

Global Cascade of Care for HBV and HCV

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On behalf of the Polaris Observatory Collaborators

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Conflict of Interest Statement

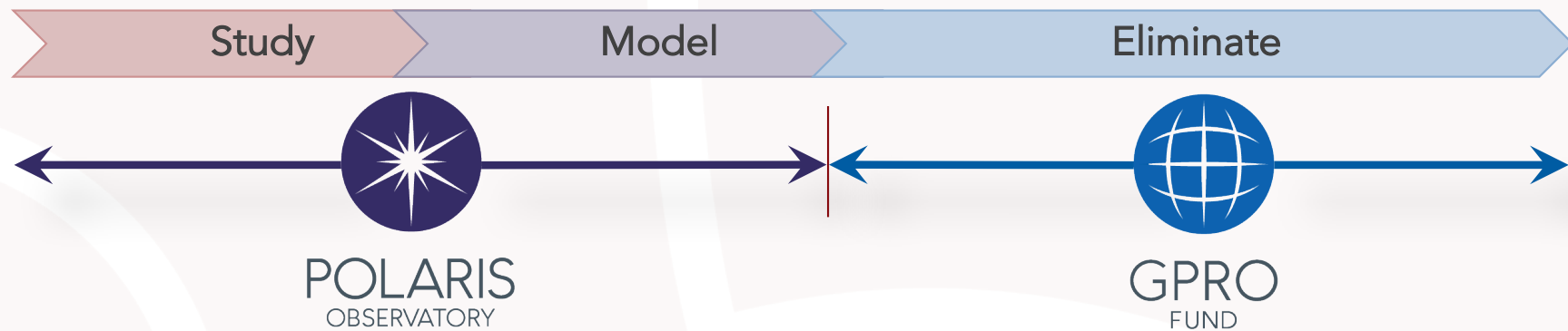
- H. Razavi has not received any remuneration from pharmaceutical companies.
- He has been a member of advisory boards for Gilead and AbbVie. All proceeds went to CDA Foundation.
- He is the managing director of Center for Disease Analysis (CDA).
- CDA Foundation has received grants from CDC Foundation, John C Martin Foundation, The Association of State and Territorial Health Officials (ASTHO), Zeshan Foundation, Vaccine Impact Modeling Consortium, WHO WPRO, WHO Geneva, Swiss Federal Office of Public Health, Brazil MoH, Center for Disease Analysis, and private donors.
- CDA has received research funding from Gilead Sciences, AbbVie, & Intercept Pharma.

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CDAF is a non-profit organization with the goal of assisting countries in achieving the 2030 hepatitis elimination targets.



We work to *study, model & eliminate* hepatitis. We accomplish this through our two major initiatives:



Provide collaborators with epidemiological data, modeling tools, training and decision analytics to support eliminating Hepatitis B and C globally by 2030.

Improve access to medicines and diagnostics, and develop scalable, sustainable funding mechanisms for low and middle-income (LMIC) countries. Provide optimized hepatitis elimination programs.

The Polaris Observatory keeps track of how countries are progressing toward hepatitis elimination targets.



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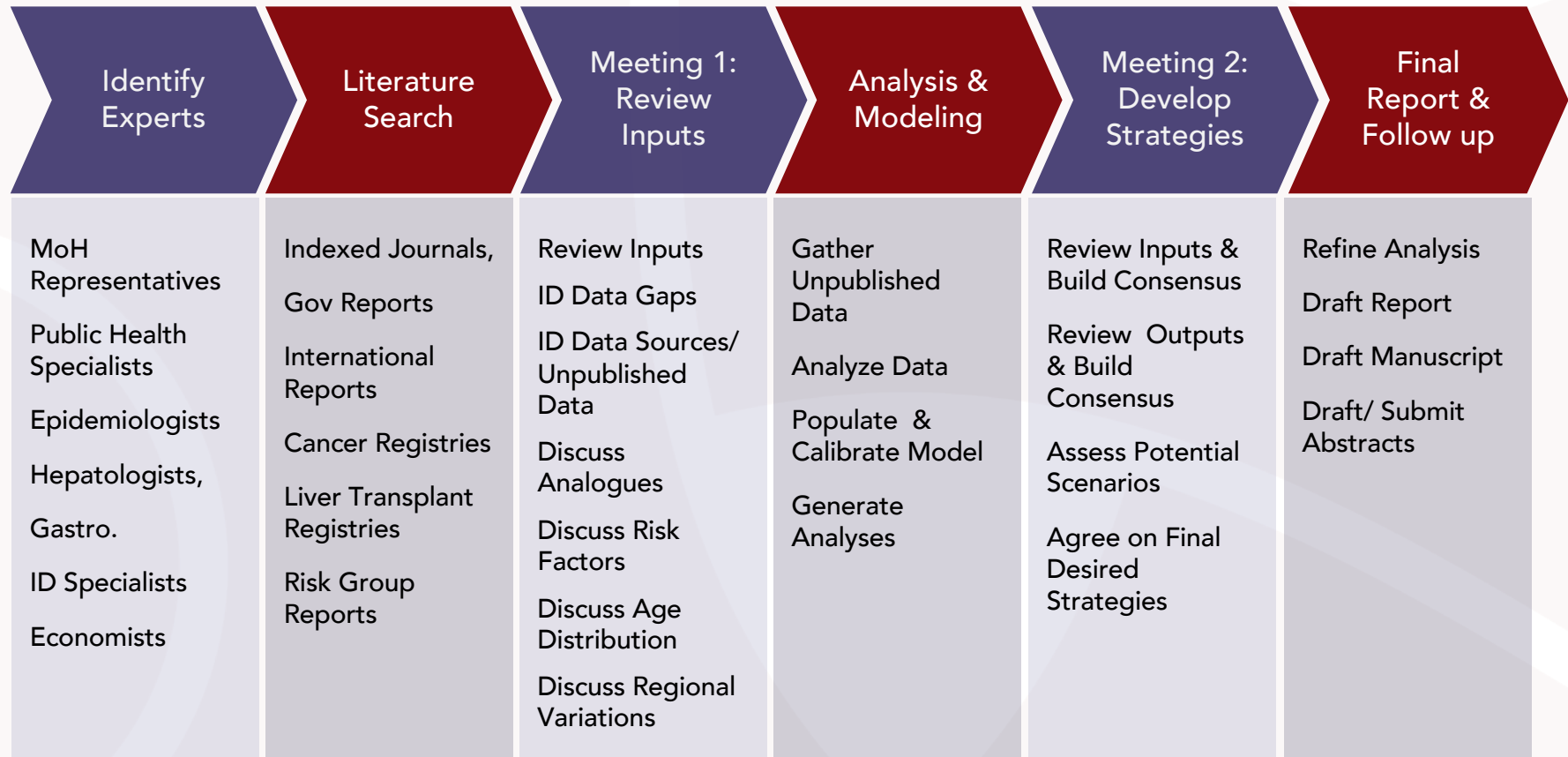
[INTRO](#)

