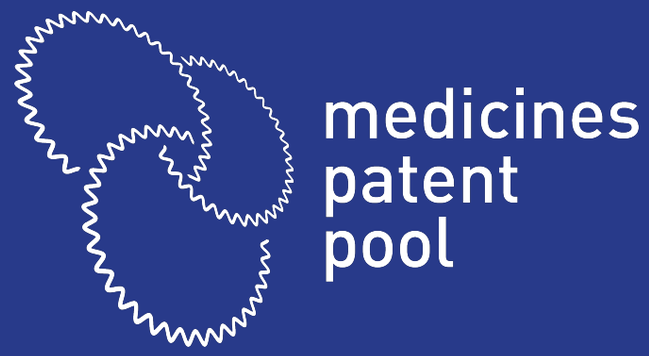
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UPDATE ON PROGRESS OF MPP SUBLICENSEES

(till June 2020)

SUMMARY

This presentation showcases the progress made by MPP licensees (generic pharmaceutical companies).

To date, MPP has signed agreements with ten patent holders for 13 HIV antiretrovirals, three hepatitis C direct-acting antivirals, one tuberculosis treatment and one HIV technology platform.

Licensed products are developed by multiple MPP licensees, with an aim of encouraging competition, reducing market prices and providing faster access to medicines for people living with HIV, hepatitis C (HCV) and tuberculosis (TB) in low- and middle-income countries (LMICs).

Generic medicines are developed and filed with stringent regulatory authorities such as the U.S. Food and Drug Administration (USFDA) and the World Health Organization prequalification (WHO-PQ), ensuring availability of quality assured products in LMICs.

This presentation gives a snapshot of the development of each licensed product and when the product may be filed with regulators. It also shows which countries the local filing is taking place in and when – thereby providing a clearer picture of availability of new formulations in each country.

PARTNERSHIPS WITH INNOVATORS

medicines patent pool

abbvie	Boehringer Ingelheim	Bristol-Myers Squibb	GILEAD	janssen	MSD	NIH	Roche
lopinavir ritonavir (adults) lopinavir ritonavir (paediatrics)	nevirapine (non-assert)	atazanavir	bictegravir cobicistat elvitegravir emtricitabine tenofovir alafenamide tenofivir disoproxil	darunavir (paediatric non-assert)	raltegravir (paediatric)	darunavir related	valganciclovir (pricing agreement)

UNIVERSITY OF LIVERPOOL	ViiV Healthcare	abbvie	Bristol-Myers Squibb	PHARCO CORPORATION	JOHNS HOPKINS UNIVERSITY	Pfizer
Solid drug nanoparticles technology	abacavir (paediatrics) dolutegravir (paediatrics) dolutegravir (adults)	glecaprevir/ pibrentasvir	daclatasvir	ravidasvir	sutezolid	

● HIV ● Hepatitis C ● Tuberculosis

medicines patent pool

SNAPSHOT OF MPP SUBLICENCES

	adcock ingram	BC	Aurobindo Pharma Limited	AUROBINDO	BEXIMCO PHARMA	CELLTRION	Cipla	DESANO	Emcure	HETERO	LOOYS	LAURUS Labs	LUPIN	MACLEODS	MICRO LABS LIMITED	Mylan	NATCO	Strides Shasun	SUN PHARMA	TB ALLIANCE	Zydus Cadila	
abbvie	**lopinavir, ritonavir** (LPV/r)		●	●				●	●	●			●						●			8
	lopinavir, ritonavir (LPV/r) paed						●			●													2
	glecaprevir, pibrentasvir (G/P)															●						1
Bristol-Myers Squibb	**atazanavir** (ATV)			●			●	●	●	●						●						6
	daclatasvir (DAC)				●		●			●		●				●	●				●	7
GILEAD	**bictegravir** (BIC)	●	●	●	●			●	●			●	●	●								9
	cobicistat (COBI)	●	●	●	●			●	●			●	●	●								8
	elvitegravir	●	●	●	●									●								5
	emtricitabine (FTC)	●	●	●	●				●	●			●	●		●		●				11
	tenofovir alafenamide (TAF)	●	●	●	●				●	●		●	●	●		●		●				12
	tenofovir disoproxil fumarate (TDF)	●	●	●																		3
MSD	**raltegravir** (RAL) paed										●		●									2
ViiV Healthcare	**abacavir** – paed (ABC)				●																	1
	dolutegravir – adult (DTG)	●	●	●	*		●	●	●	●	●	●	●	●	●	●	●		●	●		17
	dolutegravir – paed	●	●		*		●	●	●	●	●		●	●	●		●	●	●	●		14
JOHNS HOPKINS UNIVERSITY	**sutezolid**																				●	1
	TOTAL	9	8	8	8	1	2	5	8	8	7	2	6	8	7	1	4	5	3	2	3	1	1	

