Epidemiology and Priority Actions for Curing HCV and Treating Chronic HBV

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globalhepatitis programme

World Health Organization

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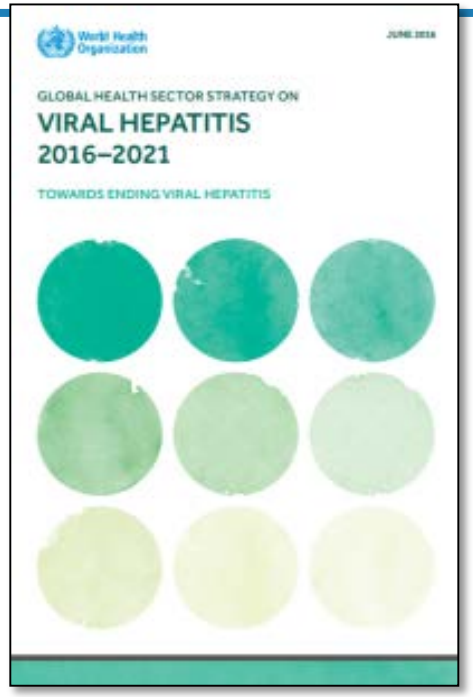
MPP meeting at InterCon Hotel

Overview of Presentation

- Hepatitis global elimination strategy
- WHO/GHP priorities
- Expanding HBV/HCV testing is at the core
- Global data on HCV cascade of cure
- The road ahead

The first-ever Global Strategy on Viral Hepatitis, 2016-2021



Vision: "*A world where viral hepatitis transmission is halted and everyone living with viral hepatitis has access to safe, affordable and effective prevention, care and treatment services*"

Goal: Eliminate viral hepatitis as a major public health threat by 2030

Five strategic directions:

1. Information for focused action
2. Interventions for impact
3. Delivering for equity
4. Financing for sustainability
5. Innovation for acceleration

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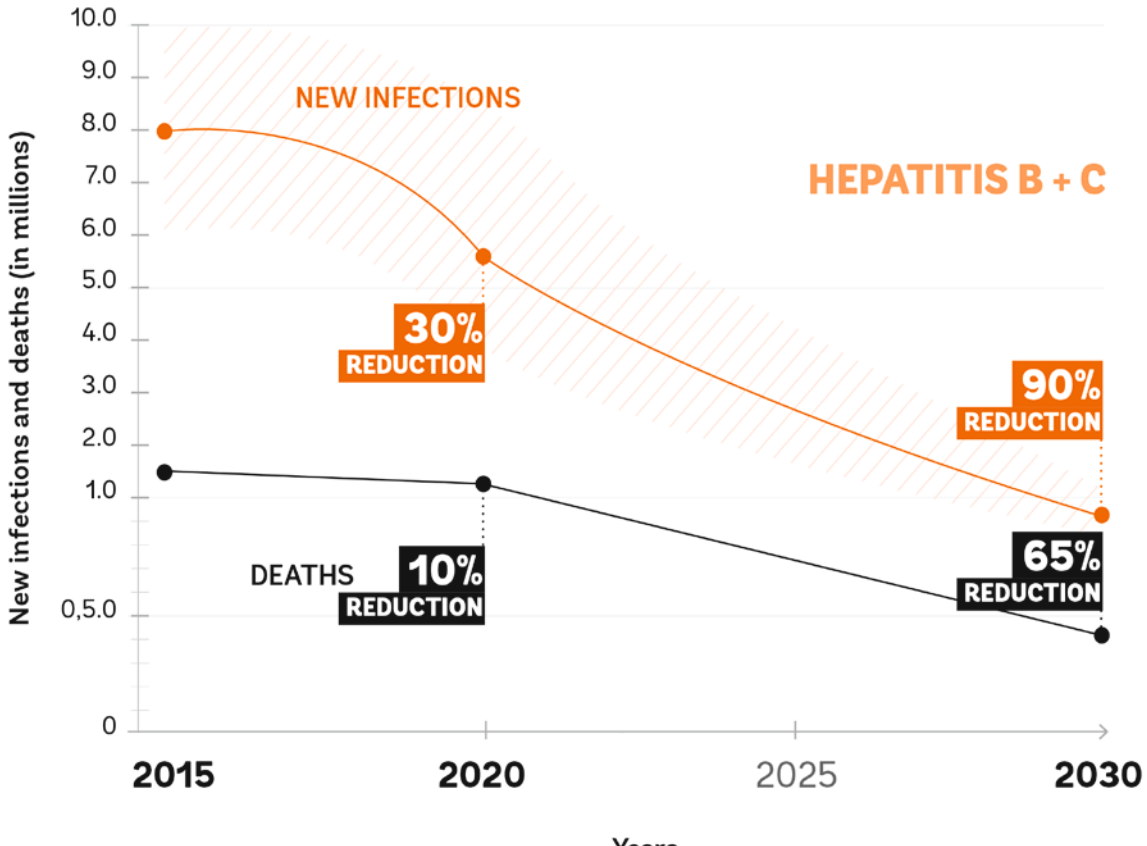
Elimination Targets for Hepatitis B and C