[HEPATITIS C](#)

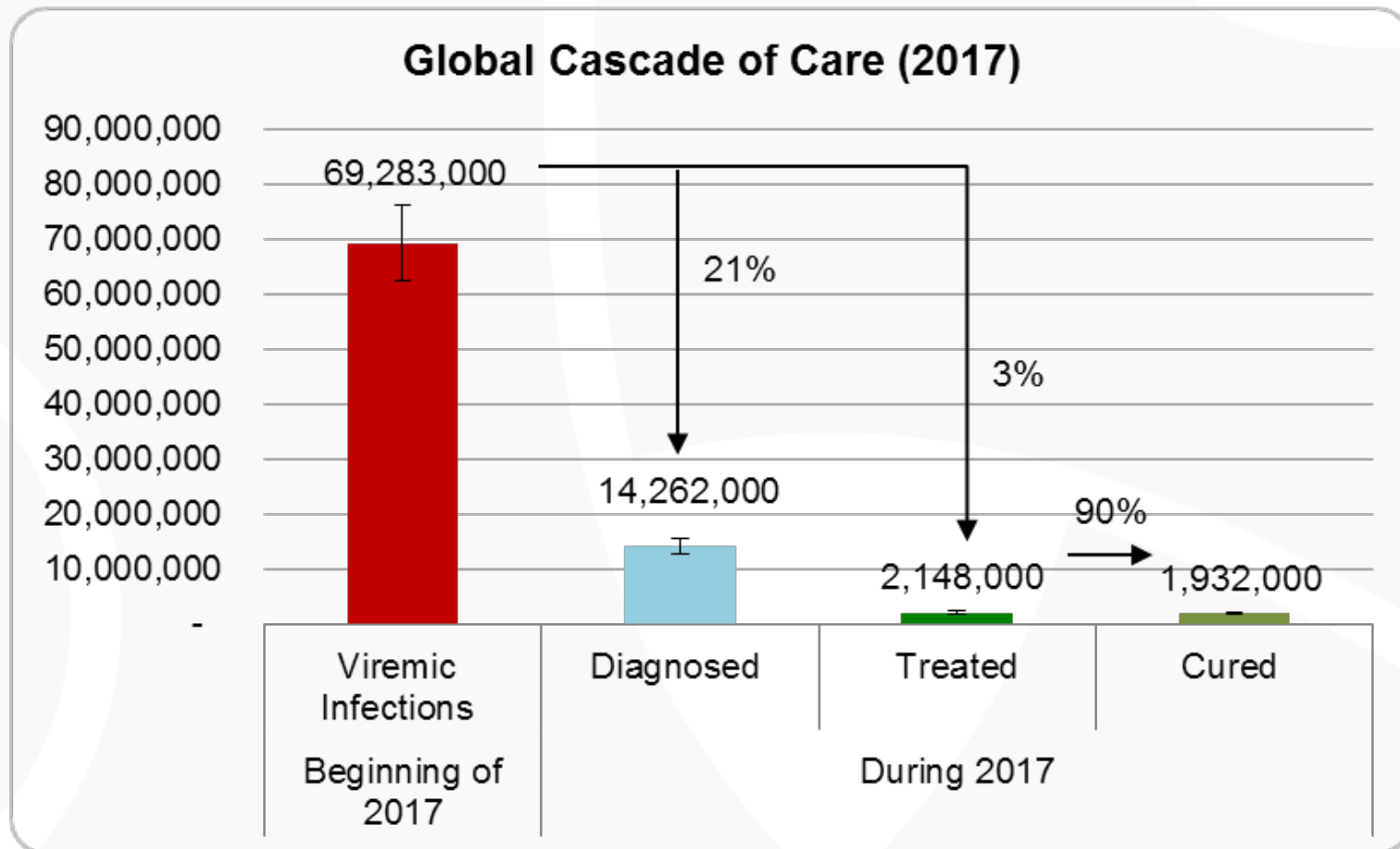
[HEPATITIS B](#)

[HEPATITIS D](#)

A modified Delphi process is used to develop consensus estimates for all inputs.

