

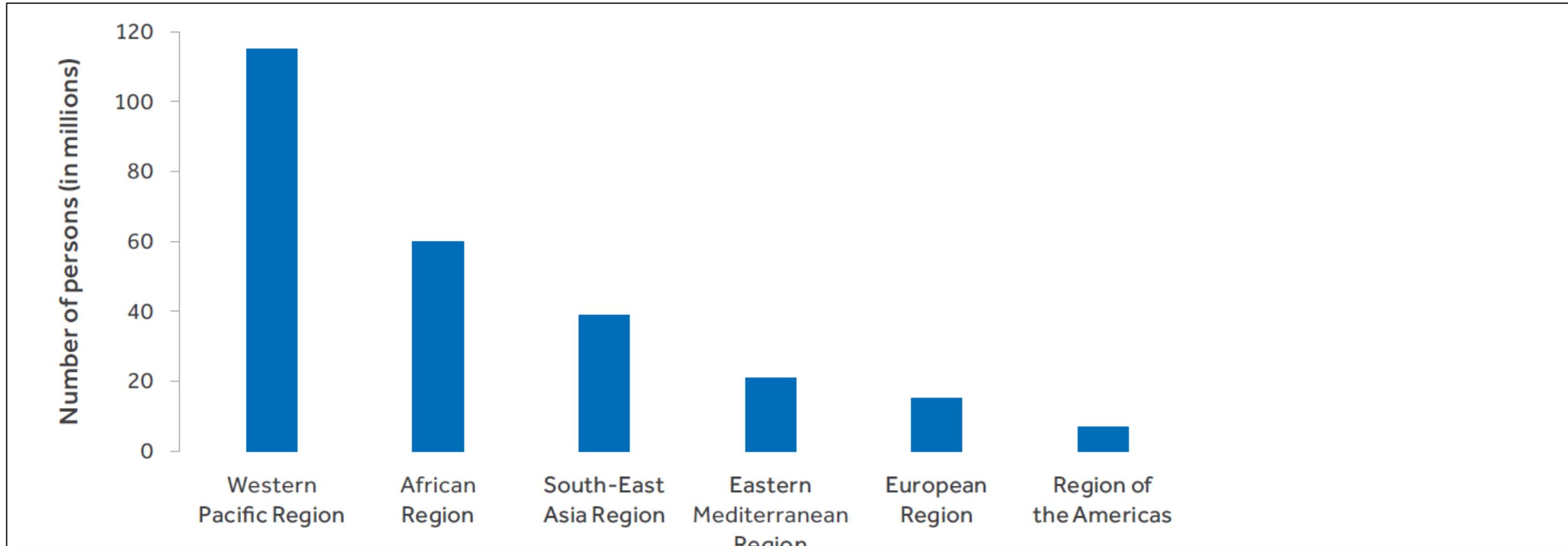
Epidemiology of Viral Hepatitis

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Problem statement

- Viral hepatitis B and C affect 325 million people around the world.
- Viral hepatitis caused 1.34 million deaths in 2015, a number comparable to deaths caused by tuberculosis and higher than those caused by HIV.
- Most viral hepatitis deaths in 2015 were due to chronic liver disease (720 000 deaths due to cirrhosis) and primary liver cancer (470 000 deaths due to hepatocellular carcinoma).
- Globally, in 2015, an estimated 257 million people were living with chronic HBV infection, and 71 million people with chronic HCV infection
- The Western Pacific Region has the largest number of people living with chronic hepatitis infections among the 6 WHO regions.

Prevalence of HBV infection in the general population by WHO region, 2015.



