3e édition

AFRAMED

VIH / HÉPATITES

CASABLANCA

du 27 au 29 | sept 2019

Accès au traitement de l'hépatite virale B et C dans les pays à faibles ressources

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Hépatologie
CHU Mustapha
Alger

INTRODUCTION

69 ème assemblée ONU : Élimination des Hépatites en 2030
Pour les pays à faibles ressources : Objectif reste théorique

1- Le volet préventif
2- L'étape diagnostique
3- Le traitement par le générique

Les approches sont complètements différentes
1-VHB
2-VHC

United Nations General Assembly. Transforming our world: the 2030 Agenda for Sustainable Development. 2015.

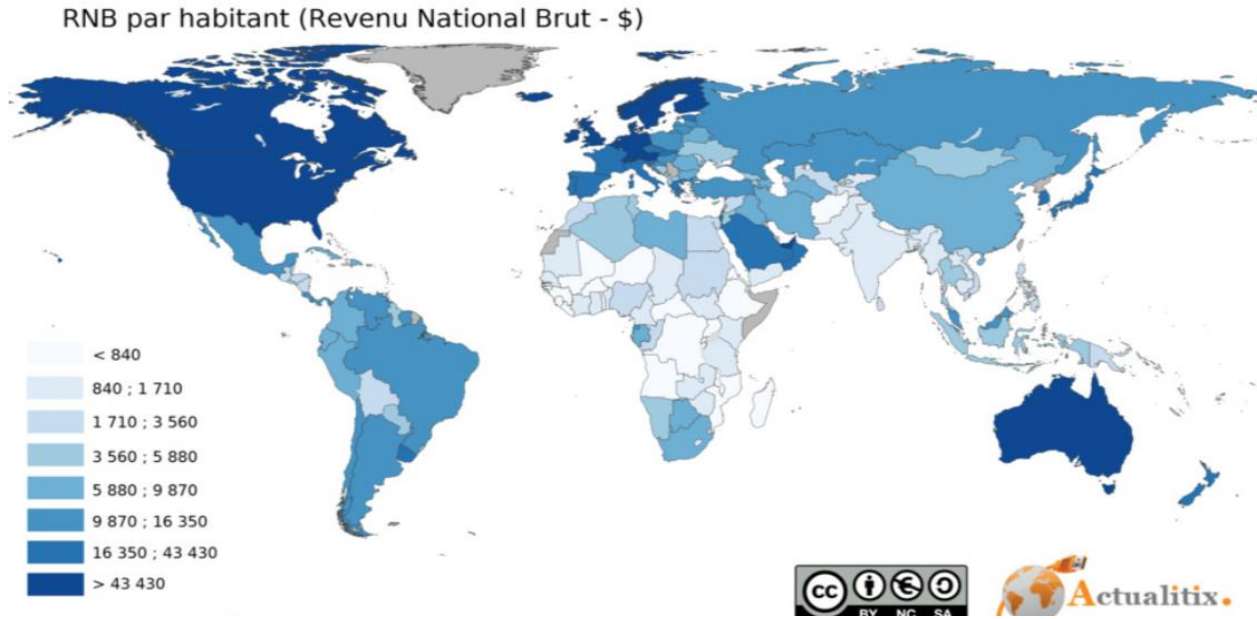
Target areas			Baseline 2015	2020 target	2030 target
Service coverage	Prevention	1 Three-dose hepatitis B vaccine for infants (coverage %)	82%	90%	90%
		2 Prevention of mother-to-child transmission of HBV: hepatitis B birth-dose vaccination or other approaches (coverage %)	38%	50%	90%
		3 Blood and injection safety (coverage %) — Blood safety: donations screened with quality assurance	89%	95%	100%
		3 Blood and injection safety (coverage %) — Injection safety: use of engineered devices	5%	50%	90%
		4 Harm reduction (sterile syringe/needle set distributed per person per year for people who inject drugs [PWID])	20	200	300
	5 Treatment	5a. Diagnosis of HBV and HCV (coverage %)	<5%	30%	90%
		5b. Treatment of HBV and HCV (coverage %)	<1%	5 million (HBV) 3 million (HCV)	80% eligible treated
Impact leading to elimination	Incidence of chronic HBV and HCV infections		6–10 million	30% reduction	90% reduction
	Mortality from chronic HBV and HCV infections		1.46 million	10% reduction	65% reduction

Service coverage targets that would eliminate HBV and HCV as public health threats, 2015–2030

Les Pays à faibles ressources

Les pays à faible revenu : pays dont le revenu national brut annuel par habitant est inférieur à 995 dollars ($ US) ;
Les pays à revenu intermédiaire : pays dont le revenu national brut annuel par habitant est entre 996 dollars et 12 055 dollars ($ US).
Les pays à revenu élevé : pays dont le revenu national brut annuel par habitant est supérieur à 12 055 dollars ($ US).

58 pays
3,2 milliards



Source Worldbank.org

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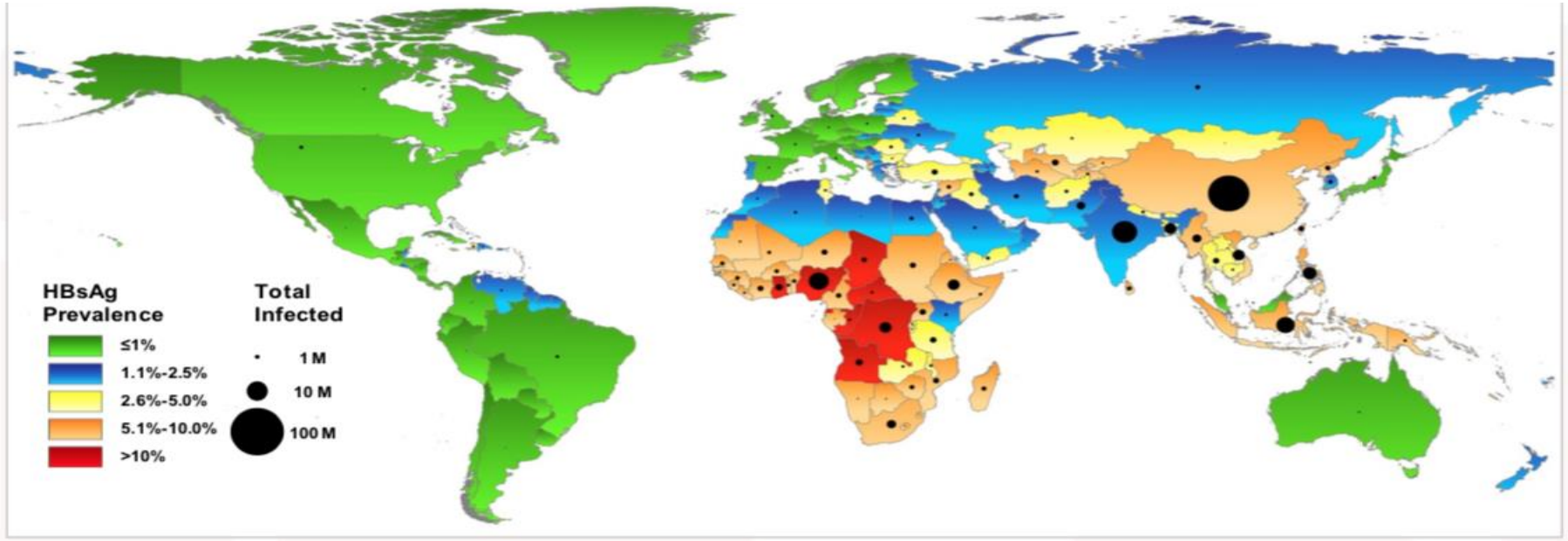
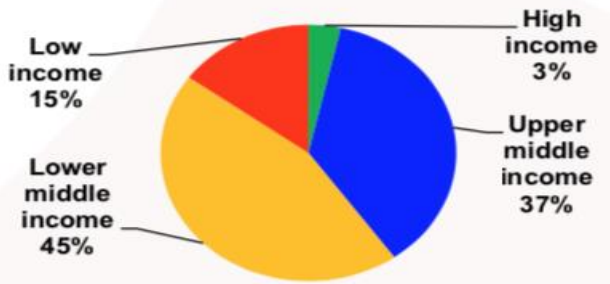
VHB