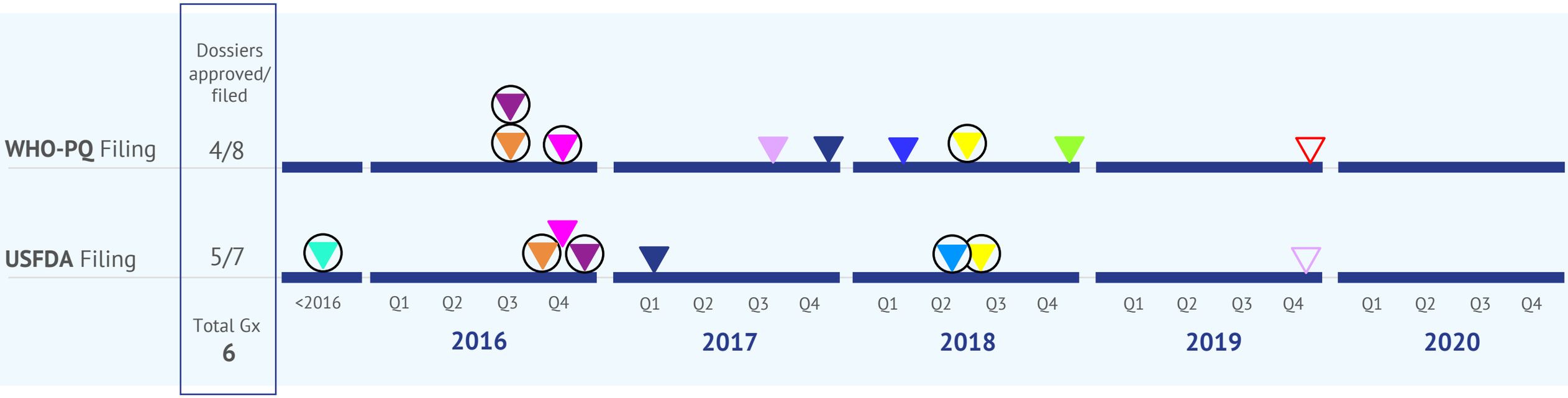
107 SUBLICENCES WITH 22 MANUFACTURERS – **149 ACTIVE PROJECTS**

● HIV ● Hepatitis C ● Tuberculosis

*Aurobindo is a direct Licensee of ViiV. A tripartite agreement Aurobindo-ViiV-MPP has been signed. For the purposes of the following presentation only, Aurobindo will be referred to as an MPP DTG Licensee

TRIANGLE CHARTS: A SNAPSHOT

Triangle charts represent a comparative analysis of each MPP licensee's filings with WHO-PQ and/or USFDA for each product country



