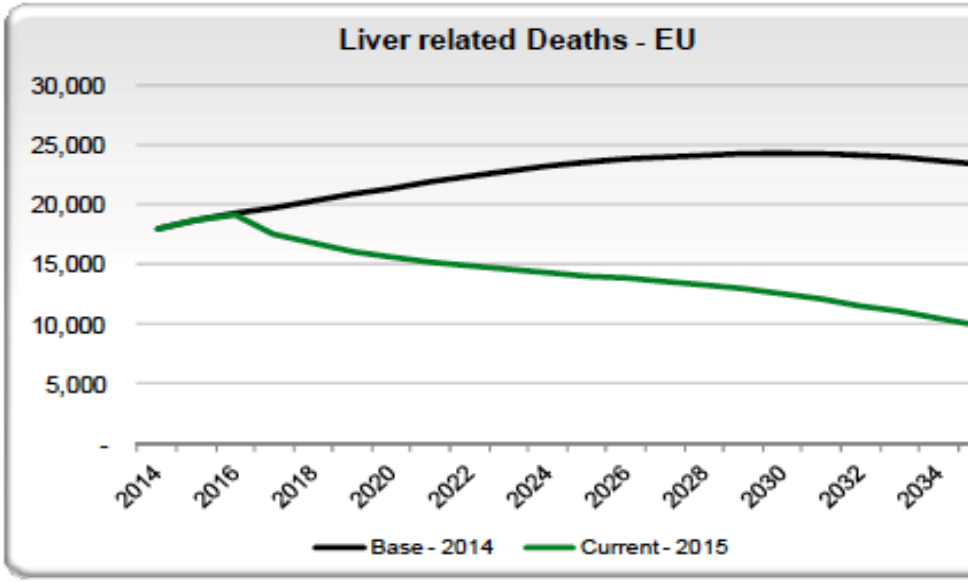
Current 2015 Scenario – Extrapolate future treatment paradigm based on the current (2015) practice

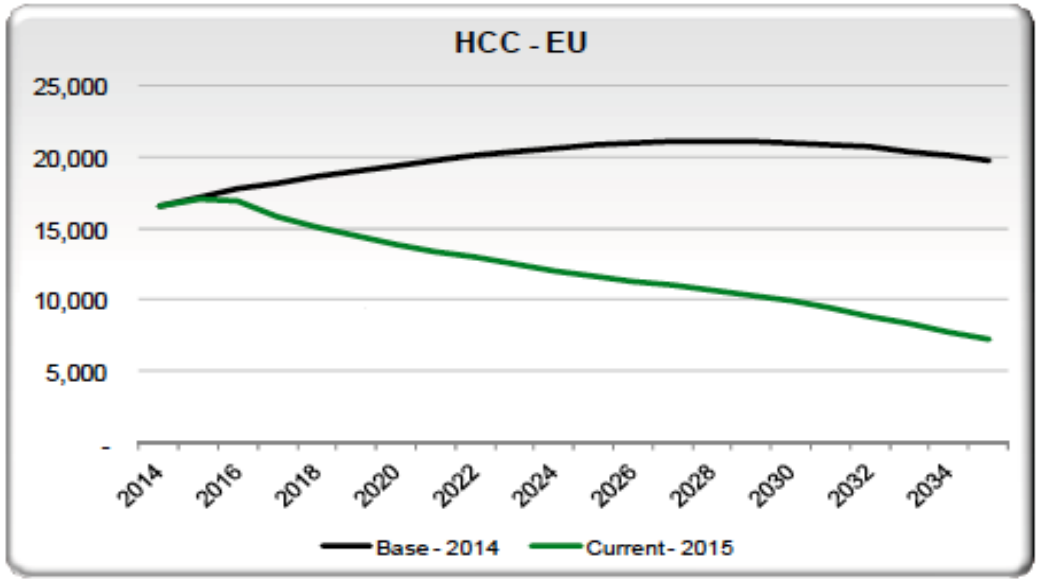
- Switch to direct acting antivirals with higher SVR
- Keep the number of treated constant
- Treatment is limited to those >=F2 until 2025
- Expand screening to find >=F2