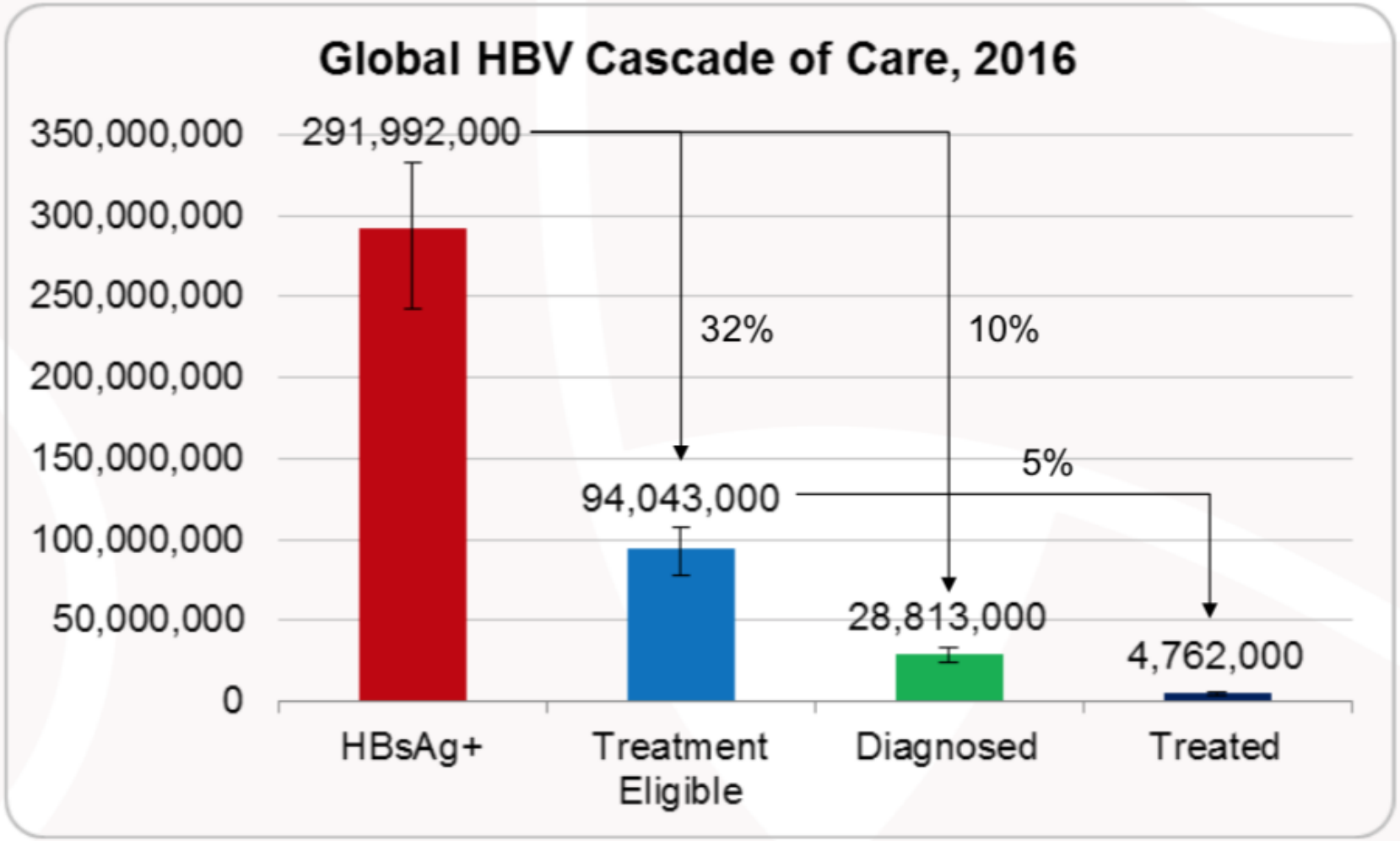
Global prevalence, treatment, and prevention of hepatitis B virus infection in 2016: a modelling study

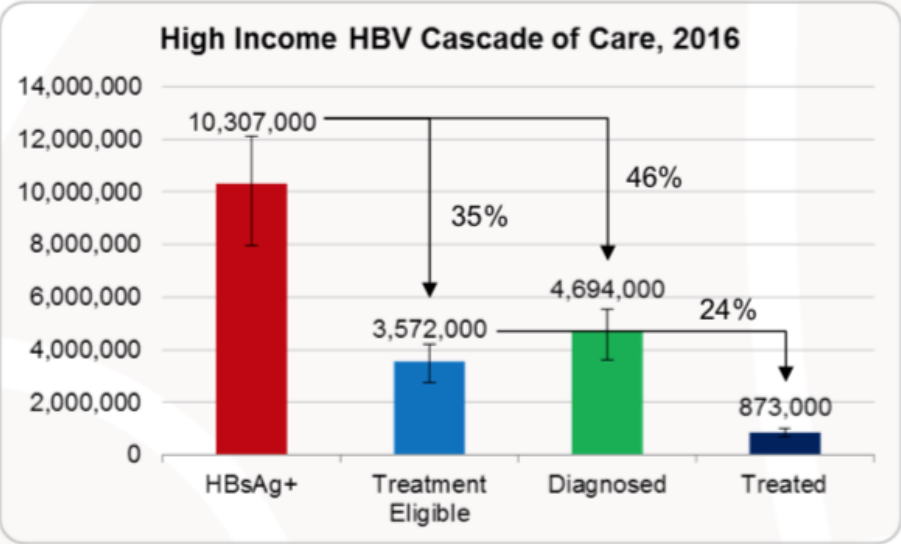
*The Polaris Observatory Collaborators**