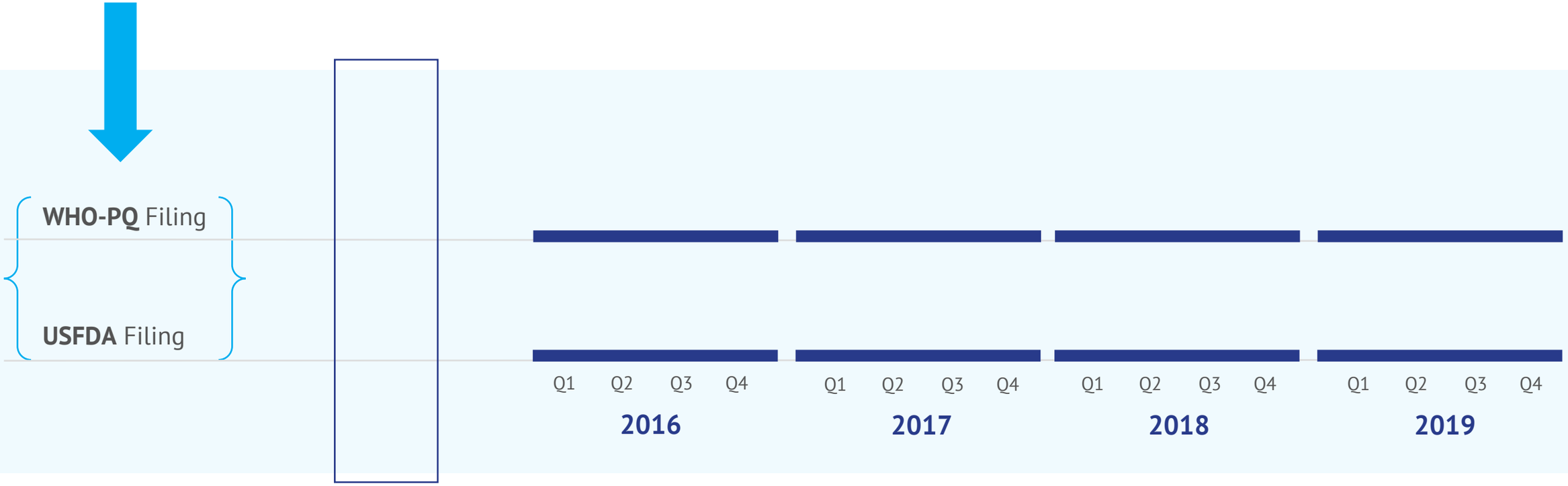
Companies approved ▼ Companies filed ▽ Companies planning to file

Note: *Each triangle represents a manufacturer and timelines represent date of filing*