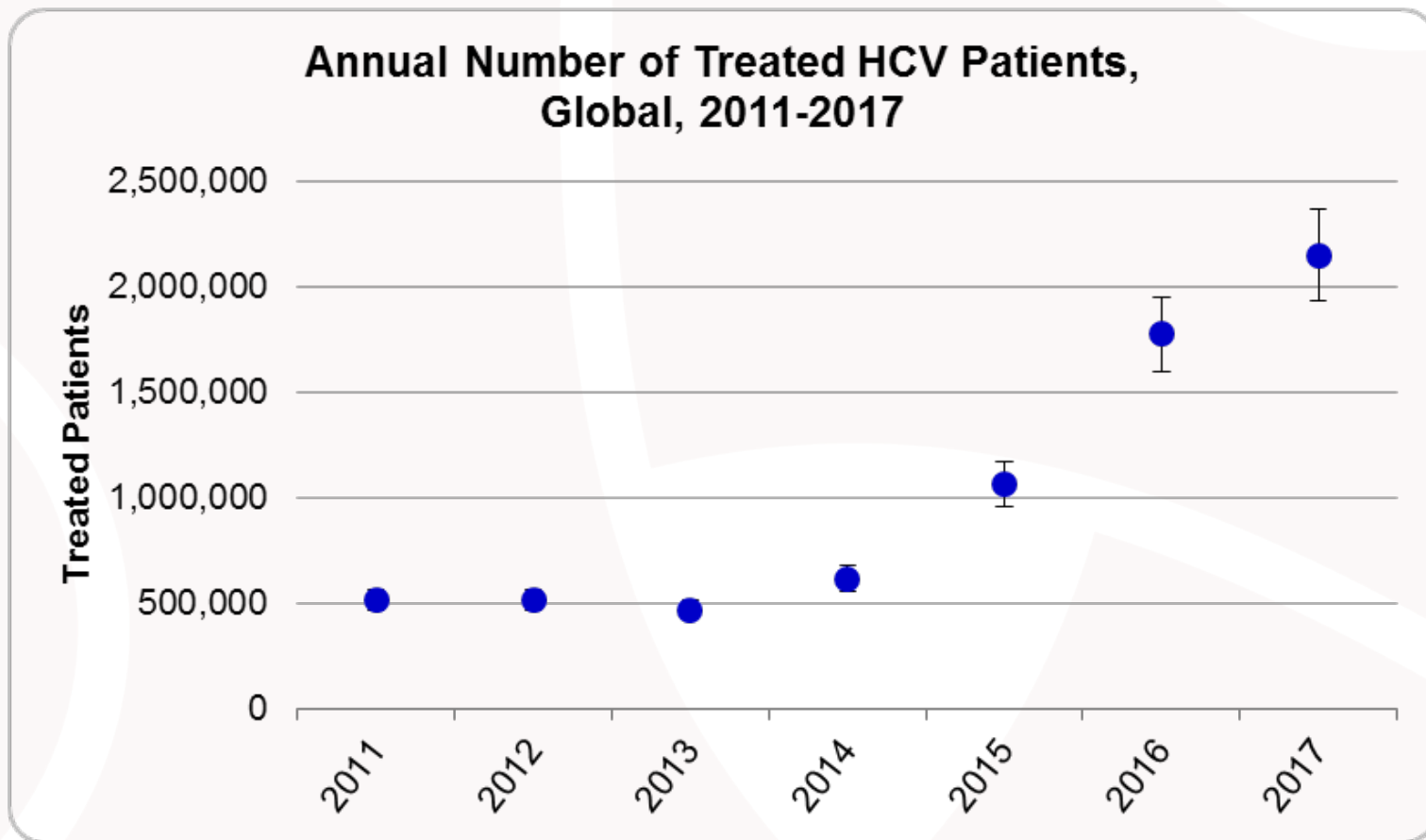


Globally, ~80% of the HCV infected population remains undiagnosed and 93% remain untreated.

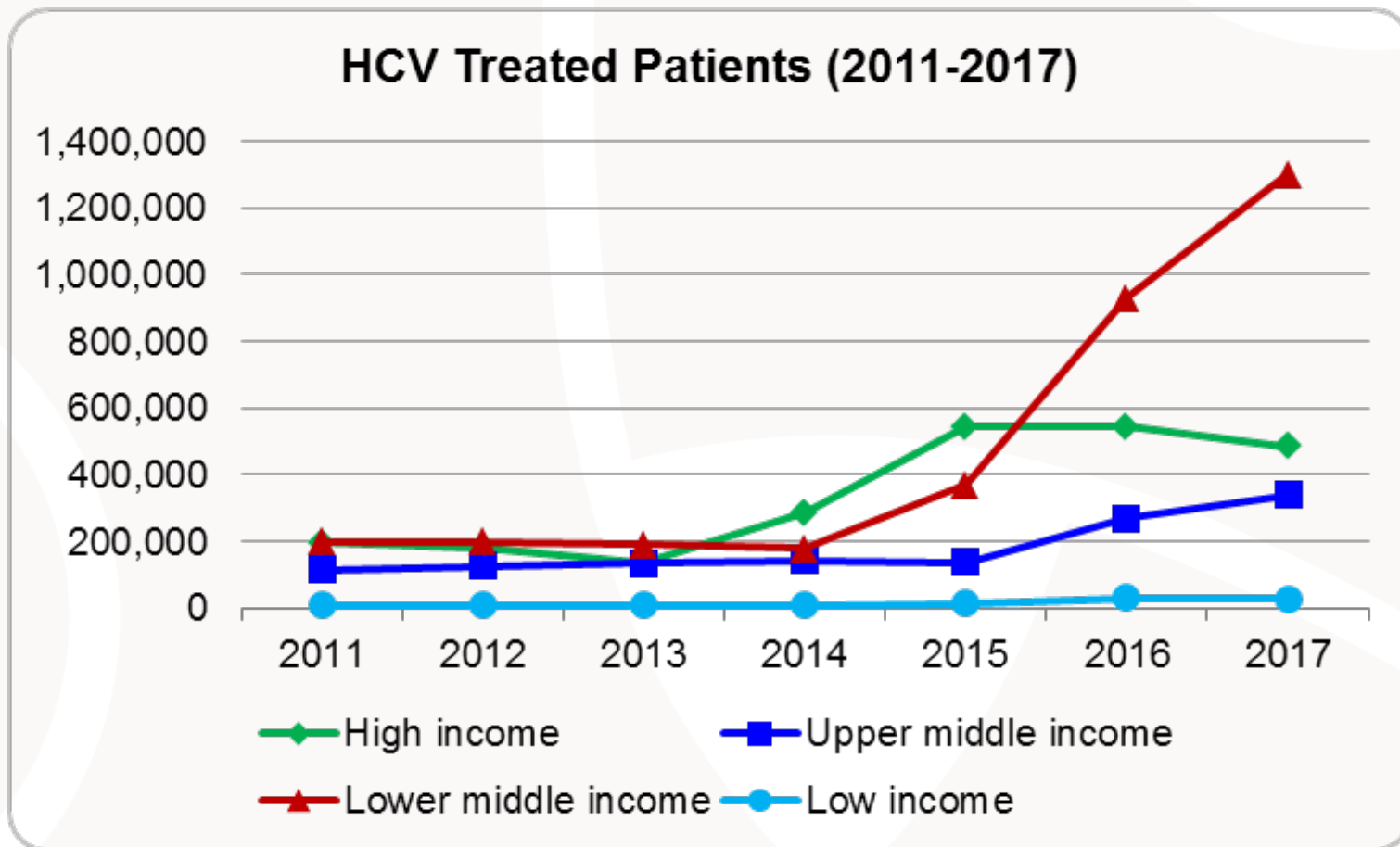




The good news: HCV treatment is increasing over time.