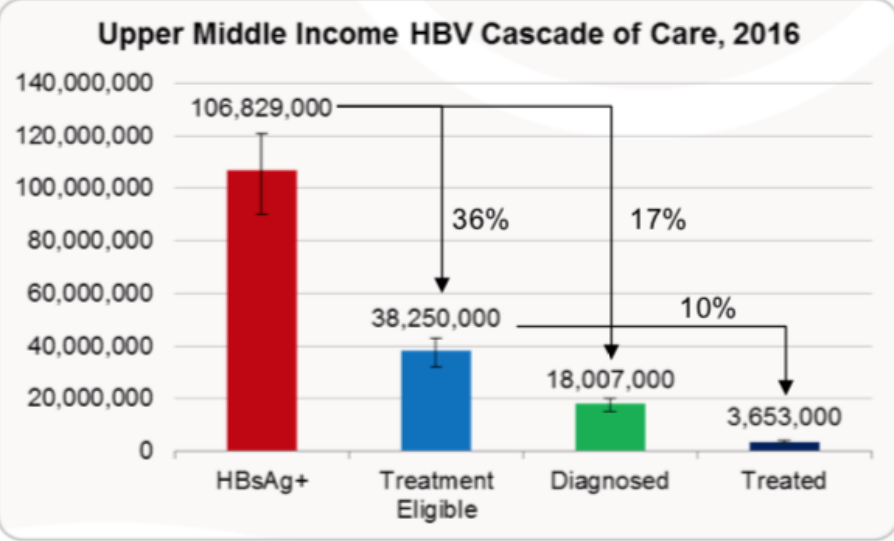


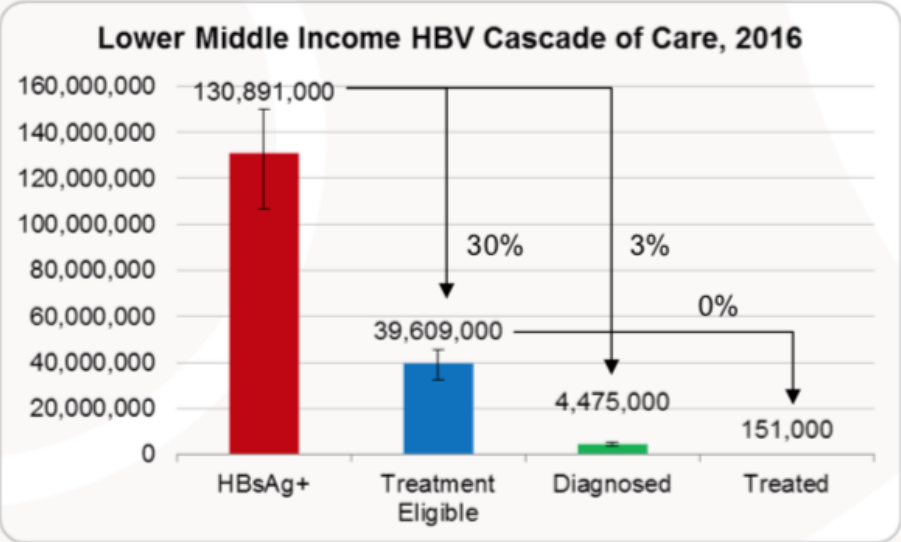


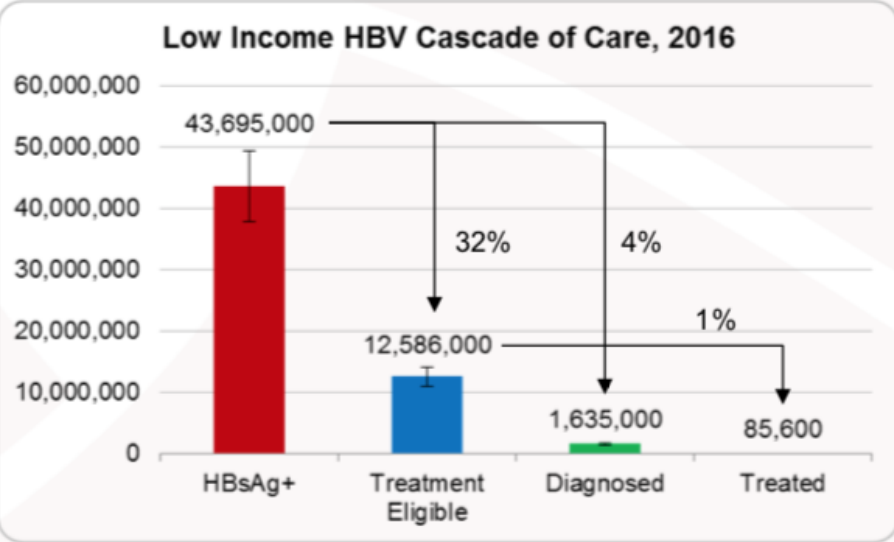
www.thelancet.com/gastrohep PublishedonlineMarch26,2018 http://dx.doi.org/10.1016/S2468-1253(18)30056-6


Global HBV Cascade of Care, 2016
350,000,000
300,000,000
250,000,000
200,000,000
150,000,000
100,000,000
50,000,000
0
291,992,000
94,043,000
28,813,000
4,762,000
32%
10%
5%
HBsAg+
Treatment Eligible
Diagnosed
Treated