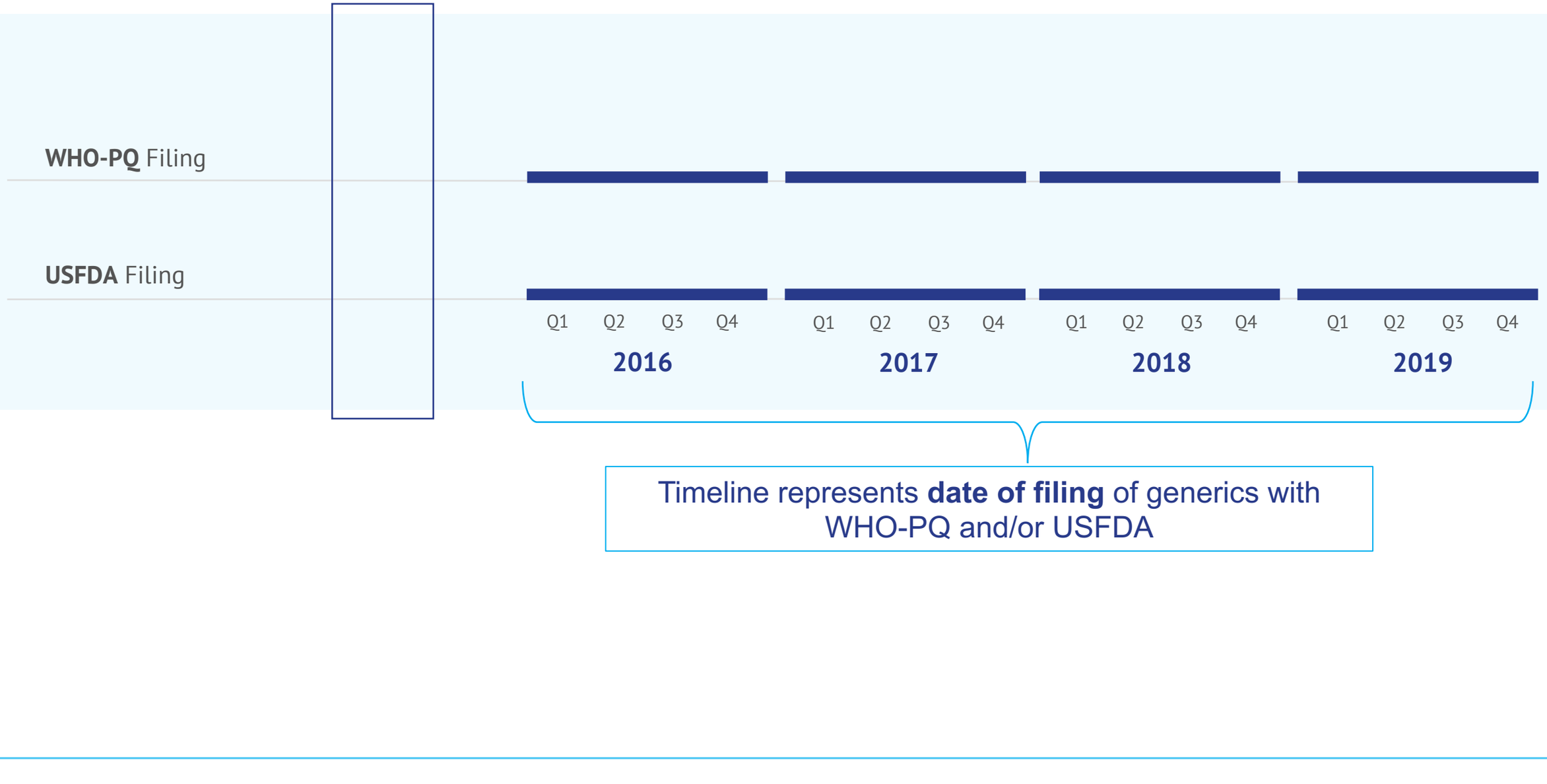
See following slides for explanation

TRIANGLE CHARTS EXPLAINED (1/7)

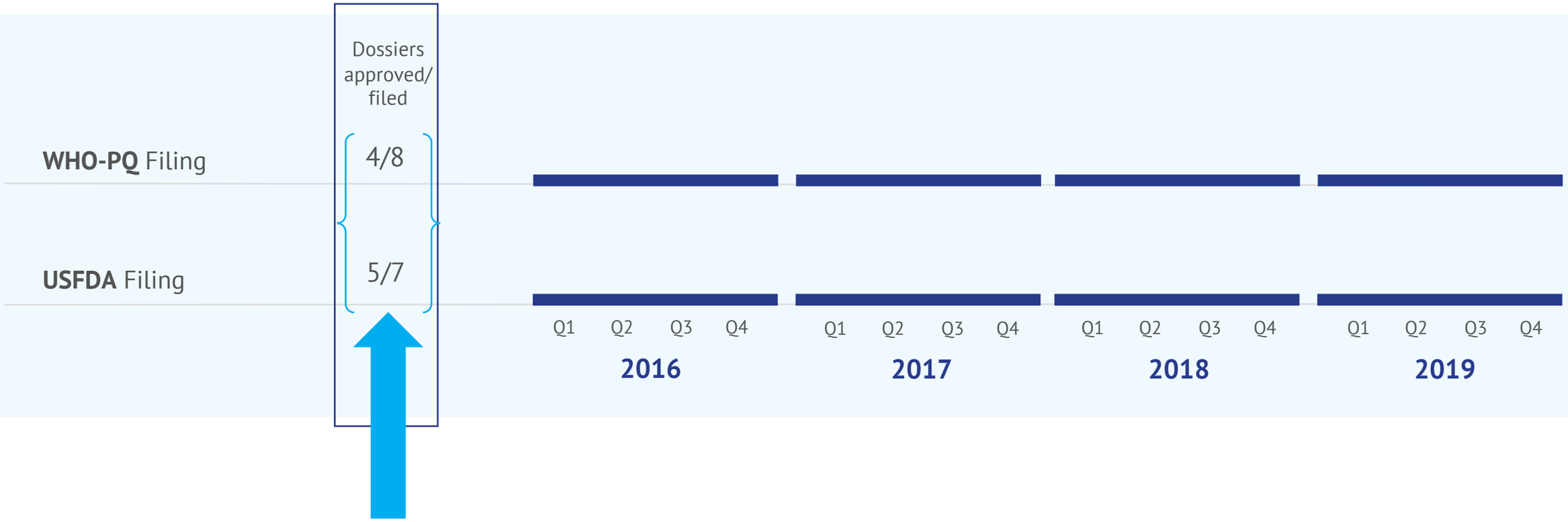
Stringent Regulatory Authorities
for filing the product



TRIANGLE CHARTS EXPLAINED (2/7)



TRIANGLE CHARTS EXPLAINED (3/7)