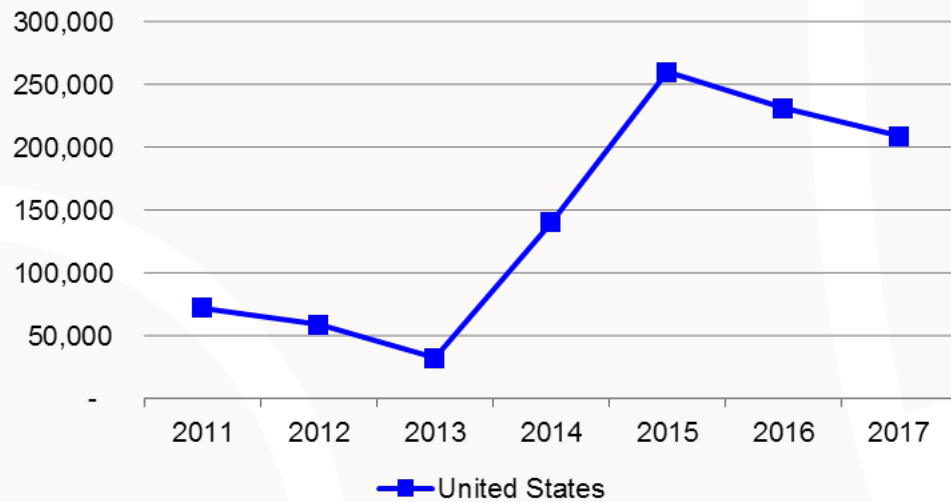
The bad news: Most of the increase in treatment has been occurring in middle-income countries.



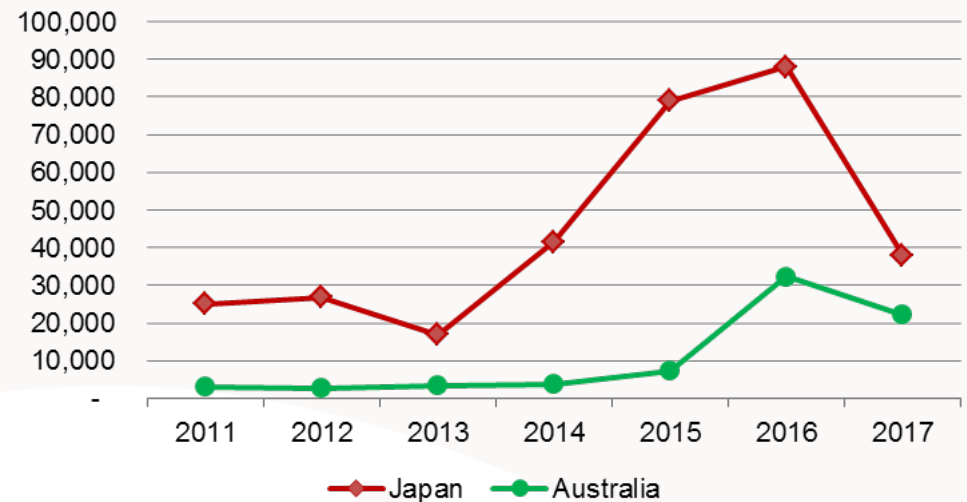
The number of treated patients is decreasing in high-income countries as the pool of diagnosed & under-care patients is depleted.



HCV Treated Patients (2011-2017)



HCV Treated Patients (2011-2017)

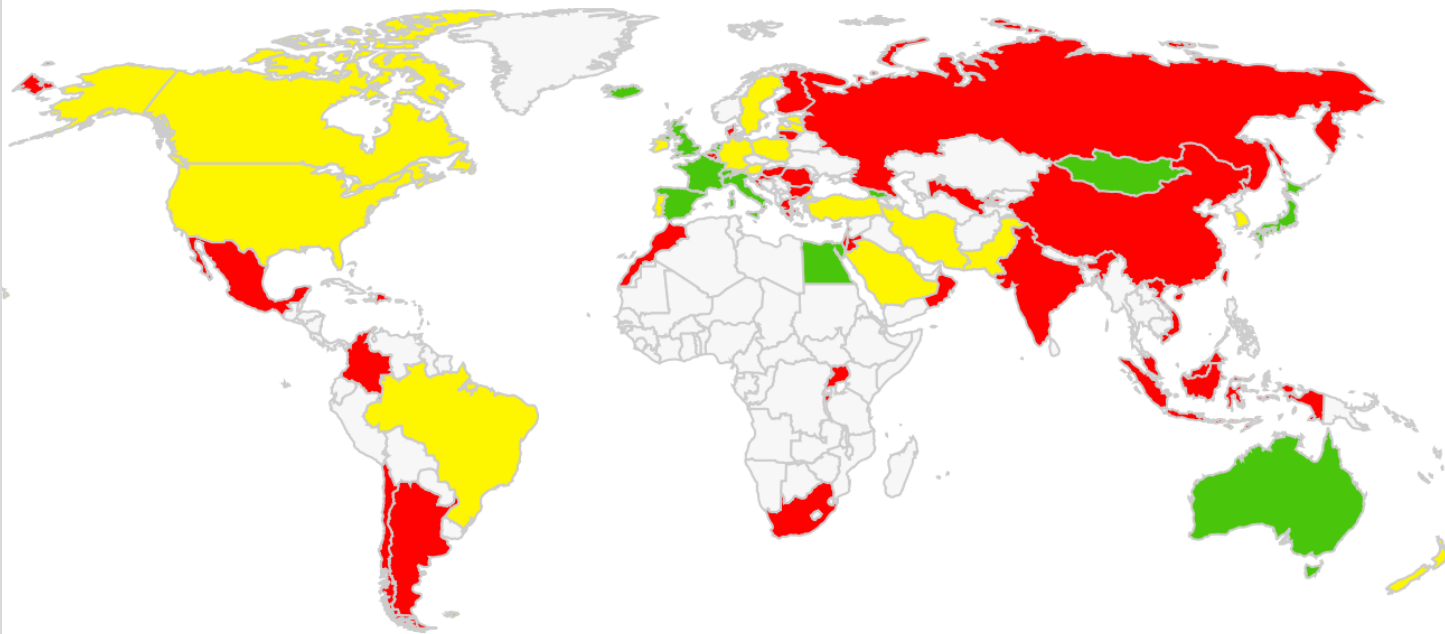


In 2017, we estimate there were 12 countries on the path to achieving the WHO 2030 elimination targets.