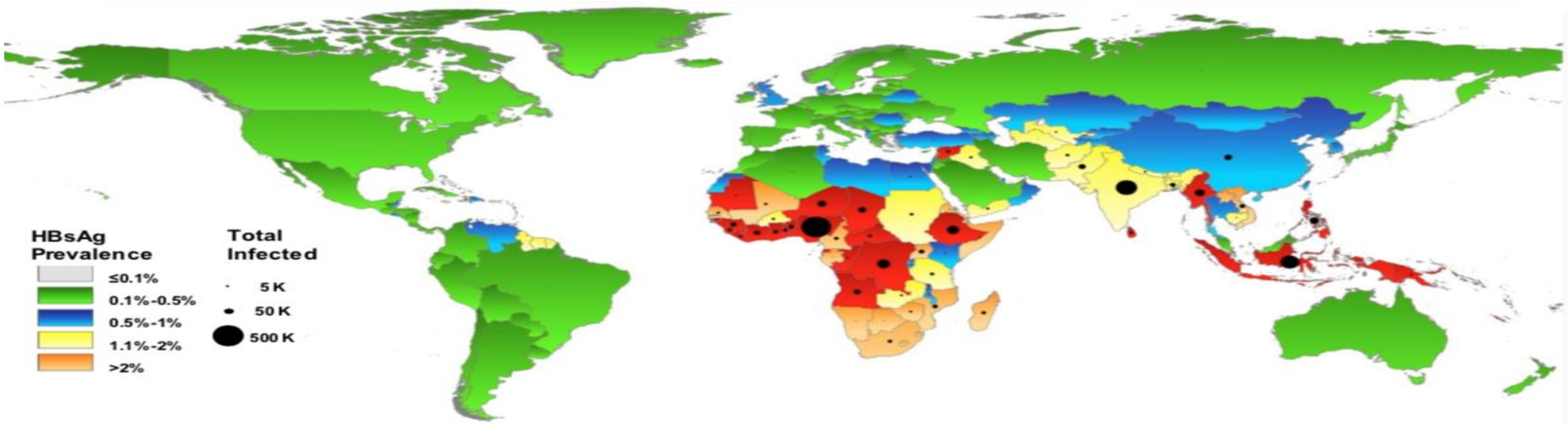


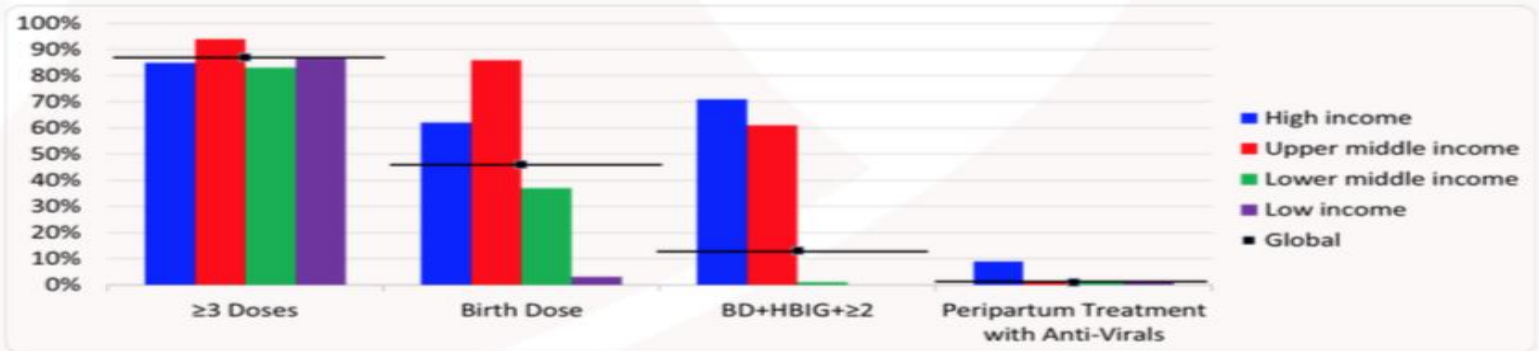






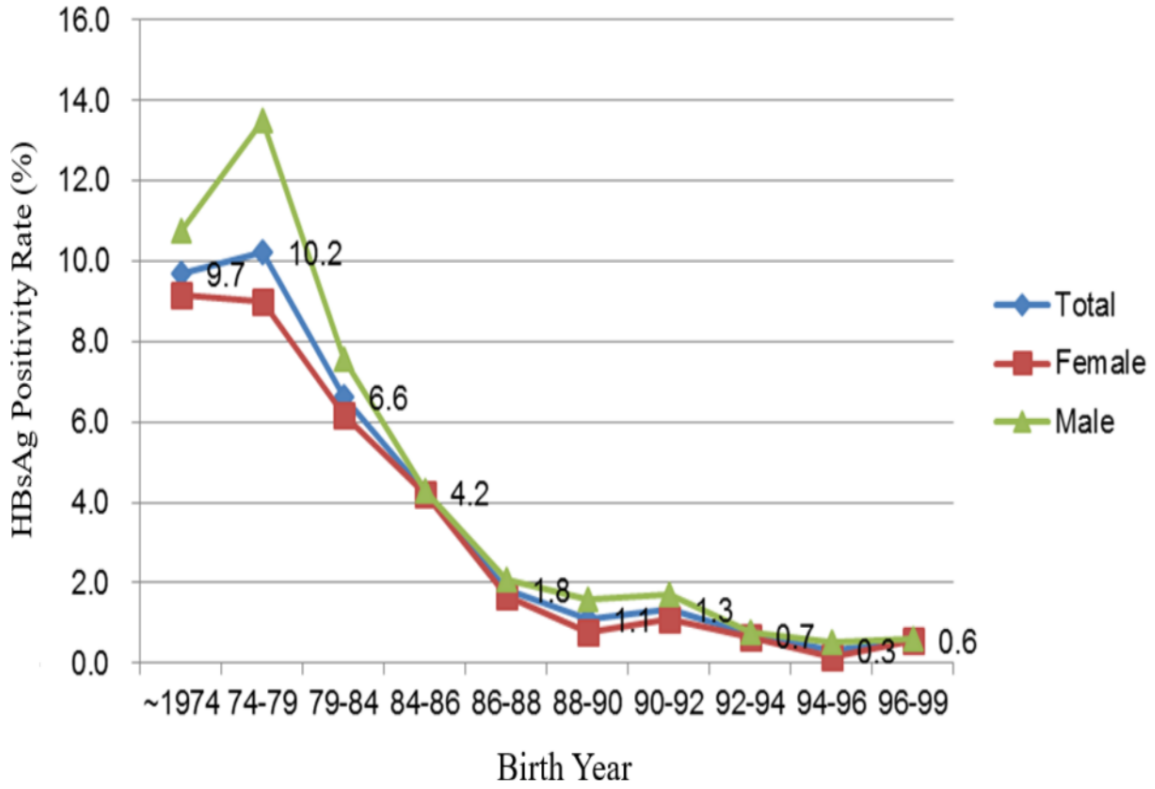
Source: Polaris Observatory

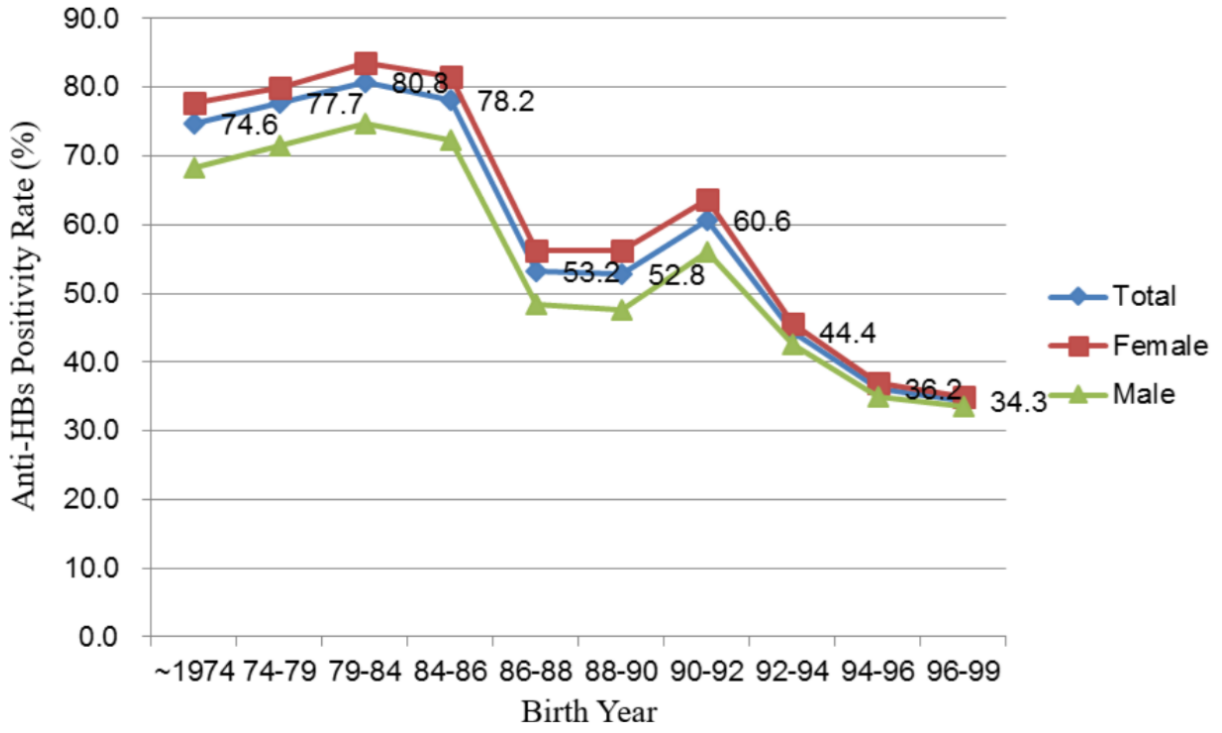




www.thelancet.com/gastrohep PublishedonlineMarch26,2018 http://dx.doi.org/10.1016/S2468-1253(18)30056-6

Seroprevalence of hepatitis B virus in Taiwan 30 years after the commencement of the national vaccination program





Hu et al. (2018), PeerJ, DOI 10.7717/peerj.4297

RESEARCH ARTICLE Open Access

Modelling cost-effectiveness of tenofovir for prevention of mother to child transmission of hepatitis B virus (HBV) infection in South Africa

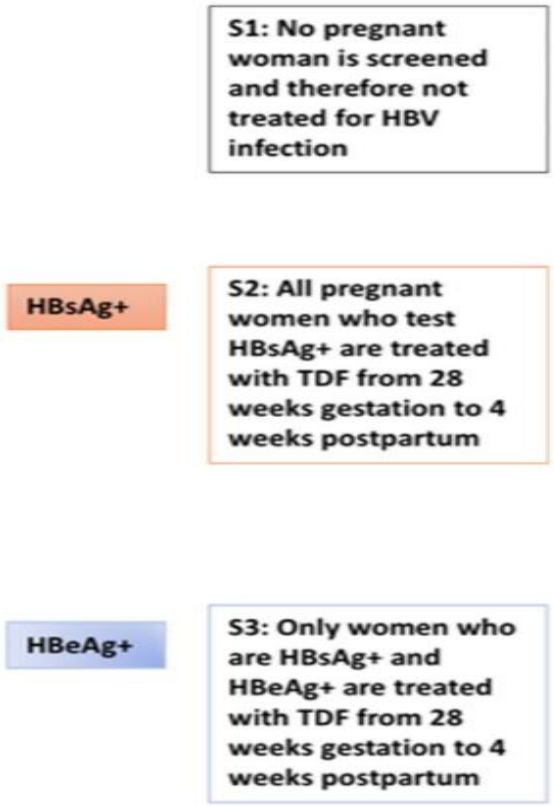


Table 2 Cost-effectiveness results under base case assumptions for screening for HBsAg using laboratory-based assay on a simulated birth cohort of 10,000 live singleton infants