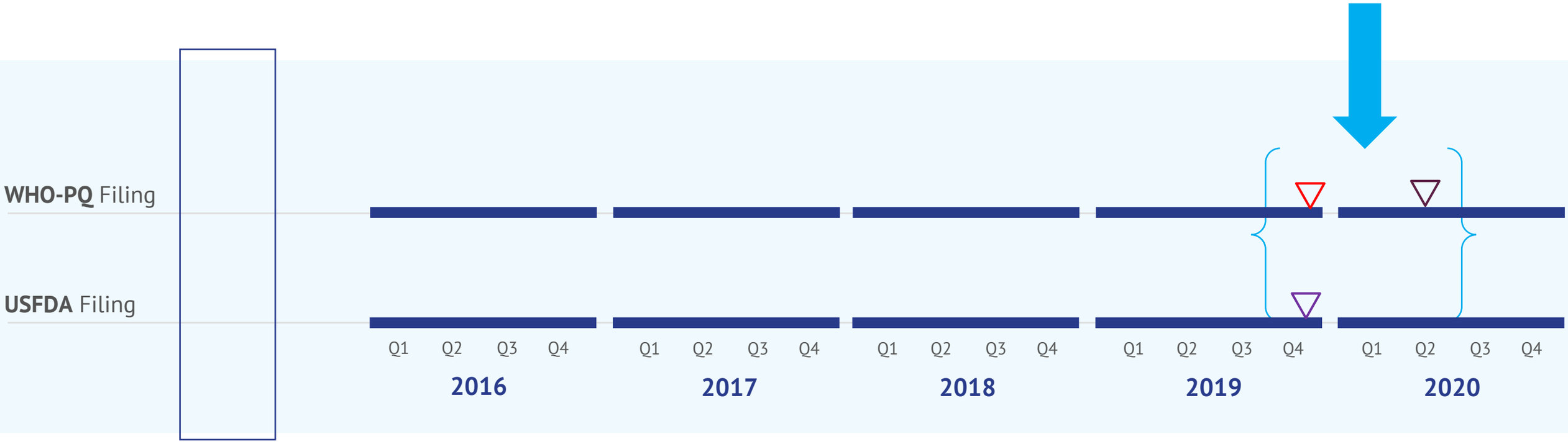
No. of companies that have **received approval out of total companies filed** with WHO-PQ/USFDA

TRIANGLE CHARTS EXPLAINED (4/7)

Total no. of **companies** that **have been approved by** WHO-PQ/USFDA

TRIANGLE CHARTS EXPLAINED (5/7)

Outlined triangles (▽) represent companies **developing the product** and **planning to file** with WHO-PQ and/or USFDA

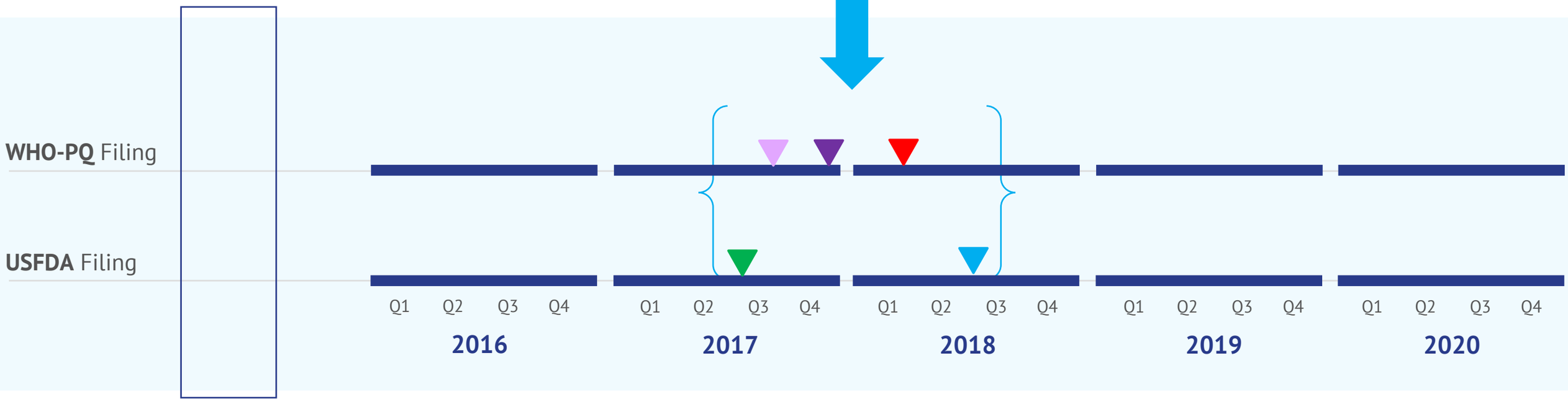


▽ Companies planning to file

Note: *Each triangle represents a manufacturer and timelines represent date of filing*