6-10 million infections (in 2015) to 900,000 infections (by 2030)

1.4 million deaths (in 2015) to under 500,000 deaths (by 2030)

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WHO GLOBAL HEPATITIS PROGRAMME
2017 PRIORITIES

1. NORMATIVE GUIDANCE/PRODUCTS

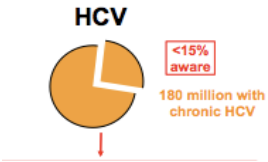
- Global Hepatitis Report (launch at EASL)
- Hep B/C Testing Guidelines (launched at APASL)
- Updated Hep C Treatment Guidelines
- Updated Report on Access to DAAs

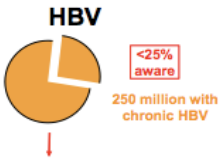
WHO GLOBAL HEPATITIS PROGRAMME 2017 PRIORITIES

2. ENGAGEMENT WITH MEMBER STATES

- 30 priority countries (11 first-tier)
- Capacity building and implementation of GHSS
- Measure outcomes and impact using M&E framework
- Continue to act as a convener of stakeholders to ensure policy, advocacy and support are aligned

Large burden of undiagnosed and untreated hepatitis B and C





Barriers to testing, linkage and treatment

- Screening
- Diagnosis
- Case selection
- Treatment
- Monitoring
- Assess SVR

	Patient	Health worker
Lack of awareness, knowledge, understanding	✓	✓
Stigma and discrimination	✓	✓
Lack of testing and treatment services	✓	✓
Rapid diagnostic tests (varying quality)	✓	✓
Nucleic acid tests (Expensive, complex, limited availability)	✓	✓
Financial (Expensive tests/treatments)	✓	