Strategy	Number of infant HBV infections[a] (95% CI)	Cost of deploying the intervention for the whole population[b] (n = 10,000) in USD (95% CI)	Incremental cost per infection avoided (USD)
S1	45 (29–121)	0	-
S2	21 (14–69)	94,571 (94,487 - 95,509)	3940 (compared to strategy S1)
S3	28 (19–76)	95,097 (94,980 - 97,244)	Dominated[c] (by strategy S2)

[a] World Health Organisation (WHO) criteria for HBV elimination states an aim of 90% reduction in new chronic infection [1]
[b] Price of TDF estimated at $2.48/month for strategies S2 and S3 [30]
[c] S3 is dominated due to both higher costs and higher infections compared to S2
CI = confidence interval

Mokaya et al. BMC Public Health (2019) 19:829 https://doi.org/10.1186/s12889-019-7095-4

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Tenofovir versus Placebo to Prevent Perinatal Transmission of Hepatitis B

Table 2. Primary, Secondary, and Exploratory End Points.*

End Point	TDF Group			Placebo Group			P Value†
	No. of Participants	No. of Events	Value	No. of Participants	No. of Events	Value	
Efficacy end points in infants at 6 mo							
HBV infection — % (95% CI)							
Primary analysis	147	0	0 (0–2)	147	3	2 (0–6)	0.12
Analysis with twins considered separately	149	0	0 (0–2)	147	3	2 (0–6)	0.12
Analysis with last available infection status imputed	160	0	0 (0–2)	159	3	2 (0–5)	0.12
Analysis with missing data imputed as infected	167	20	12 (8–18)	163	19	12 (7–18)	0.60
Anti-HBV antibodies ≥10 IU/liter — % (95% CI)	147	147	100 (98–100)	147	145	99 (95–100)	0.25
Safety end points at 6 mo							
ALT >300 IU/liter in women after trial-regimen discontinuation — % (95% CI)	154	9	6 (3–11)	157	5	3 (1–7)	0.29
Adverse event of grade 3 or 4 or serious adverse event — % (95% CI)‡							
In women	168	41	24 (18–32)	163	44	27 (20–34)	0.62
In infants	161	43	27 (20–34)	160	38	24 (17–31)	0.61
WHO z scores among infants at 6 mo	148	—		146	—		
Weight for age			−0.4±1.1			−0.2±1.1	0.09
Length for age			−0.2±1.2			−0.2±1.2	0.67
Head circumference for age			−0.6±1.1			−0.6±0.9	0.76
Exploratory end point							
HBV DNA level among women at delivery — $\log_{10}$ IU/ml	161	—	4.0±1.6	159	—	7.3±1.7	<0.001

n engl j med 378;10 nejm.org March 8, 2018

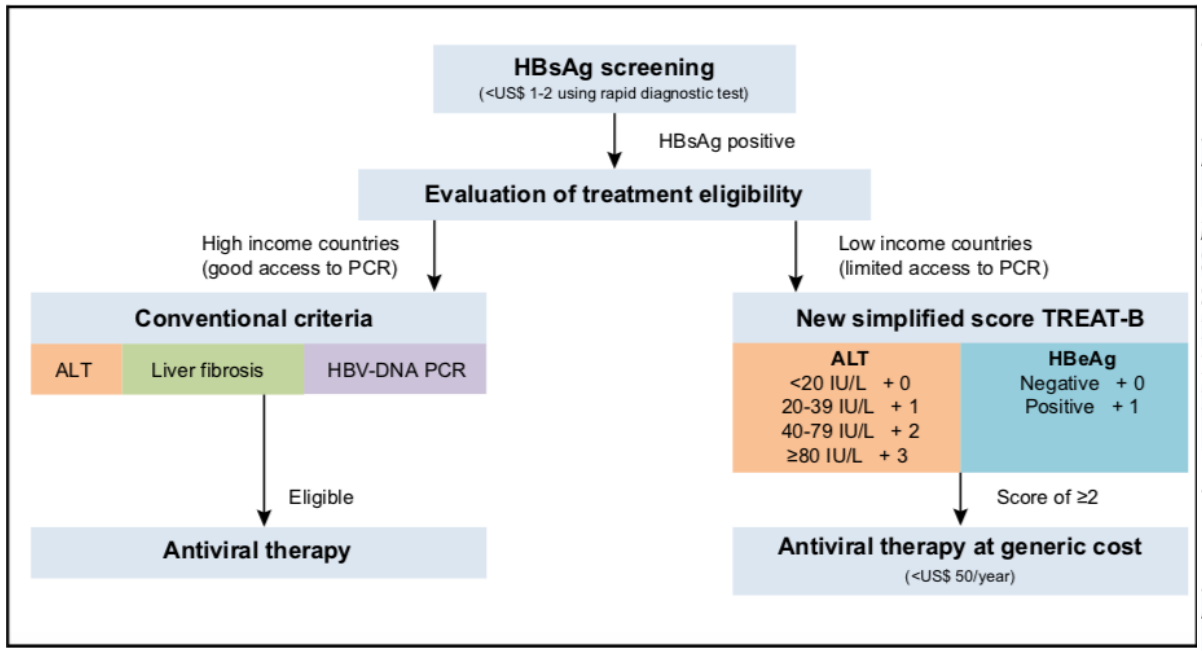


Table 4. Performance of TREAT-B, WHO, and REACH-B to select patients eligible for antiviral therapy in derivation (n = 804) and validation set (n = 327).

Derivation set	EASL			AASLD			APASL		
	TREAT-B*	WHO	REACH-B*	TREAT-B*	WHO	REACH-B*	TREAT-B*	WHO	REACH-B*
AUROC (95% CI)	0.88 (0.83–0.93)	0.70 (0.65–0.75)	0.90 (0.87–0.94)	0.89 (0.84–0.94)	0.71 (0.66–0.76)	0.90 (0.86–0.94)	0.87 (0.83–0.91)	0.75 (0.71–0.78)	0.84 (0.79–0.89)
p value**	n.a.	<0.01	0.2	n.a.	<0.01	0.4	n.a.	<0.01	0.3
Sen (%)	79	86	91	80	88	89	74	94	75
Spe (%)	88	54	80	88	54	79	90	56	80
PLR	6.8	1.9	4.5	6.8	1.9	4.3	7.1	2.1	3.7
NLR	0.2	0.3	0.1	0.2	0.2	0.1	0.3	0.1	0.3
PABAK (95% CI)	0.75 (0.69–0.81)	0.13 (0.08–0.17)	0.61 (0.54–0.68)	0.75 (0.69–0.81)	0.13 (0.08–0.17)	0.60 (0.53–0.67)	0.76 (0.70–0.82)	0.19 (0.14–0.24)	0.59 (0.52–0.66)
Validation set	**EASL**			**AASLD**			**APASL**		
	TREAT-B*	WHO	REACH-B*	TREAT-B*	WHO	REACH-B*	TREAT-B*	WHO	REACH-B*
AUROC (95% CI)	0.85 (0.79–0.91)	0.65 (0.60–0.70)	0.81 (0.75–0.87)	0.83 (0.77–0.89)	0.67 (0.62–0.71)	0.79 (0.73–0.85)	0.85 (0.80–0.90)	0.67 (0.63–0.72)	0.80 (0.74–0.86)
p value**	n.a.	<0.01	0.2	n.a.	<0.01	0.2	n.a.	<0.01	0.07
Sen (%)	85	90	93	82	92	89	83	94	91
Spe (%)	77	40	38	78	41	38	78	41	38
PLR	3.7	1.5	1.5	3.8	1.6	1.4	3.8	1.6	1.5
NLR	0.2	0.3	0.2	0.2	0.2	2.3	0.2	0.2	0.3
PABAK (95% CI)	0.57 (0.47–0.68)	−0.03 (−0.06 to −0.01)	−0.05 (−0.09 to 0.00)	0.58 (0.47–0.69)	0.03 (−0.01 to −0.06)	−0.04 (−0.08 to 0.00)	0.58 (0.48–0.69)	0.03 (−0.01 to −0.07)	−0.03 (−0.07 to −0.01)