Prevalence of HBV infection (HBsAg) in the general population by WHO region, 2015

WHO region	Estimates of the prevalence of HBV infection (%)			Estimated number of persons living with HBV (millions)		
	Uncertainty interval (95%)			Uncertainty interval (95%)		
	Best	Lower	Higher	Best	Lower	Higher
African Region	6.1	4.6	8.5	60	45	84
Region of the Americas	0.7	0.4	1.6	7 ^a	4	16
Eastern Mediterranean Region	3.3	2.6	4.3	21	17	28
European Region	1.6	1.2	2.6	15	11	23
South-East Asia Region	2.0	1.5	4.0	39	29	77
Western Pacific Region	6.2	5.1	7.6	115	93	140
Total	3.5	2.7	5.0	257	199	368

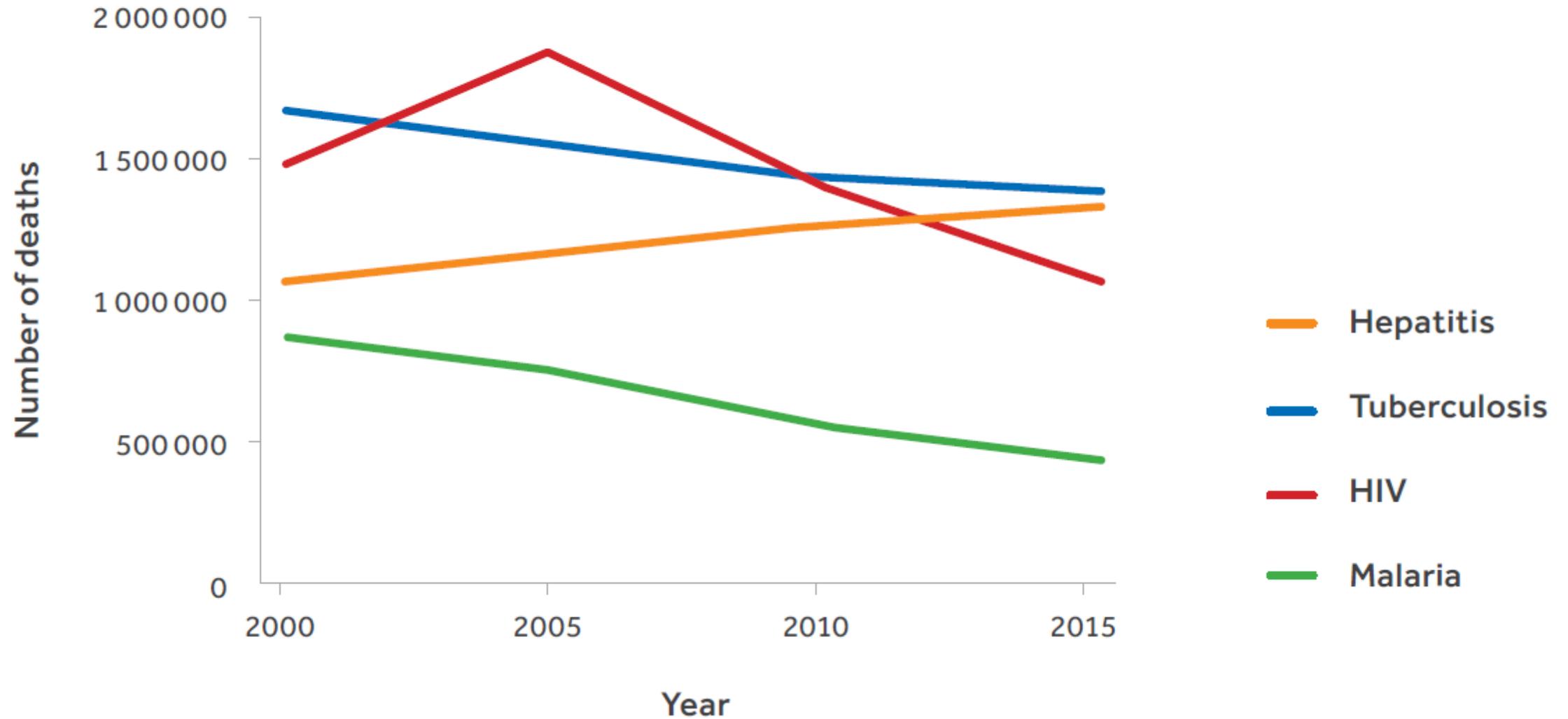
Source: WHO, work conducted by the London School of Hygiene & Tropical Medicine (LSHTM). See Annex 2.