TRIANGLE CHARTS EXPLAINED (6/7)

Filled triangles (▼) represent companies who have **completed the product development** and have **filed** with WHO-PQ and/or USFDA

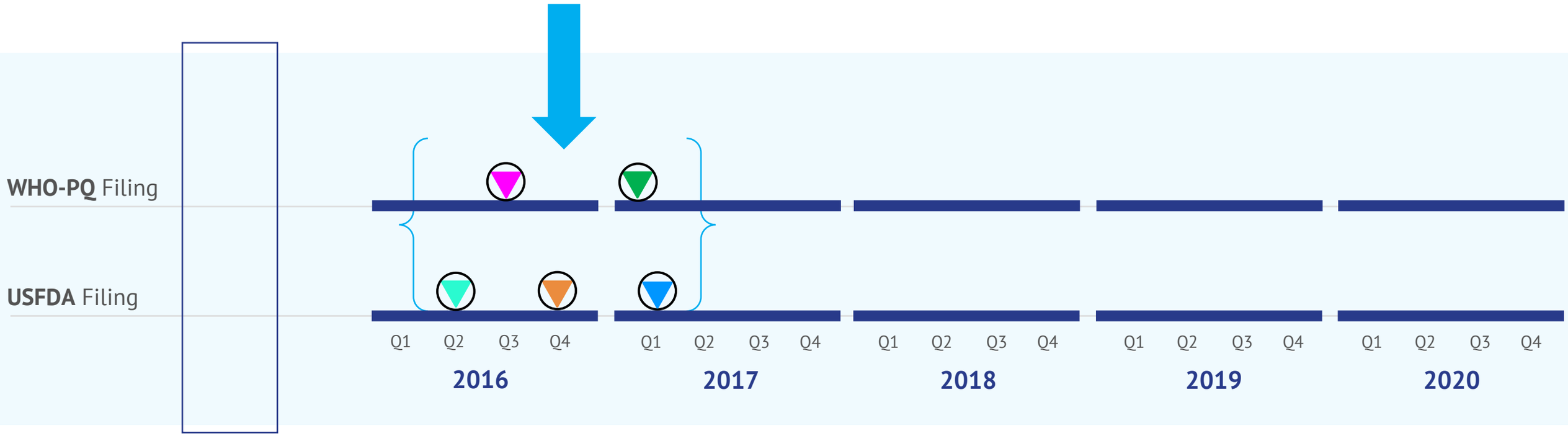


▼ Companies filed

Note: *Each triangle represents a manufacturer and timelines represent date of filing*

TRIANGLE CHARTS EXPLAINED (7/7)

Circled triangles ▼ represent companies who have **completed the product development** and have **received approvals** from WHO-PQ and/or USFDA

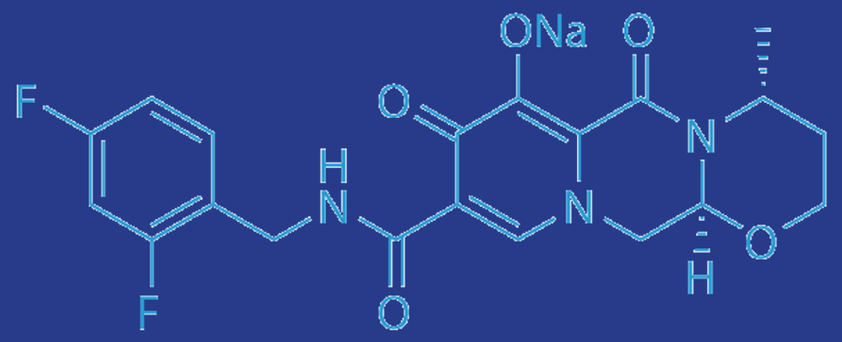


▼ **Companies approved**

Note: *Each triangle represents a manufacturer and timelines represent date of filing*