Journal of Hepatology 2018 vol. 69 j 776–784

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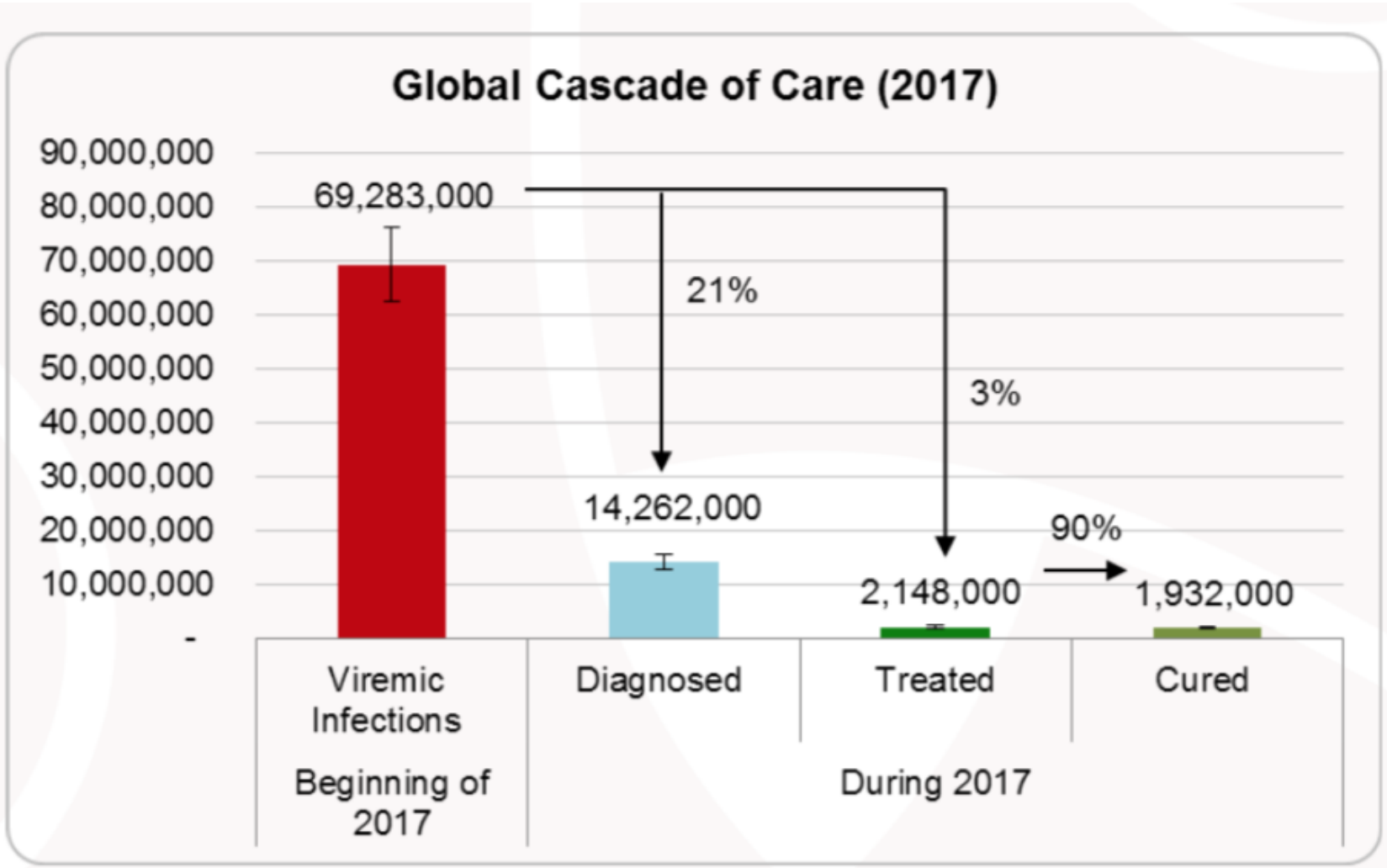
VHC


Global Cascade of Care (2017)
90,000,000
80,000,000
70,000,000
60,000,000
50,000,000
40,000,000
30,000,000
20,000,000
10,000,000
-
69,283,000
21%
14,262,000
3%
2,148,000
90%
1,932,000
Viremic Infections
Diagnosed
Treated
Cured
Beginning of 2017
During 2017