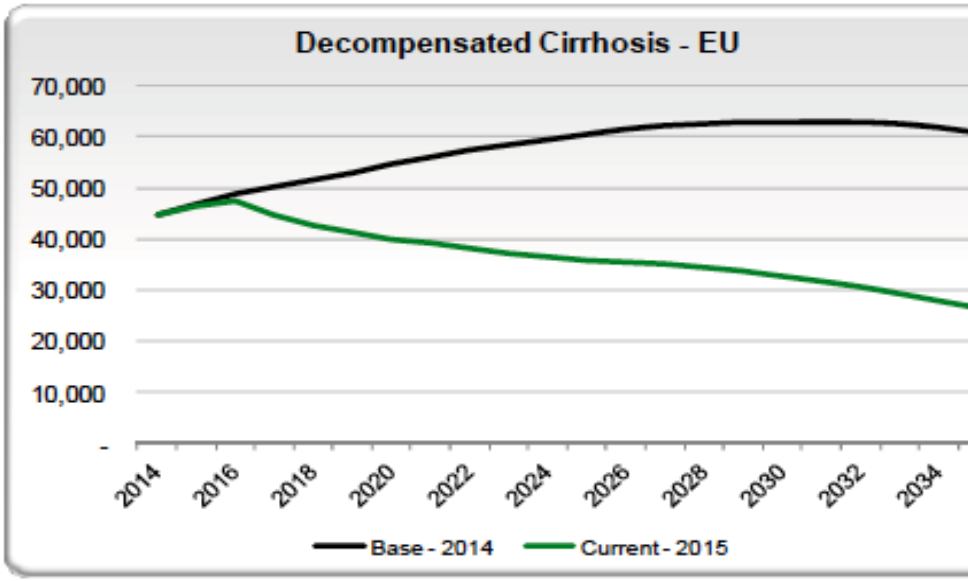
	2014	2015	2016	2017	2020	2025	
Treated	77,630	133,300	133,300	133,300	133,300	133,300	←
Newly Diagnosed	96,800	101,600	111,800	167,700	243,120	243,120	↑
Fibrosis Stage	≥F0	≥F2	≥F2	≥F2	≥F2	≥F1	←
New Infections	59,500	64,900	62,900	61,100	59,600	47,600	⇓
Treated Age	15-65	15-65	15-65	15-65	15-65	15-65	←
SVR	57%	75%	85%	90%	90%	90%	

HCV infections will decline by 70%, while HCV related morbidity and mortality will decrease by 45-55%









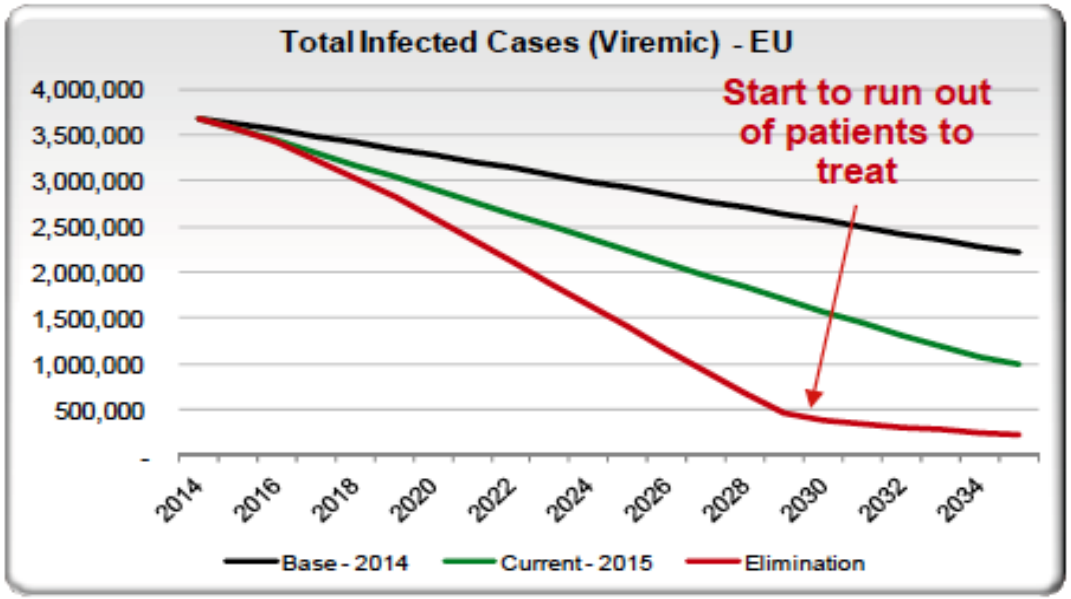
Elimination Scenario – Increase screening, treatment and eligibility to achieve a 90% reduction in new infections (excluding immigration)