HCV Elimination Targets

2017



● On Track ● Working Towards ● Not On Track

Australia

Egypt

France

Georgia

Iceland

Italy

Japan

Mongolia

Netherlands

Spain

Switzerland

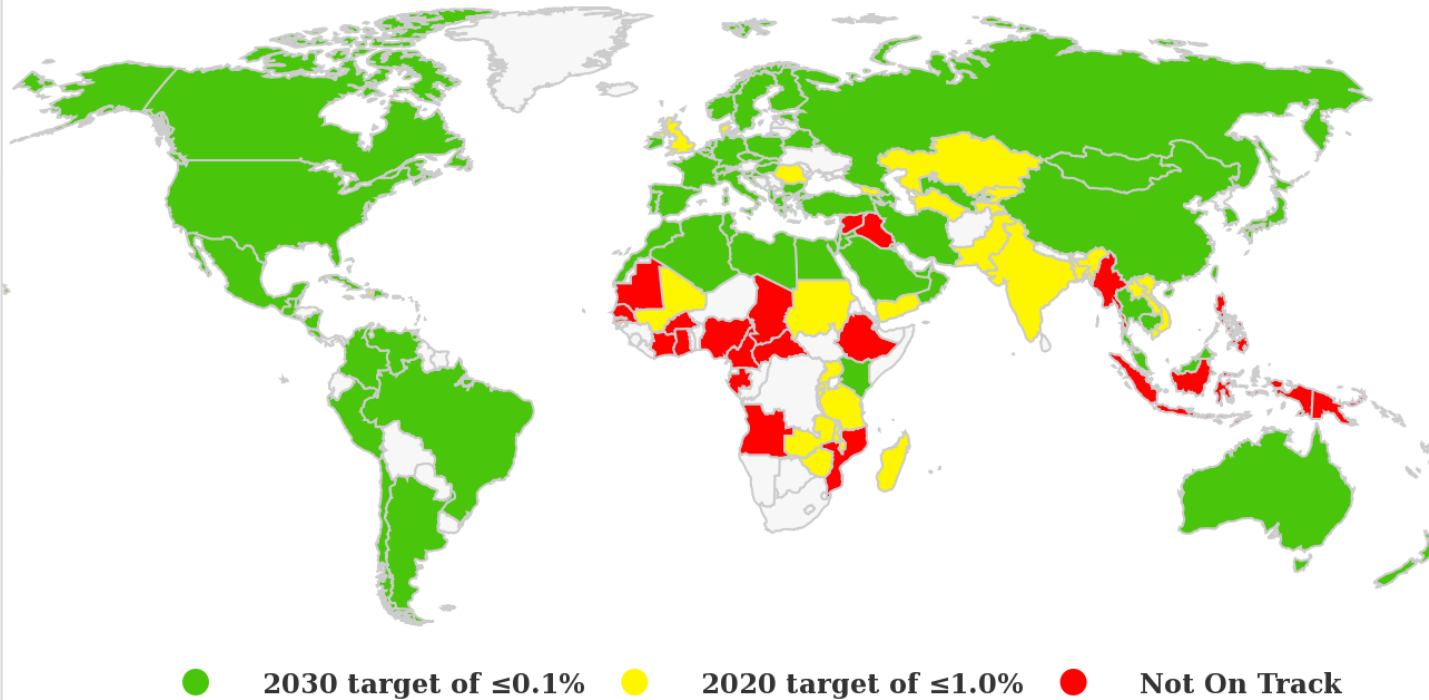
UK

In contrast, only 20 countries will not make the 2030 and 2020 targets for HBV prevalence among 5 year olds.