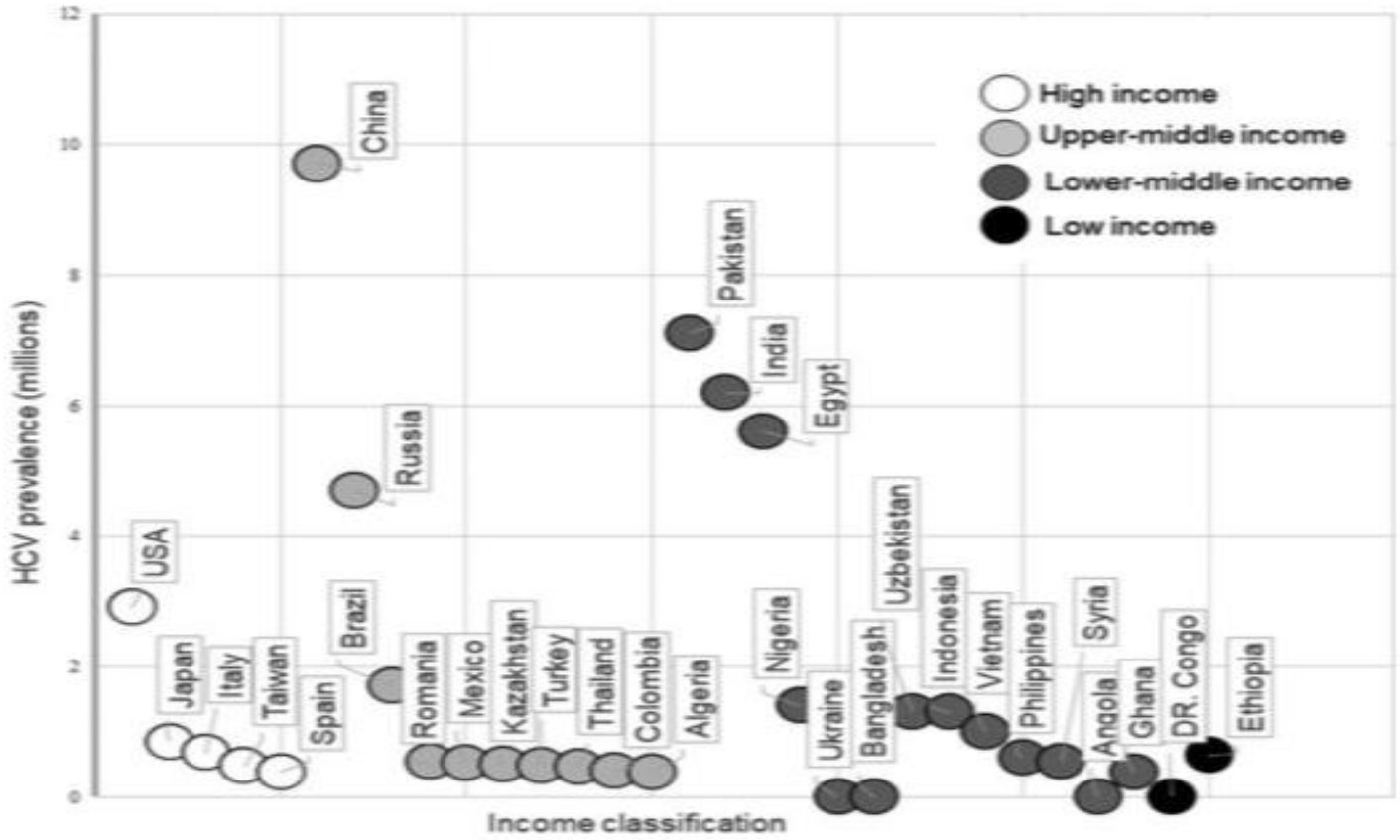
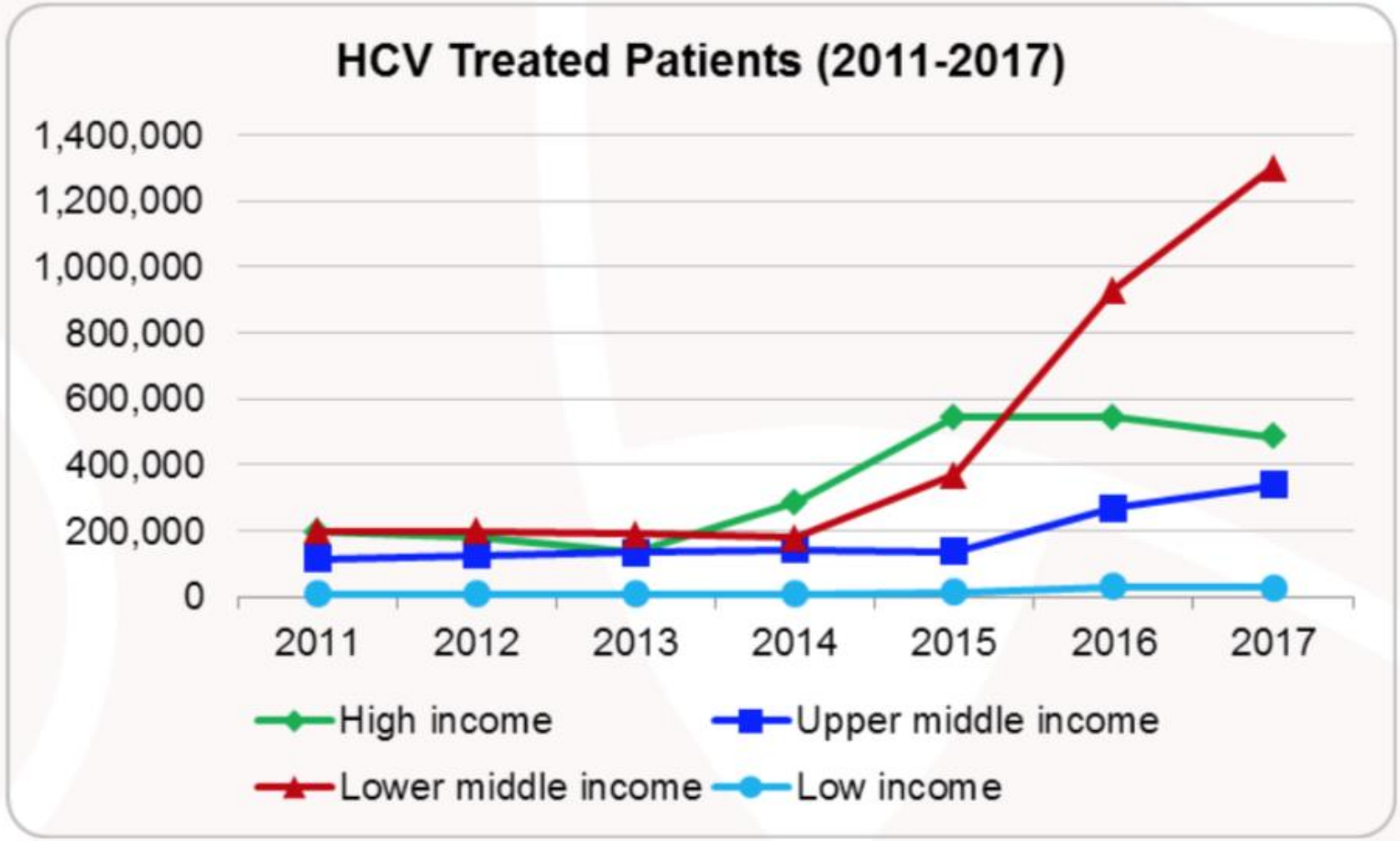


FIGURE 1 HCV prevalence and income classification. Relationship between HCV prevalence and income classification. The 30 countries with the highest HCV prevalence are represented relative to their income classification. Income classification is based on the June 2018 World Bank list of economies. Prevalence is highest in countries with lower-middle-to-low income

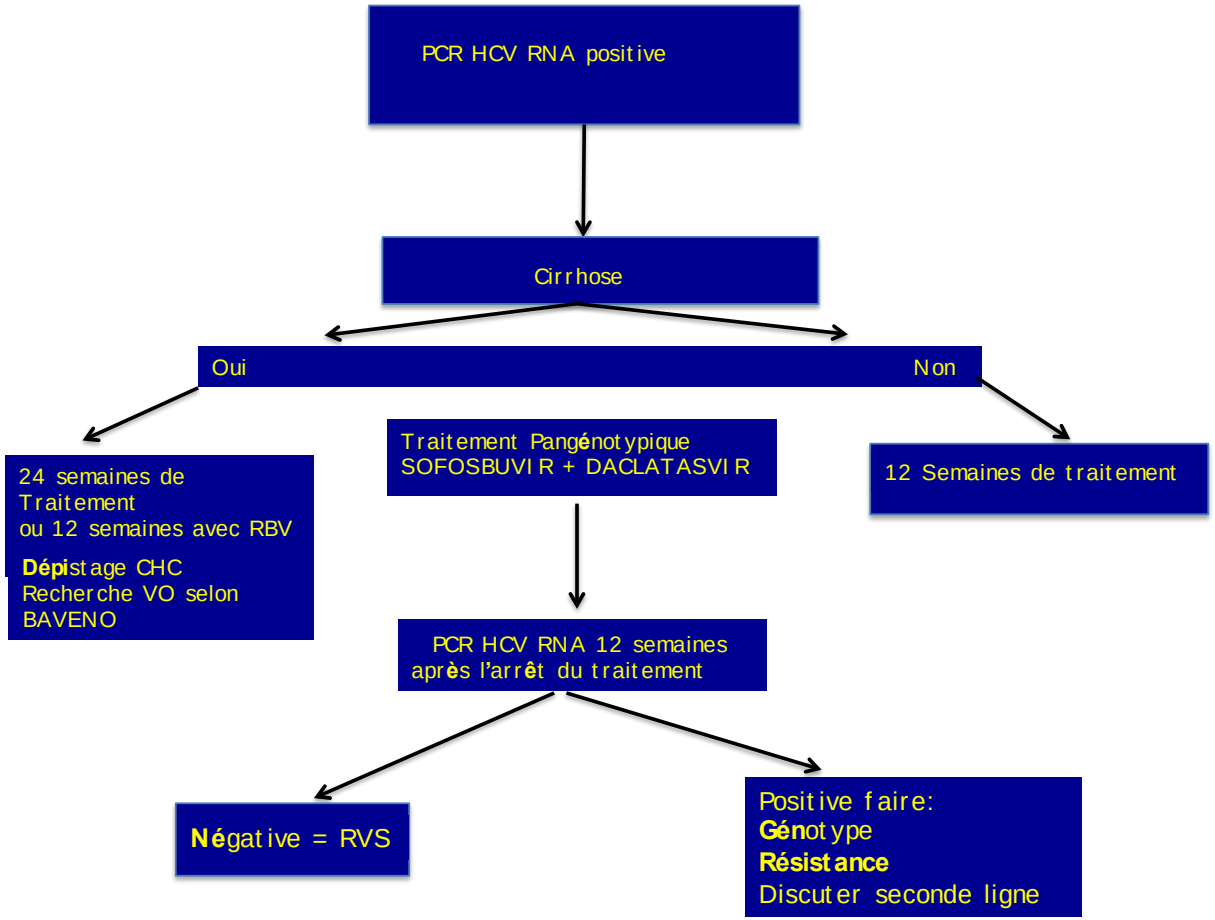
LOMBARDI et AL. Liver International. 2019;39:416–426.