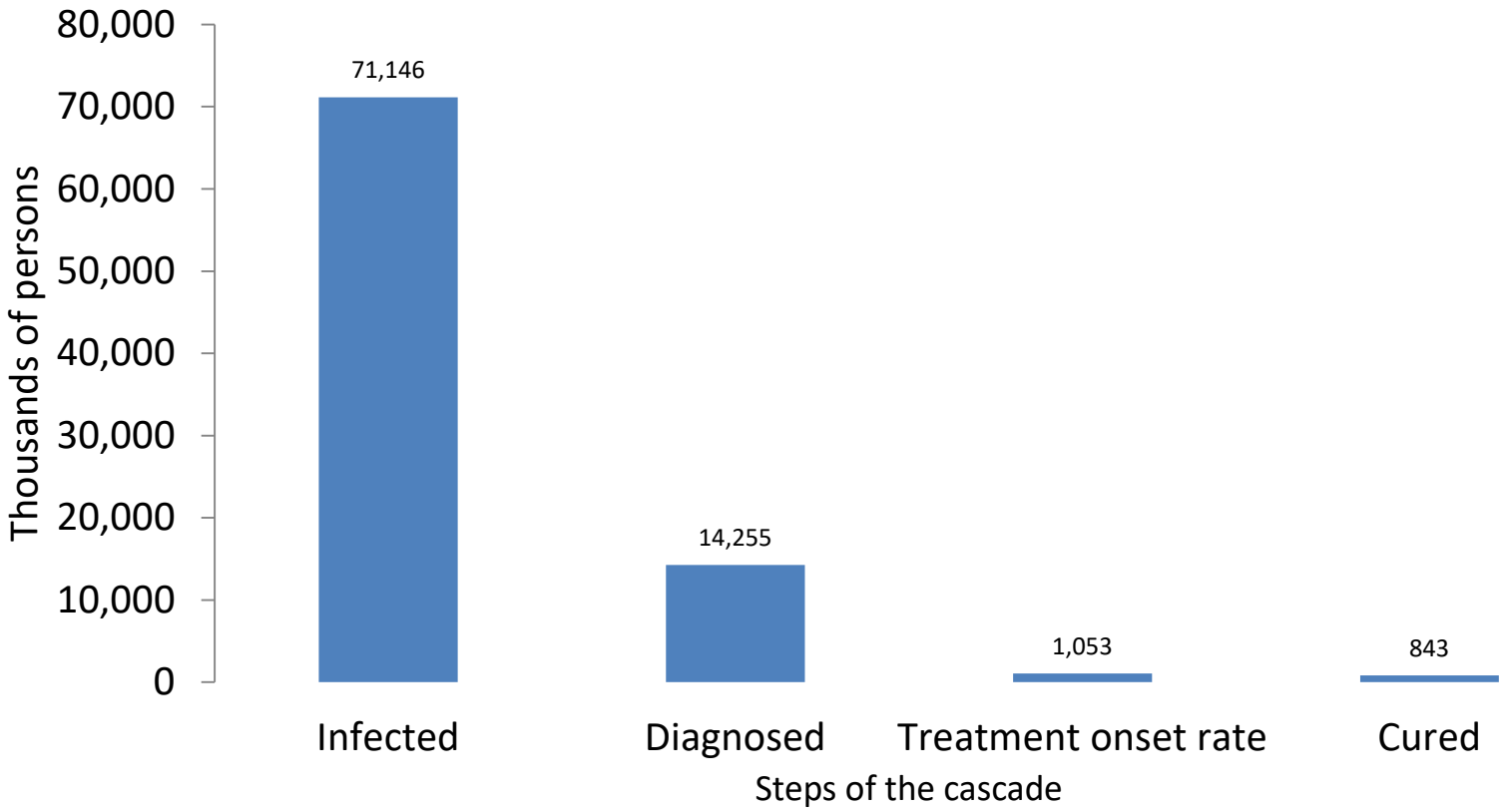
Limited access to HCV treatment

(preliminary baseline 2015 data for Global Hep Report)