Prevalence of HCV infection (HCV RNA positive) in the general population, by WHO region, with uncertainty intervals, 2015

WHO region	Estimates of the prevalence of HCV infection (%)			Estimated number of persons living with HCV (millions)		
	Uncertainty interval			Uncertainty interval		
	Best	Lower	Higher	Best	Lower	Higher
African Region	1.0	0.7	1.6	11	7	16
Region of the Americas	0.7	0.6	0.8	7	6	8
Eastern Mediterranean Region	2.3	1.9	2.4	15	13	15
European Region	1.5	1.2	1.5	14	11	14
South-East Asia Region	0.5	0.4	0.9	10	8	18
Western Pacific Region	0.7	0.6	0.8	14	10	15
Total	1.0	0.8	1.1	71	62	79

Source: WHO, work conducted by the Center for Disease Analysis. See Annex 2.

Fig. 2. Global annual mortality from hepatitis, HIV, tuberculosis and malaria, 2000–2015: unlike HIV, tuberculosis and malaria, the trend in mortality from viral hepatitis is increasing



- 2.7 million persons were coinfecting with HBV and HIV
- Unsafe health-care procedures and injection drug use were the leading causes of new HCV infections, accounting for most of the 1.75 million new infections in 2015.

- Vaccination dramatically reduced new HBV infections among children, but other HBV and HCV prevention interventions have not been implemented sufficiently.
- In 2015, global coverage with the three doses of hepatitis B vaccine in infancy reached 84%
- However, coverage with the initial birth dose vaccination is still low at 39%.
- Globally, 5% of health-care-related injections remained unsafe. As a result, an estimated 1.75 million new HCV infections occurred worldwide in 2015

A LARGE BURDEN OF CHRONIC INFECTIONS AMONG ADULTS CALLS FOR GREATER ACCESS TO TESTING AND TREATMENT

- Access to affordable hepatitis testing is limited.
- Few people with viral hepatitis have been diagnosed (9% of HBV-infected persons, 22 million, and 20% of HCV-infected persons, 14 million).
- Among those diagnosed, treatment has reached only a small fraction.
- In 2015, 8% of those diagnosed with HBV infection or 1.7 million persons were on treatment, while 7.4% of those diagnosed with HCV infection or 1.1 million persons had started treatment.
- World Hepatitis Day 2018, on 28 July, focused on the theme “Test.Treat.Hepatitis
- National guidelines for Diagnosis & Management of Viral Hepatitis

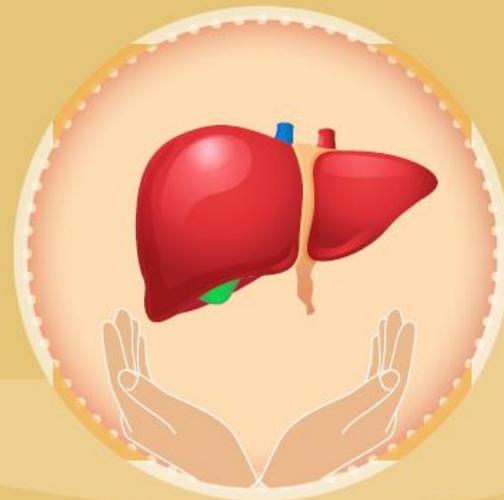


संस्कारे वाचते
Ministry of Health and Family Welfare
Government of India



National Guidelines for

Diagnosis & Management of Viral Hepatitis



2018

- “EARLY ADOPTER” COUNTRIES ARE ON THE ROAD TO ELIMINATING VIRAL HEPATITIS.
- First-line tests for the diagnosis of viral hepatitis are available for as little as US\$ 0.5.
- The most effective hepatitis B treatment – tenofovir – is available for US\$ 48 per year.
- Hepatitis C can be cured within 2–3 months with highly effective direct-acting antivirals (DAAs), and in some countries a full course of generic DAAs can be accessed for only US\$ 200.