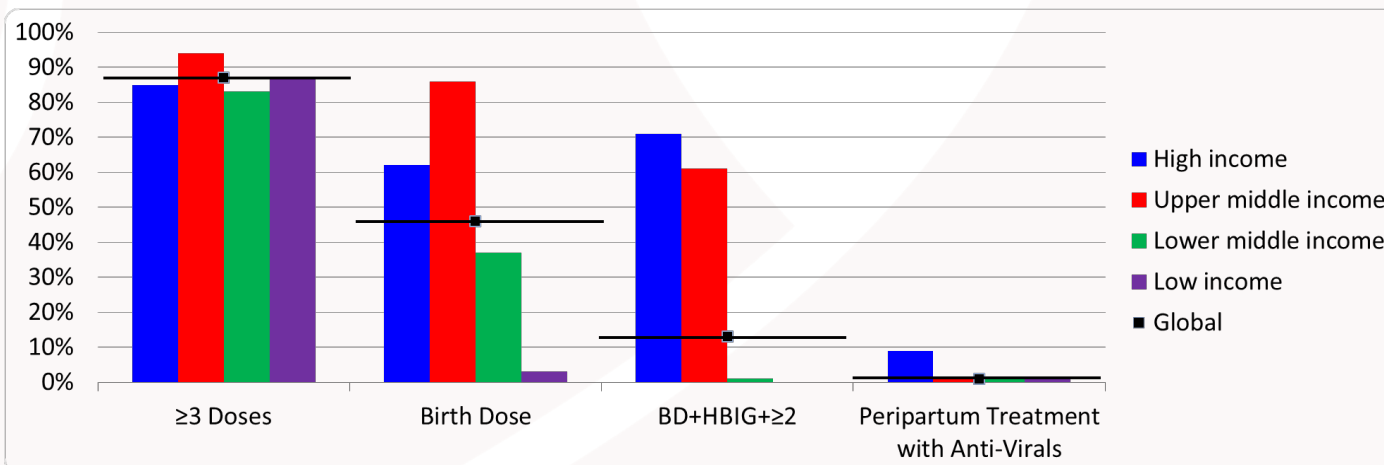
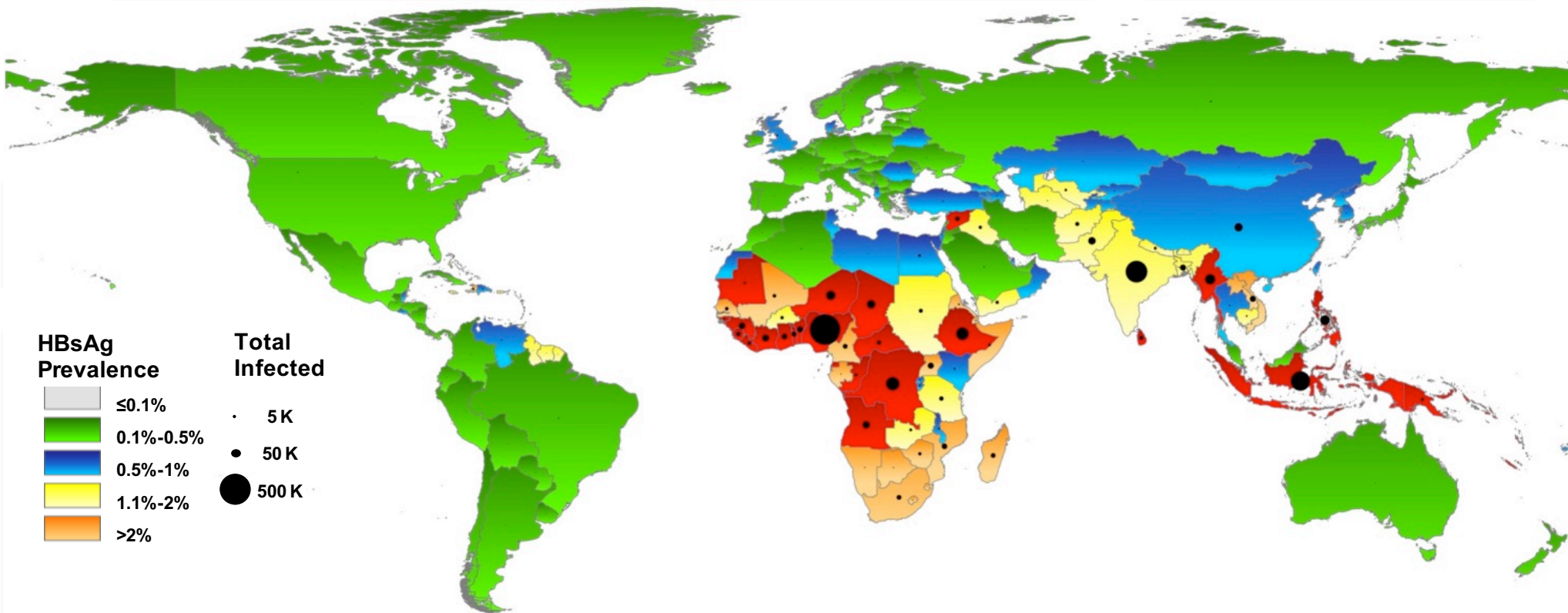
HBV 5 Year Old HBsAg Prevalence Elimination Targets

2017

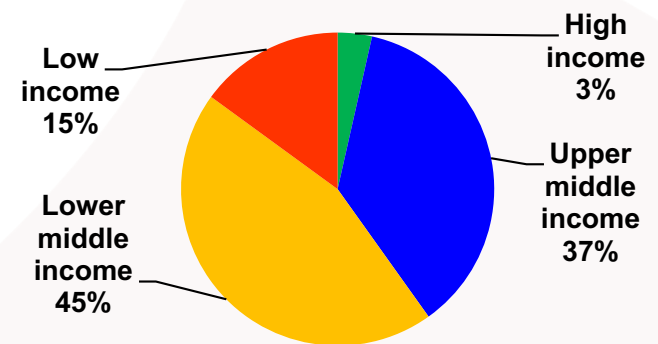
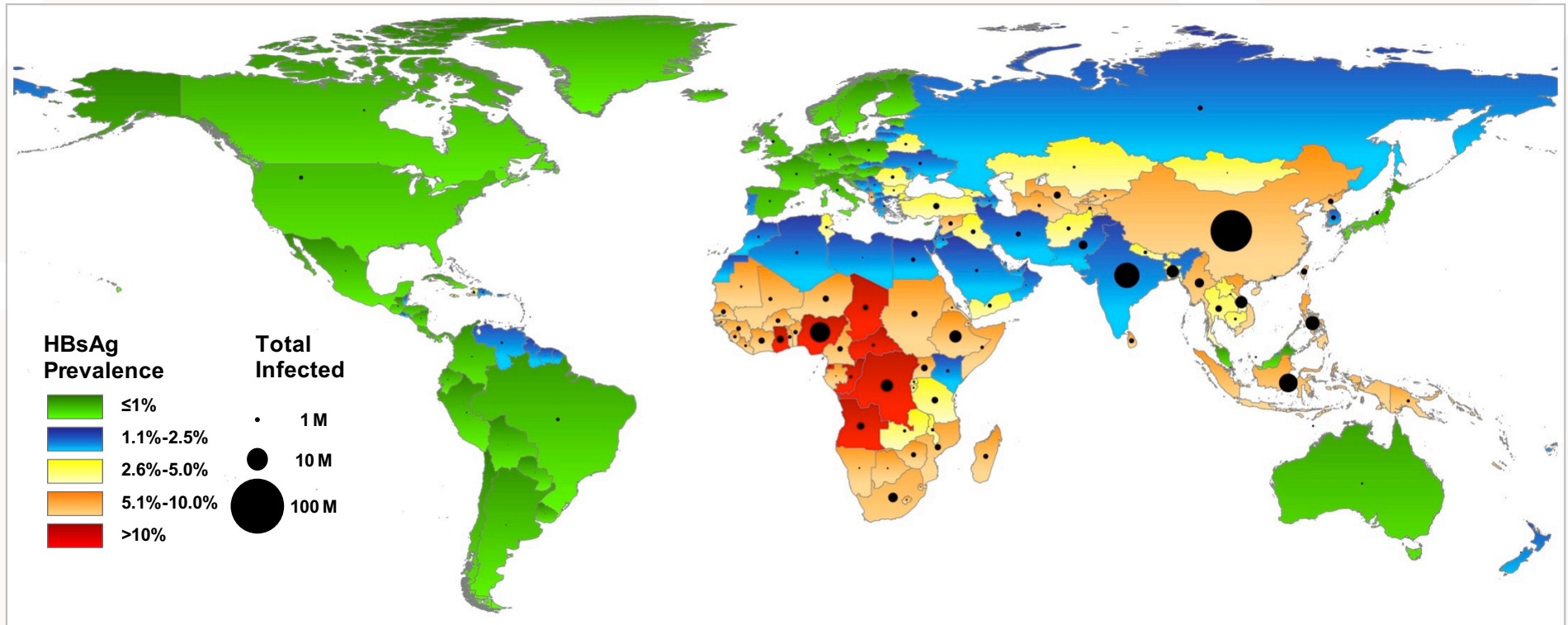