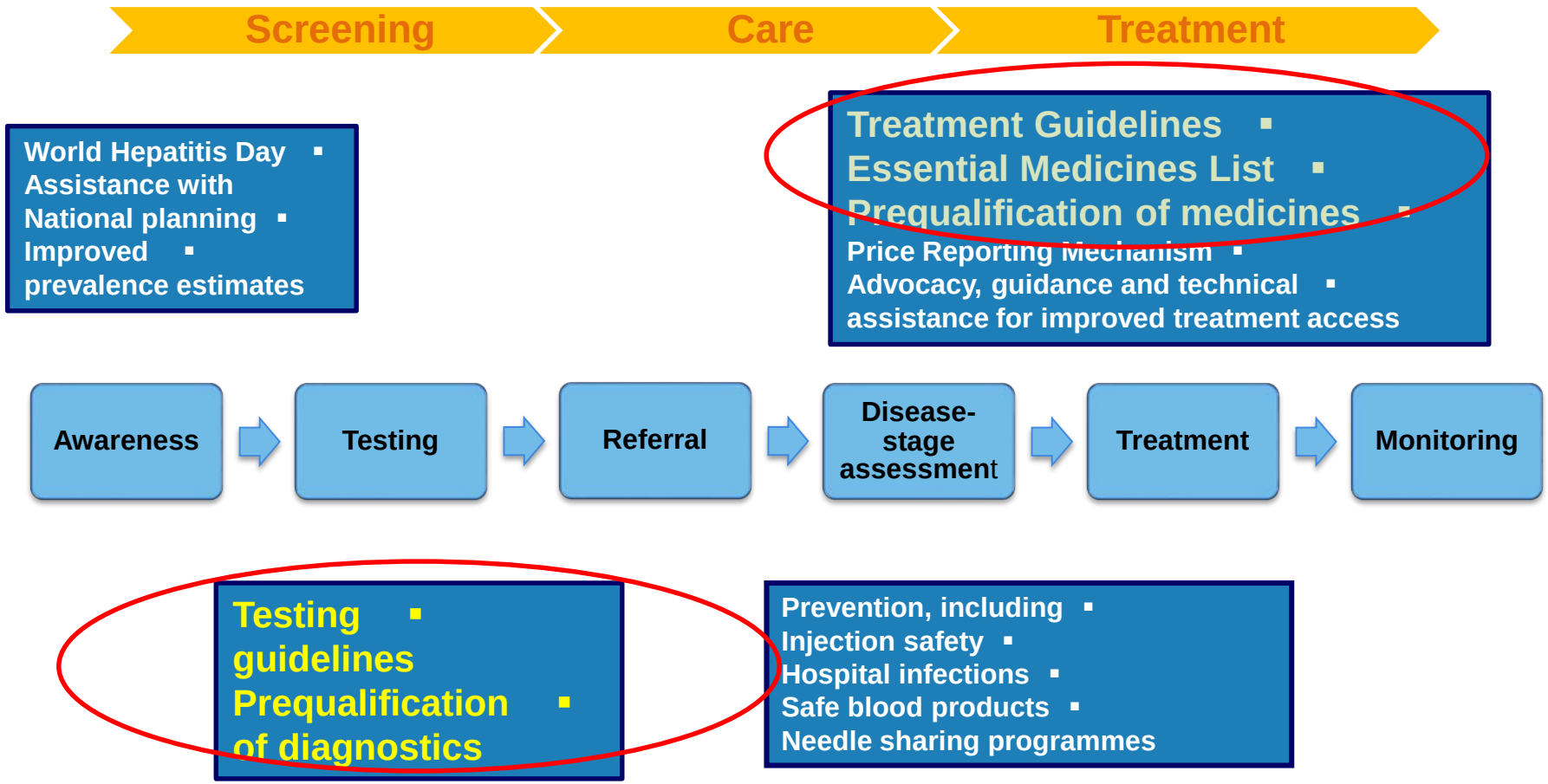
HCV

WHO regions	Infected Number (000s)	Diagnosis		Treatment			Sustained virological response (Cure)	
				Treatment initiation rate		Cumulated number ever treated		
		Number (000s)	Proportion (%)	Number (000s)	Proportion (%)		Number (000s)	Proportion (%)
African	10,284	582	5.7	13	2.2	16	11	84.6
American	7,237	2,625	36.3	290	11.1	1,252	255	87.9
Eastern Mediterranean	15,190	2,686	17.7	326	12.1	1,576	264	81.1
European	13,641	4,250	31.2	208	4.9	1,157	162	77.9
South East Asia	10,391	906	8.7	64	7.1	235	54	84.0
Western Pacific	13,898	2,985	21.5	144	4.8	1,169	91	63.1
World	71,146	14,255	20.0	1,053	7.4	5,495	843	80.0

HCV Cascade of diagnosis, treatment and cure, 2015 baseline

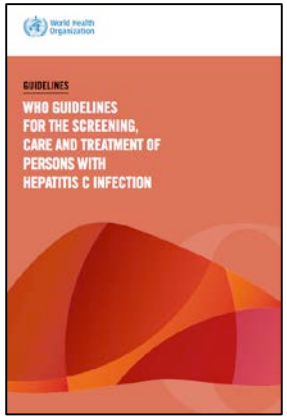


WHO's role in improving access

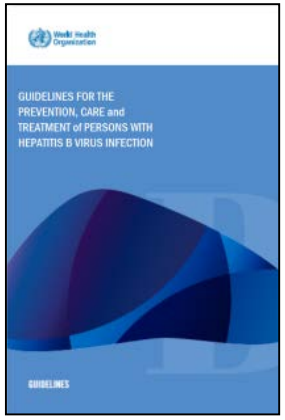


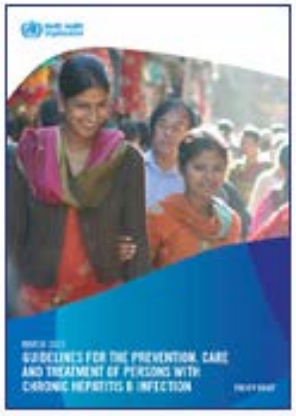
The WHO/GHP Trilogy of Normative Guidance

HCV (2014+2016)