UNDERSTANDING THE VIRAL HEPATITIS EPIDEMIC

- A LATENT PERIOD BETWEEN INFECTION AND DEATH
- Persons infected with HBV or HCV are usually unaware of their infection, as they do not have well-defined symptoms before complications emerge.
- The natural history of HBV and HCV infection progresses through three stages.
 - New infections
 - Chronic infection
 - Mortality

New infections

- After infection with HBV or HCV, a small subset of people may develop acute hepatitis.
- However, in most persons, this new infection goes unnoticed as it produces no symptoms.
- Incidence can be defined as the rate of occurrence of new infections.
- It measures the risk of contracting the infection and reflects transmission.

Chronic infection

- Some new infections can evolve into chronic infections while others evolve towards spontaneous clearance of the virus.
- The risk of developing chronic infection with HBV is highest among children, whereas infection with HCV becomes chronic in most infected persons.
- A person may be infected with HBV or HCV for as long as 30 years or more before they develop any clinical symptoms of disease
- Unless persons are tested and diagnosed, they are not aware of their disease
- However, hidden inflammation progresses in the liver

Mortality

- Untreated chronic viral hepatitis can progress to life-threatening complications.
- Depending on life expectancy, 20% or more of those with chronic infection develop end-stage chronic liver disease, such as cirrhosis or hepatocellular carcinoma.
- Cofactors (e.g. alcohol, HIV infection) can accelerate progression towards end-stage liver disease.
- Cirrhosis and hepatocellular carcinoma are life-threatening conditions.

ELIMINATING VIRAL HEPATITIS AS A PUBLIC HEALTH THREAT

- In 2016, the World Health Assembly approved a global strategy to achieve elimination of this public health threat by 2030
- To do this, and starting from the 2015 baseline, countries and regions need to
 - Reduce new infections (incidence) by 90% and
 - Reduce deaths (mortality) by 65% by 2030.

WHAT SURVEILLANCE SYSTEMS ARE NEEDED TO GUIDE AND DOCUMENT ELIMINATION?

- **Surveillance for acute hepatitis, which reflects new infections**
- **Biomarker surveys to estimate the prevalence of chronic infection**
- **Reliable mortality monitoring**

INTERVENTIONS FOR IMPACT: EXPANDING PREVENTION, TESTING AND TREATMENT

Key findings on Prevention

- In 2015, global coverage with the third dose of hepatitis B vaccine reached 84%, but the European, Eastern Mediterranean and African regions faced coverage gaps.
 - In 2015, the global coverage with the birth dose of hepatitis B vaccine was 39%. The Region of the Americas and Western Pacific Region were the only regions that had wide coverage.
- Worldwide, in 2013, 97% of countries screened blood donations with quality assurance, but gaps persist.

INTERVENTIONS FOR IMPACT: EXPANDING PREVENTION, TESTING AND TREATMENT

- Unsafe injections decreased from 39% in 2000 to 5% in 2010 worldwide. However, in the Eastern Mediterranean and South-East Asia regions, needles and syringes were frequently reused without being sterilized.
- Harm reduction for persons who inject drugs falls short of the target of the GHSS on viral hepatitis, with on average globally only 27 syringe and needle sets distributed per person who injects drugs each year, as compared with a 2030 target of 300.