- Angola
- Burkina Faso
- Cameroon
- Central African Republic
- Chad
- Côte d'Ivoire
- Ethiopia
- Gabon
- Ghana
- Indonesia
- Iraq
- Kiribati
- Mauritania
- Mozambique
- Myanmar
- Nigeria
- Papua New Guinea
- Philippines
- Senegal
- Syrian Arab Republic

Despite our progress, 1.8 million (1.6–2.2 million) 5-year olds were HBsAg+; prevalence of 1.4% (1.2%–1.6%) in 2016.

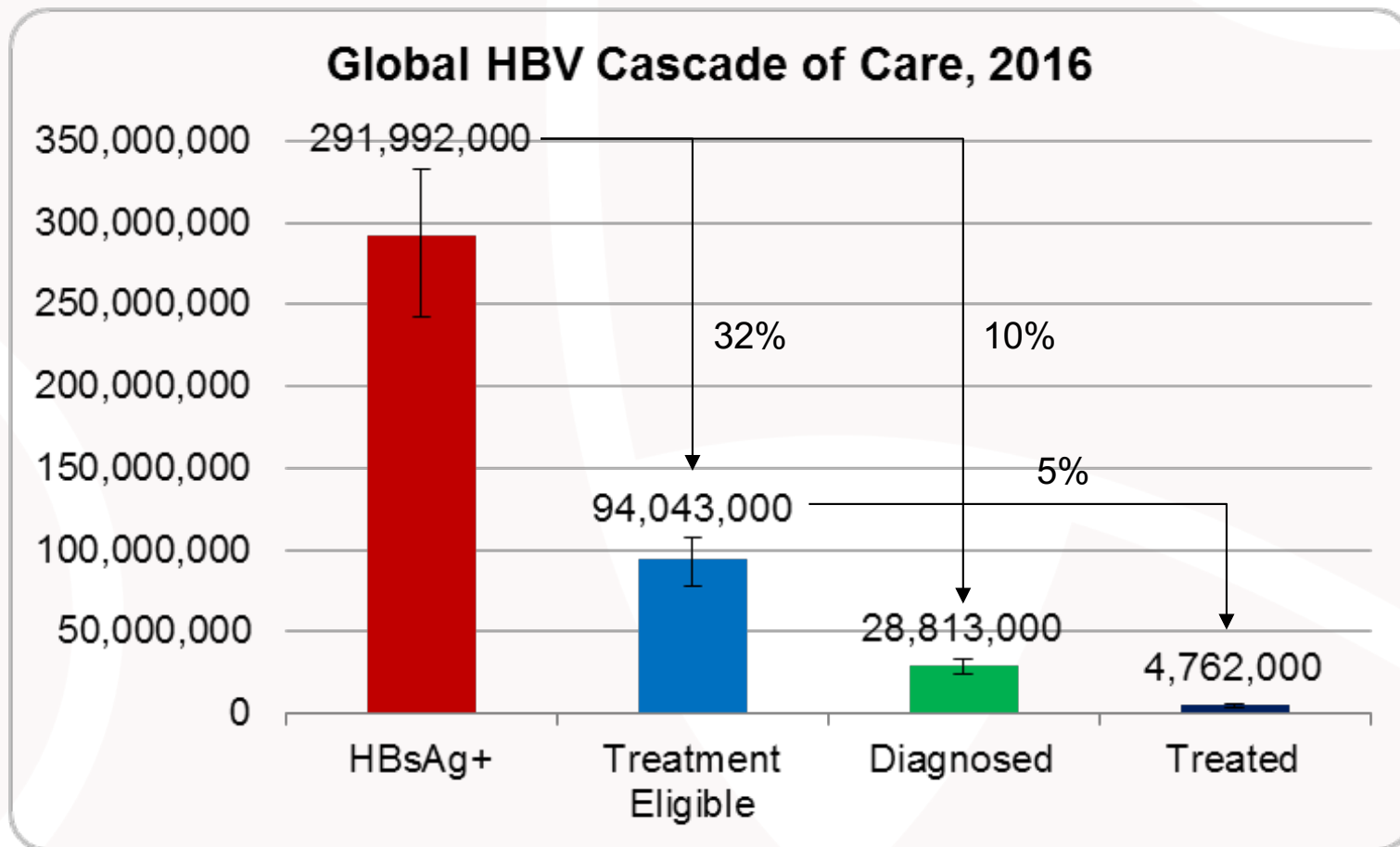


An estimated 292 million (252–341 million) individuals were HBsAg+ with an overall prevalence of 3.9% (3.4 – 4.6%) in 2016.



Razavi-Shearer D, et al. Global prevalence, treatment, and prevention of hepatitis B virus infection in 2016: a modelling study. *The Lancet Gastroenterology & Hepatology* 2018; 3(6): 383-403.