HBV (2015)





Testing (2017)

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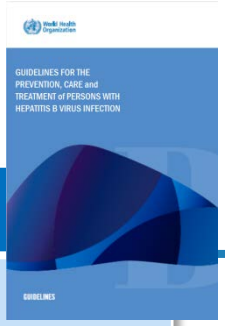
HBV Guideline Recommendations (2015)

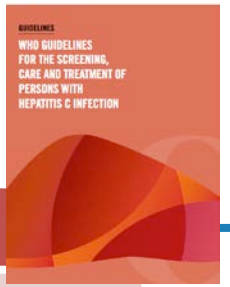


TOPIC	RECOMMENDATION
Staging/ non-invasive test (NIT)	▪ APRI preferred NIT to assess for the presence of cirrhosis
Who to treat	▪ Decompensated cirrhosis or cirrh… …iteria or APRI score >2), regardless of ALT levels … ▪ No cirrho… …/- ongoing HBV r… …).
First line treatment	…
Treatment failure	▪ … …of resistance to 3TC, ETV, ADF, TBV.
Treatment discontinuation	▪ … …inue in persons with cirrhosis. ▪ If no cirrhosis, discontinuation on case-by-case basis (persistent HBeAg and/or HBsAg loss or undetectable HBV DNA)
Monitoring (treatment response/toxicity)	▪ *On or pre-treatment:* ALT + HBV DNA (HBsAg, HBeAg + APRI pre-treatment) annually. More frequent monitoring with cirrhosis. ▪ Assessment of baseline renal function prior to treatment initiation.
Monitoring for HCC	▪ Ultrasound + AFP every 6 months in persons with cirrhosis and/or family history of HCC.

NEW DIRECTIONS/PRIORITIES (2018):

- PMTCT – antivirals (Tenofovir)
- Criteria for treatment
- TAF vs. TDF
- 'Functional cure' agenda

HCV Guideline Recommendations (2016)



2017 guidelines UPDATE:

- Pan-genotypic regimens: (SOF-VEL)
- "Treat All" – prioritisation criteria
- Second-line/salvage therapy?
- Treatment in HIV-HCV co-infected
- Paediatric treatment (priority regimens for development – PADO)

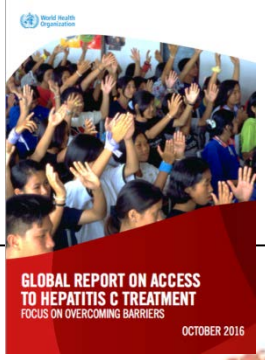
Topic	
Staging	▪ essment of liver
Treatment	▪ nic HCV,
Considerations for prioritisation:	▪ manifestations, maximising reduction in transmission.

PATIENTS WITHOUT CIRRHOSIS

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

PATIENTS WITH CIRRHOSIS

	Daclatasvir / sofosbuvir	Daclatasvir / sofosbuvir / ribavirin	Ledipasvir / sofosbuvir	Ledipasvir / sofosbuvir / ribavirin	Sofosbuvir / ribavirin
Genotype 1	24 weeks	12 weeks	24 weeks	12 weeks[b]	
Genotype 2					16 weeks
Genotype 3		24 weeks			
Genotype 4	24 weeks	12 weeks	24 weeks	12 weeks[b]	
Genotype 5			24 weeks	12 weeks[b]	
Genotype 6			24 weeks	12 weeks[b]	