TESTING IN 2015

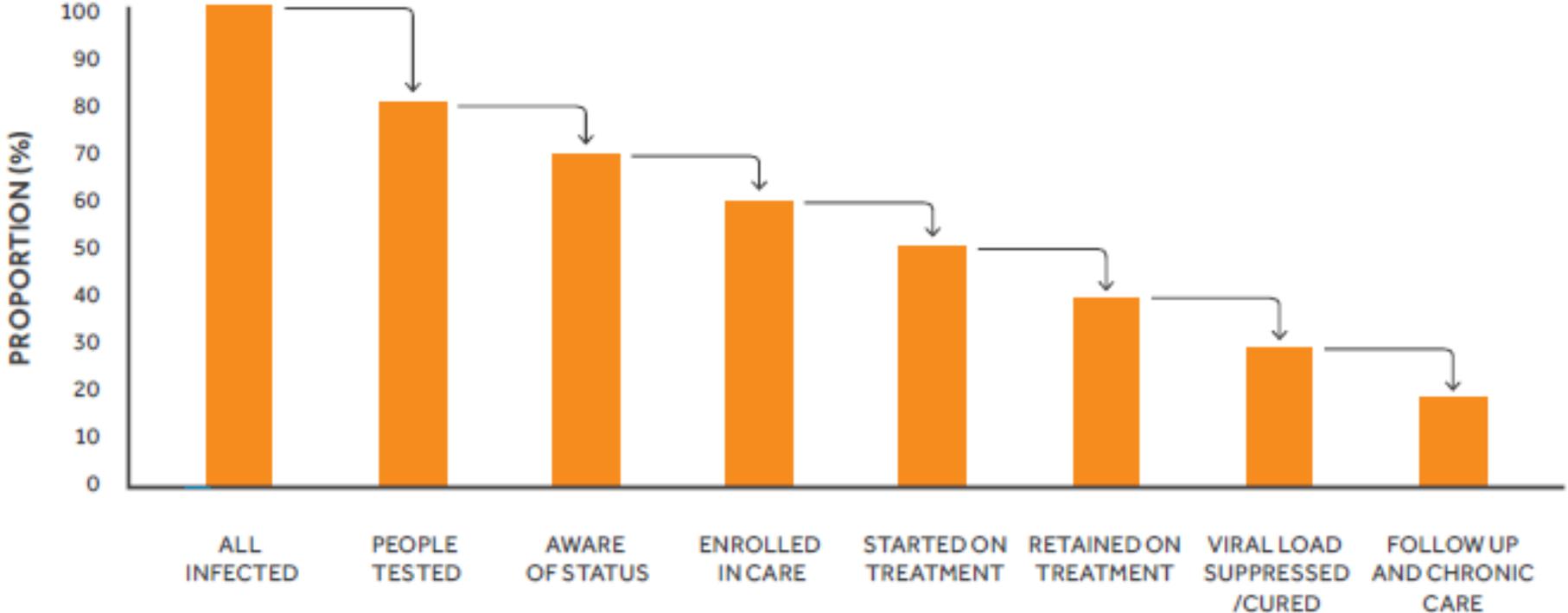
- Only a minority of those infected with HBV and HCV had been tested and knew their status: 9% of persons living with HBV (22 million) and 20% of persons living with HCV (14 million).

TREATMENT IN 2015

- Of those diagnosed with HBV infection, the proportion on treatment with WHO-recommended antivirals did not exceed 8% (1.7 million persons).
- Among people diagnosed with chronic HCV infection, 7% started treatment in 2015 (1.1 million persons).

As of 2015, a cumulative total of 5.5 million people with chronic HCV had ever received treatment, but the majority of these treatments were older, less effective interferon-based regimens

Fig. 3. The continuum of viral hepatitis services and the retention cascade



CONTINUUM OF SERVICES – CASCADE OF CARE



Service coverage indicators for the core interventions of the Global Health Sector Strategy (GHSS) on viral hepatitis: 2015 baseline and targets

Interventions	Indicator	2015 baseline	Targets		
			2020	2030	
1 Hepatitis B vaccination	HEPB3 coverage	84%	90%	90%	
2 HBV PMTCT ^a	HEP vaccine birth dose coverage	39%	50%	90%	
3 Blood safety	Donations screened with quality assurance	97%	95%	100%	
	Injection safety	Proportion of unsafe injections	5%	0%	0%
4 Harm reduction	Syringes & needles distributed/PWID/year	27	200	300	
5 Testing services	% HBV-infected diagnosed	9%	30%	90%	
	% HCV-infected diagnosed	20%	30%	90%	
Treatment	% diagnosed with HBV on treatment	8% ^b	— ^c	80% ^d	
	% diagnosed with HCV started on treatment	7% ^b	— ^c	80% ^d	

THE ROAD TO ELIMINATION BY 2030 REQUIRES A COMPREHENSIVE PUBLIC HEALTH APPROACH TAKEN TO SCALE.

1. Strategic information system.
2. Service coverage of testing and treatment needs to be rapidly scaled up.
3. Hepatitis services need to be delivered through a public health approach to benefit all.
4. Sustainable financing is required
5. Innovations are necessary;



12 – Diagnosis of hepatitis can be made with oral fluids, without a blood test.



13 – Most medicines for HBV or HCV infection can be administered orally.