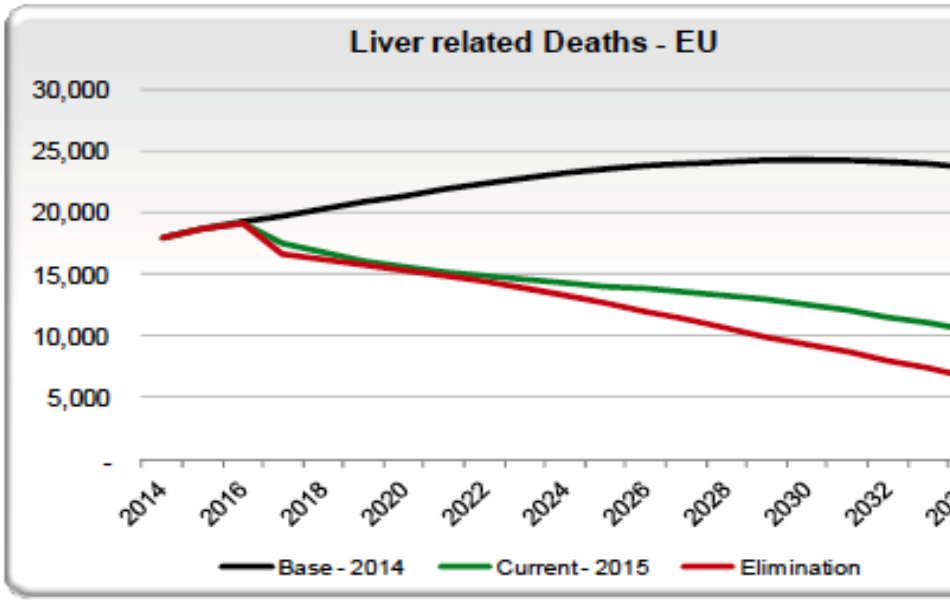
- Switch to direct acting antivirals with higher SVR
- Increase treatment to achieve a >60% reduction in liver related deaths, 90% reduction in total & new infections
- Expand screening to find infected individuals to treat
- Expand treatment to all patients (>=F0)
- Starting in 2017, expand treatment up to age 70

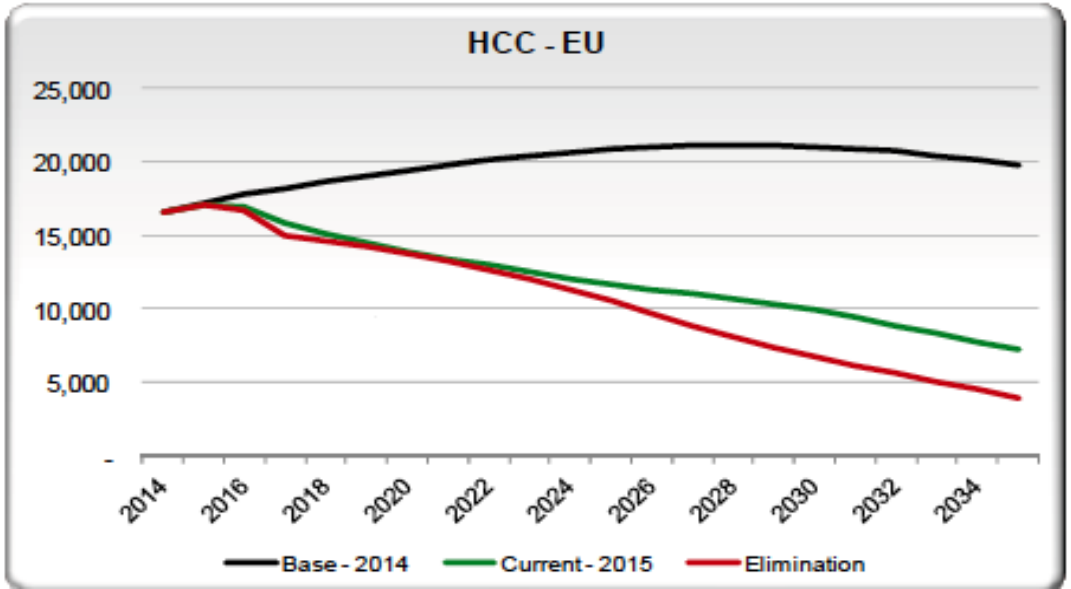
	2014	2015	2016	2017	2020	2025	
Treated	77,630	133,300	159,900	191,900	230,300	230,300	↑
Newly Diagnosed	96,800	101,600	132,100	171,700	188,900	207,800	↑
Fibrosis Stage	≥F0	≥F2	≥F2	≥F0	≥F0	≥F0	↑
New Infections	59,500	64,900	62,900	49,200	33,300	13,300	↓↓↓
Treated Age	15-65	15-65	15-65	15-70	15-70	15-70	↑
SVR	57%	75%	85%	90%	90%	90%	