Champion HCV countries: Over 1 million people treated with DAAs

Ukraine
320 in 2015

Georgia
19 300 in 2016

2016
China 200 100
Mongolia 5600
Viet Nam 4500
Cambodia 800
Lao PDR 200

Egypt
670,000 in 2016

India
42 000 in 2015

Brazil
7460
in 2015

Rwanda
120 in 2015

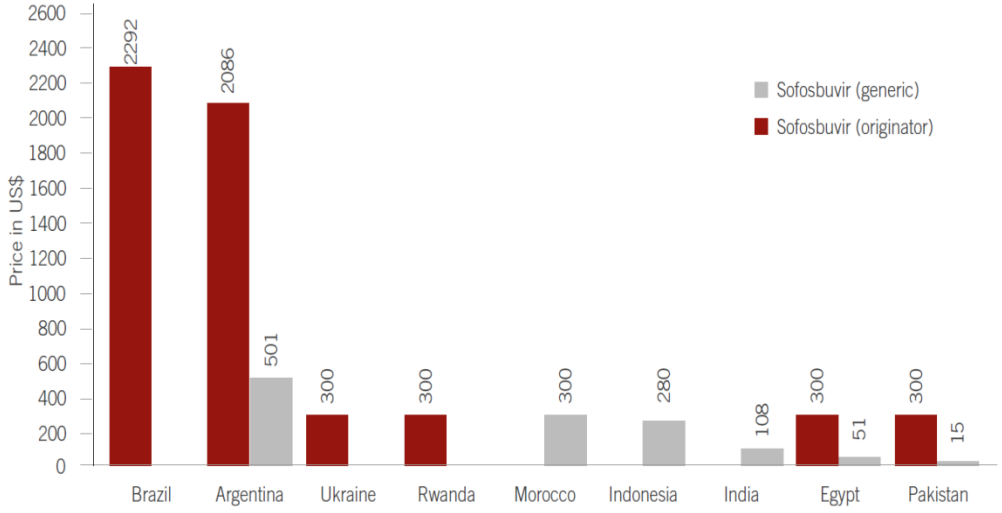
Pakistan
82 000 in 2016

0.0% – <0.75%
0.75% – <1.25%
1.25% – <1.75%
1.75% – <2.5%
2.5% +

WHO “HCV Barriers Report” October 2016

Prices of Hepatitis C drugs are dropping

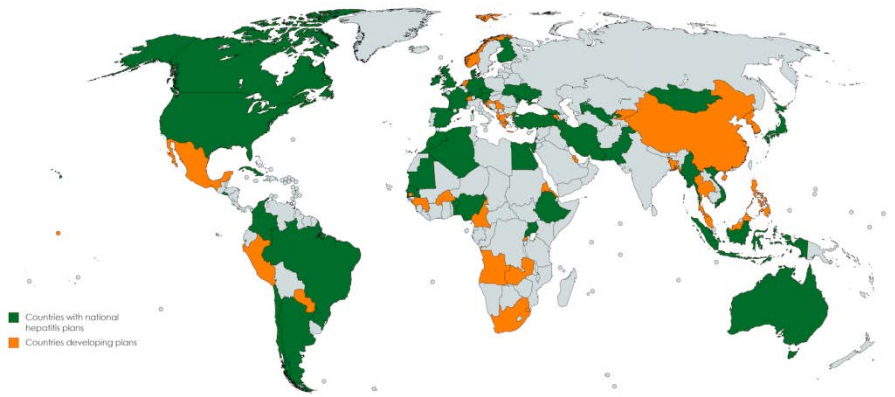
- ✓ **In Egypt the price for a 3 month Hepatitis C treatment dropped from US$900 in 2014 to less than US$200 in 2016**
- ✓ **Prices of Hepatitis C drugs continue to vary considerably across countries**
- ✓ **The steepest price decrease is observed in countries with generic competition, confirming experience with HIV treatment**



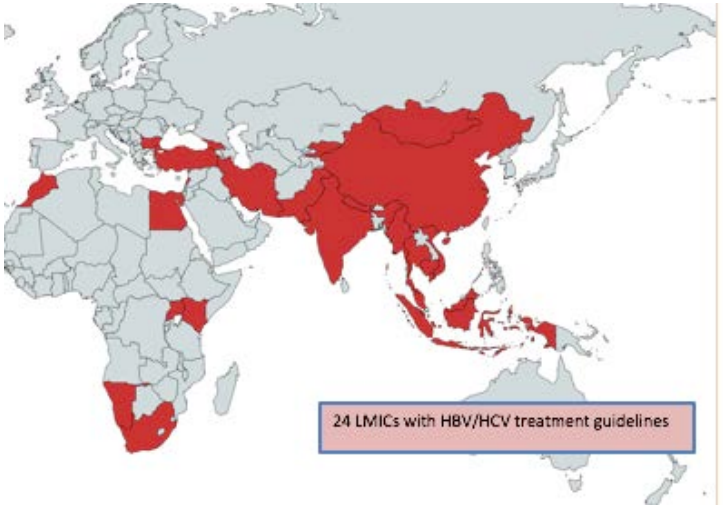
Prices of sofosbuvir per bottle (US$)
innovator (red), generic (grey)
Data from : WHO survey 2016