Source: Polaris Observatory

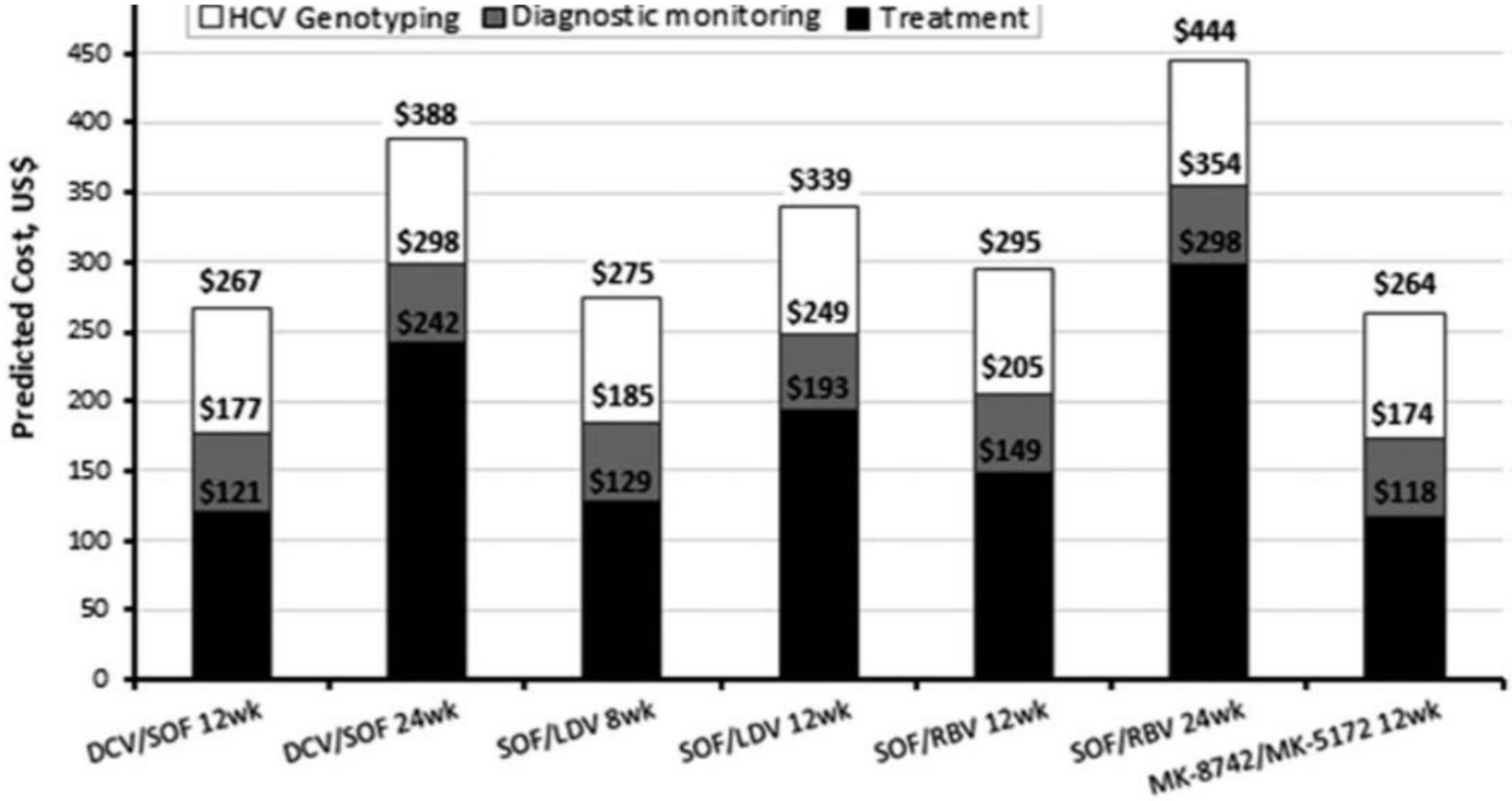
Patients with advanced liver disease
Haemophilia patients
Prisoners
Children
Patients engaged with drug treatment units
Migrant communities from high prevalence regions
People who inject drugs in networks
Men who have sex with men
Generational cohorts of high prevalence
Geographically defined areas

Lazarus JV, Wiktor S, Colombo M, Thursz M. Micro-elimination – apath to global elimination of hepatitis C. *J Hepatol*. 2017;67:665-666.



Dhiman RK, Satsangi S, Grover GS, Puri P. Tackling the hepatitis C disease burden in Punjab, India. J Clin Exp Hepatol. 2016;6:224-232.

Minimum Target Prices for Production of Direct-Acting Antivirals and Associated Diagnostics to Combat Hepatitis C Virus



VAN DE VEN ET AL. HEPATOLOGY, Vol. 61, No. 4, 2015

RESEARCH Open Access

Access to medicines and hepatitis C in Africa: can tiered pricing and voluntary licencing assure universal access, health equity and fairness?

Table 1 Hepatitis C Virus burden, total health expenditure and cost of HCV treatment in seven African countries

Country	Total HCV population (000,000)[a]	Total expenditure on health as % of GDP (2014) (WHO)[b]	Total expenditure on health (000,000) (2014) (WHO)[b]	Cost of 12- weeks regimen of DAA per patient[c]		Total cost of 12- weeks regimen of DAA (000,000)				Cost of 12-weeks DAA as % of total health expenditure			
						For universal (100%) DAA coverage		For 80% DAA coverage		For universal (100%) DAA coverage		For 80% DAA coverage	
				Generic	Originator	Generic	Originator	Generic	Originator	Generic	Originator	Generic	Originator
Egypt	8.306	5.6%	18,524	$684	$1200	$5681.3	$9967.2	$4545.0	$7973.8	31%	54%	25%	43%
Ethiopia	0.676	4.9%	3015	$750	$1200	$507.0	$811.2	$405.6	$649.0	17%	27%	13%	22%
Nigeria	8.115	3.7%	17,800	$750	$1200	$6086.3	$9738.0	$4869.0	$7790.4	34%	55%	27%	44%
DRC	0.11	4.3%	1515	$750	$1200	$82.5	$132.0	$66.0	$105.6	5%	9%	4%	7%
Cameroon	1.473	4.1%	1197	$750	$1200	$1104.8	$1767.6	$883.8	$1414.1	92%	148%	74%	118%
Rwanda	0.475	7.5%	607	$750	$1200	$356.3	$570.0	$285.0	$456.0	59%	94%	47%	75%
South Africa	0.633	8.8%	27,519	$750	$1200	$474.8	$759.6	$379.8	$607.7	2%	3%	1%	2%

[a][13]
[b]http://gamapserver.who.int/gho/interactive_charts/health_financing/atlas.html?indicator=i2
[c]http://apps.who.int/iris/bitstream/10665/250625/1/WHO-HIV-2016.20-eng.pdf?ua=1

Assefa et al. Globalization and Health (2017) 13:73 DOI 10.1186/s12992-017-0297-6

CONCLUSION

Élimination en 2030
Oui : Pays à revenu élevé , VHB et VHC , intermédiaire VHC
Non : Pays à revenu faible , plus facile pour le VHC

L'accès au traitement générique est nécessaire mais pas suffisant

Les contraintes organisationnelles liées à la gouvernance .

Plaider pour une vraie équité dans les soins .