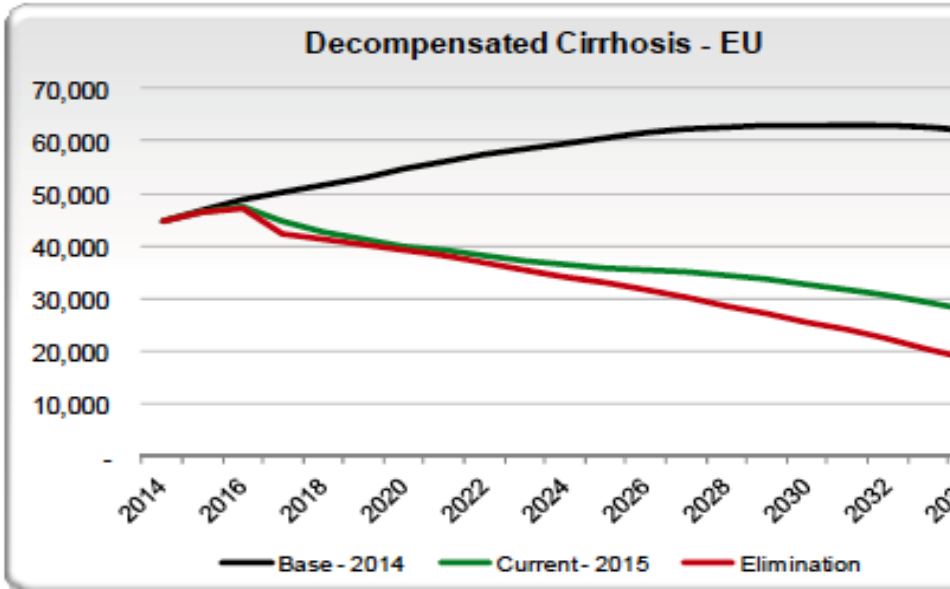
After 2030, less than 20,000 individuals need to be treated annually

HCV infections will decline 90% by 2030 and 95% by 2035, while LRD will decline 55% by 2030 and 70% by 2035









Conclusions:

- It is feasible to eliminate HCV infection in the European Union
  - » Treatment has to be increased to 6-10% of total infections (coupled with active screening)
  - » To reduce new infections, screening and treatment has to encompass all HCV infected individuals (≥F0) – most new infection occur among younger individuals who are F0 or F1
  - » To reduce liver related deaths, eligibility has to increase to older patients – median age in EU is 54 and in 11 years half of the HCV infected population will be ineligible for treatment (if those above 65 are in-eligible for treatment)
- Since treatments are curative, the number of treated patients and the associated costs is finite
- Treatment of HCV is cost saving (assuming reasonable prices)

Viral hepatitis in Europe: challenges

- Many countries still lack **national strategies / plans**
- **Lack of reliable data** on disease burden in many Member States
- Majority of patients **unaware of their infection**
- Unequal access to **harm reduction** across the Region – resulting in growing epidemics among injecting drug users
- **New treatments** (DAAs) are not accessible to all who are in need in majority of Member States; affordability and sustainability