Assessing the response and guidelines uptake (Dec. 2016)

36 with National Viral Hepatitis Plans



24 with HBV ± HCV treatment guidelines



13 with hepatitis testing guidelines

Region (total number of countries)	Number of countries with testing guidelines (n=13)	Number of countries with self-reported government policy related to testing (n=51)
AFRO (47)	1	1
EURO (53)	5	21
PAHO (47)	3	8
EMRO (23)	3	9
SEARO (11)	0	3
WPRO (27)	1	9

Moving the hepatitis response towards elimination

- ✓ **Partnerships – governments, civil society, private sector**
- ✓ **Champion countries are emerging**
- ✓ **Innovation is key**
- ✓ **WHO has a critical role to support country action – together we can do it!**

World Hepatitis Summit 2017
SÃO PAULO, BRAZIL 1-3 NOVEMBER

World Hepatitis Alliance | World Health Organization | MINISTRY OF HEALTH | BRASIL

www.worldhepatitissummit.org

A global hepatitis movement building up…
from Glasgow … to Sao Paulo

World Hepatitis Alliance | World Health Organization | MINISTRY OF HEALTH | BRASIL

Thank you - Merci
谢谢　　謝謝

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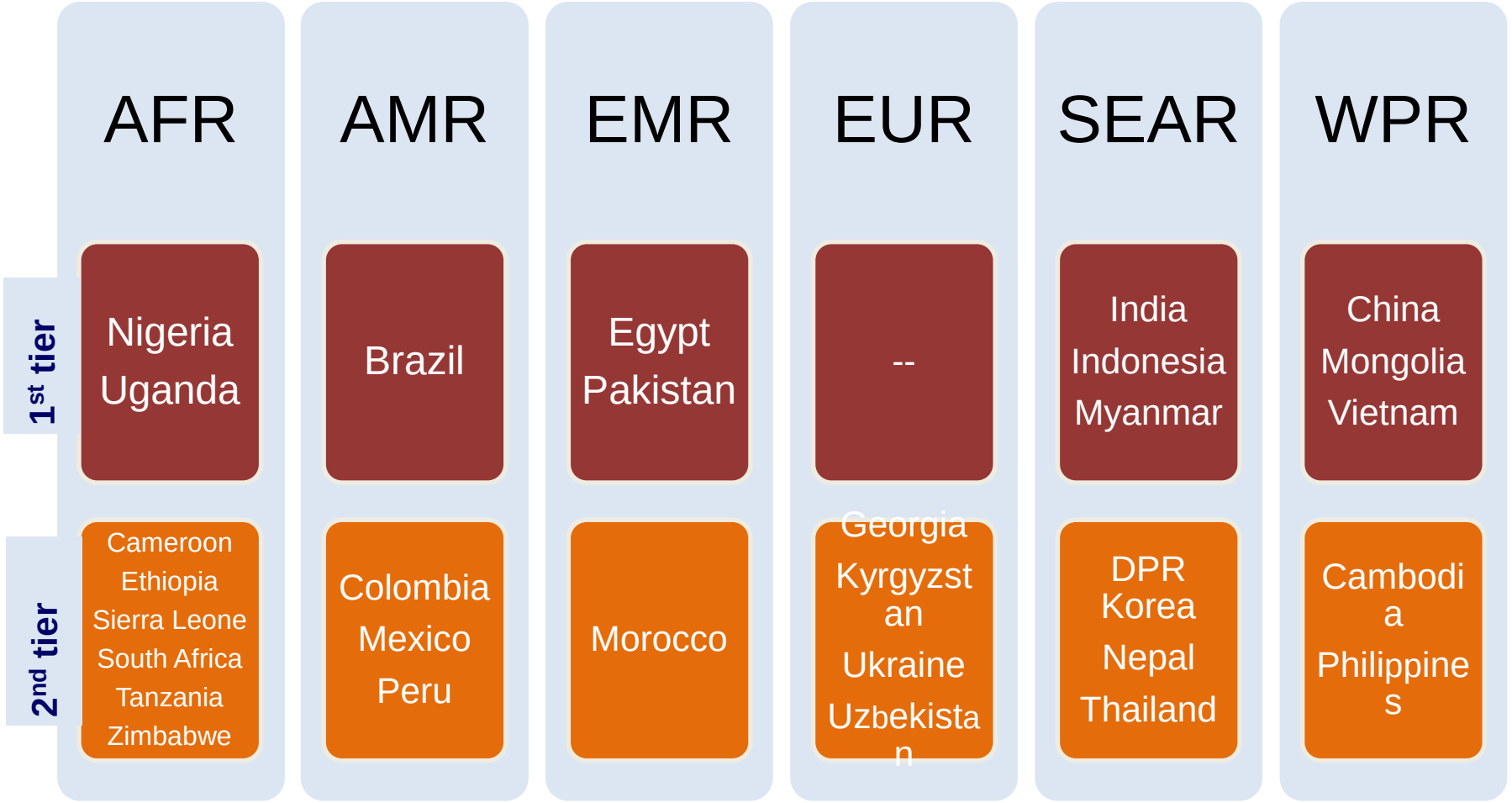
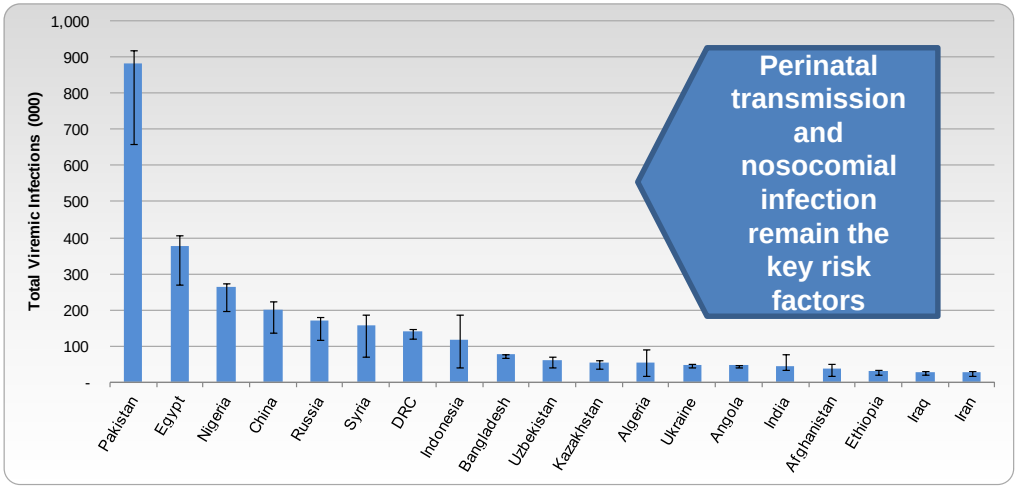
- **Medicines Patent Pool (MPP); Center for Data Analysis (CDA)**