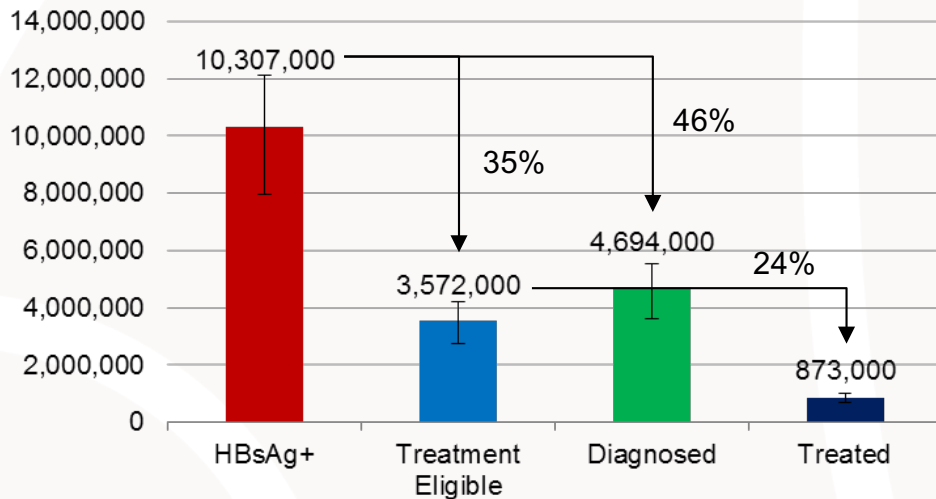
90% of HBV patients remain undiagnosed, and 95% of treatment eligible patients remain untreated.



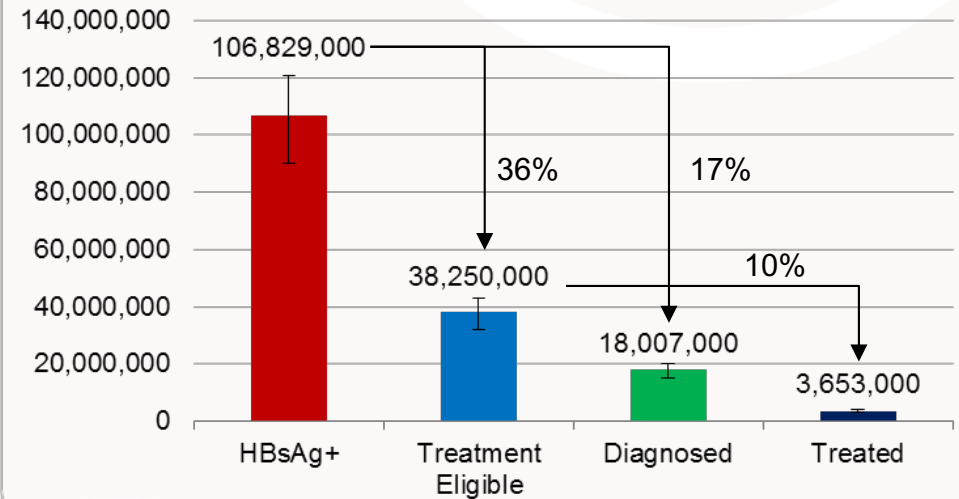


The diagnosed and treatment rates drop with country income.

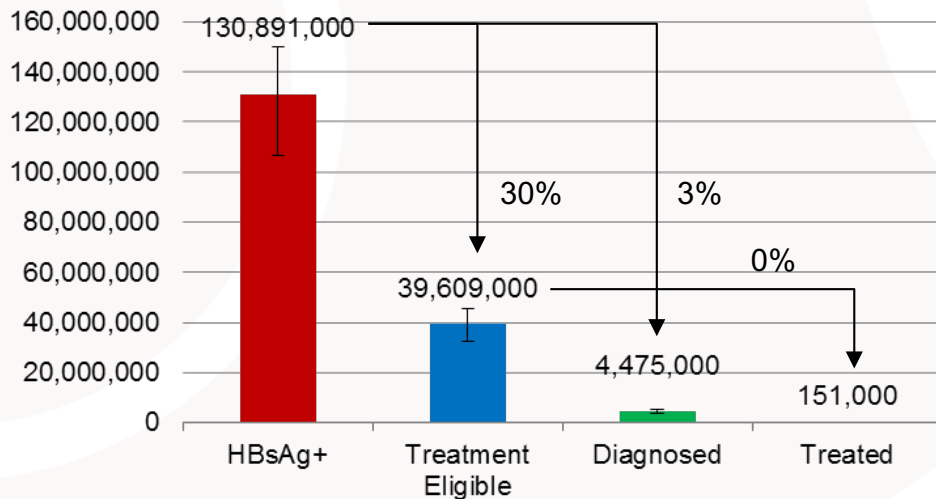
High Income HBV Cascade of Care, 2016



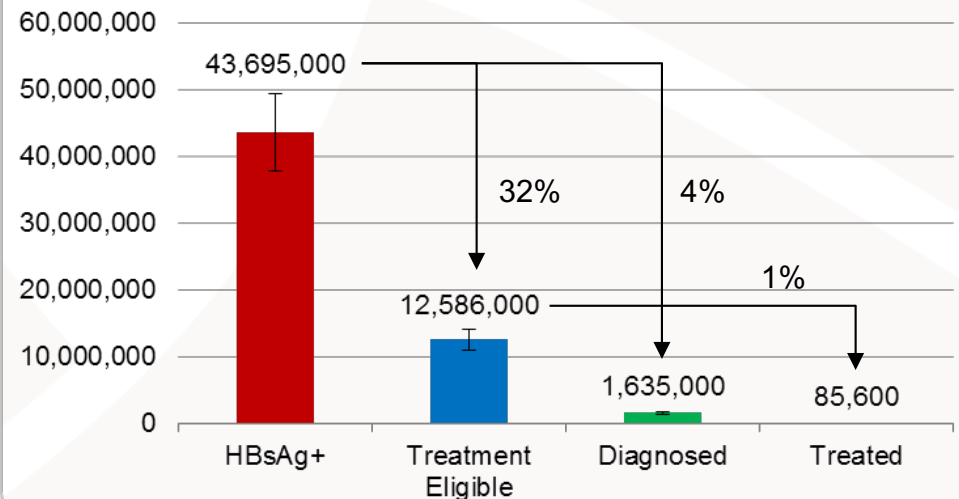
Upper Middle Income HBV Cascade of Care, 2016



Lower Middle Income HBV Cascade of Care, 2016



Low Income HBV Cascade of Care, 2016



Source: Polaris Observatory



Conclusions

- The global HCV and HBV populations remain largely under-diagnosed and under-treated
- The global number of HCV treated patients is increasing
- The number of treated HCV patients in high-income countries is decreasing as pools of diagnosed under-care patients are depleted
- HBV prophylaxis (BD, HBIG, antiviral) remains low in low income countries
- Treatment of HBV remains less than 1% in low and lower-middle income countries