Hepatitis focus countries



Treating Hepatitis C infection in children?

HCV Epidemiology in Children



- Globally, estimated 3.5 (3.1-3.9) million children between 1- 15 years are HCV-viraemic
- 19 countries account for 80% of all infections
- Natural history is unpredictable
  - Risk of cirrhosis: 1-2%
  - Few children with HCC described

Why treat children?

1. **Global hepatitis strategy and and 2030 goal for elimination - opportunity to consider paediatric treatment needs and options**
2. Important burden in some settings
3. Reduce development of cirrhosis and hepatocellular carcinoma
4. Reduce horizontal transmission
5. Give child the opportunity to grow up free of potential stigma and psychological consequences
6. Reduce economic burden of managing chronic liver disease in adults
7. Absence of comorbidities, good compliance, tolerance, high SVR rates

Source:* Polaris Observatory (http://polarisobservatory.org; *El-Sayed and Razavi, (2015). P1263. J Hepatol;62:S831–S832.

Ongoing Studies with DAAs in Children and Adolescents with Chronic Hepatitis C

Combined regimens	Genotype	ClinicalTrials.gov Identifier
sofosbuvir/ledipasvir ± ribavirin	1,3,4,5,6	***NCT 02249182***
sofosbuvir + ribavirin	2,3	***NCT 02175758***
ombitasvir, paritaprevir, ritonavir ± dasabuvir ± ribavirin	1,4	***NCT 02486406***
sofosbuvir/ledipasvir	1,4	***NCT 02868242***

ClinicalTrials.gov