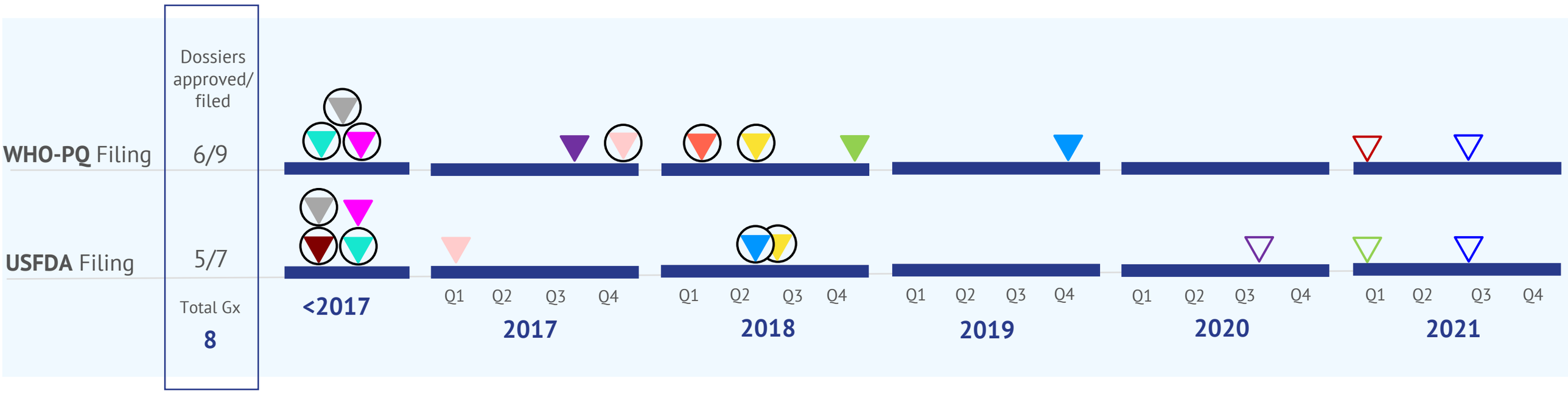
medicines
patent
pool

DOLUTEGRAVIR



medicines patent pool

DTG 50mg
(DOLUTEGRAVIR)



Companies approved ▼ Companies filed ▽ Companies planning to file

Note: *Each triangle represents a manufacturer and timelines represent date of filing*

10 MPP LICENSEES HAVE DEVELOPED DTG 50MG, OF WHICH: 8 COMPANIES ARE READY TO SUPPLY PRODUCT

Licensees Approved*: Aurobindo, Cipla, Emcure, Hetero, Laurus, Micro Labs, Mylan, Sun Pharma

3 licensees awaiting WHO-PQ approvals | **2** licensees awaiting USFDA approvals | **2** additional licensees in development stages

*USFDA, WHO-PQ and/or Global Fund ERP

DTG 50mg: COUNTRY-WISE FILING STATUS

Generic DTG 50mg has been filed in **65** countries, of which approval has been received from **44** countries.
Filings have occurred where **71.4%** of PLHIV reside, globally.

APPROVED (44)
66.8% PLHIV

Anguilla*	**Ethiopia**	**Mauritius**	**South Africa**
Antigua and Barbuda*	**Eswatini**	**Montserrat***	**St. Lucia***
Bahamas*	**Ghana**	**Mozambique**	**St. Vincent & the Grenadines***
Barbados*	**Grenada***	**Myanmar**	**Tanzania**
Botswana	**Guatemala**	**Namibia**	**Thailand***
Cambodia	**India**	**Nicaragua**	Turks and Caicos*
Congo, Dem. Rep.	**Indonesia**	**Niger**	**Uganda**
Congo, Rep.	**Iran***	**Nigeria**	**Ukraine**
Costa Rica*	**Kenya**	**Peru***	**Uzbekistan**
Côte d'Ivoire	**Lesotho**	Philippines	**Zambia**
Dominica*	**Malawi**	**Rwanda**	**Zimbabwe**

FILED (21)
4.6% PLHIV

Benin	**Honduras**
Bolivia	**Jamaica**
Burkina Faso	**Kyrgyzstan**
Burundi	**Lebanon**
Cameroon	**Mali**
Chile*	**Pakistan**
Dominican Republic*	**Senegal**
Ecuador*	Sri Lanka
El Salvador	**Tajikistan**
Gabon	Vietnam
Guyana	

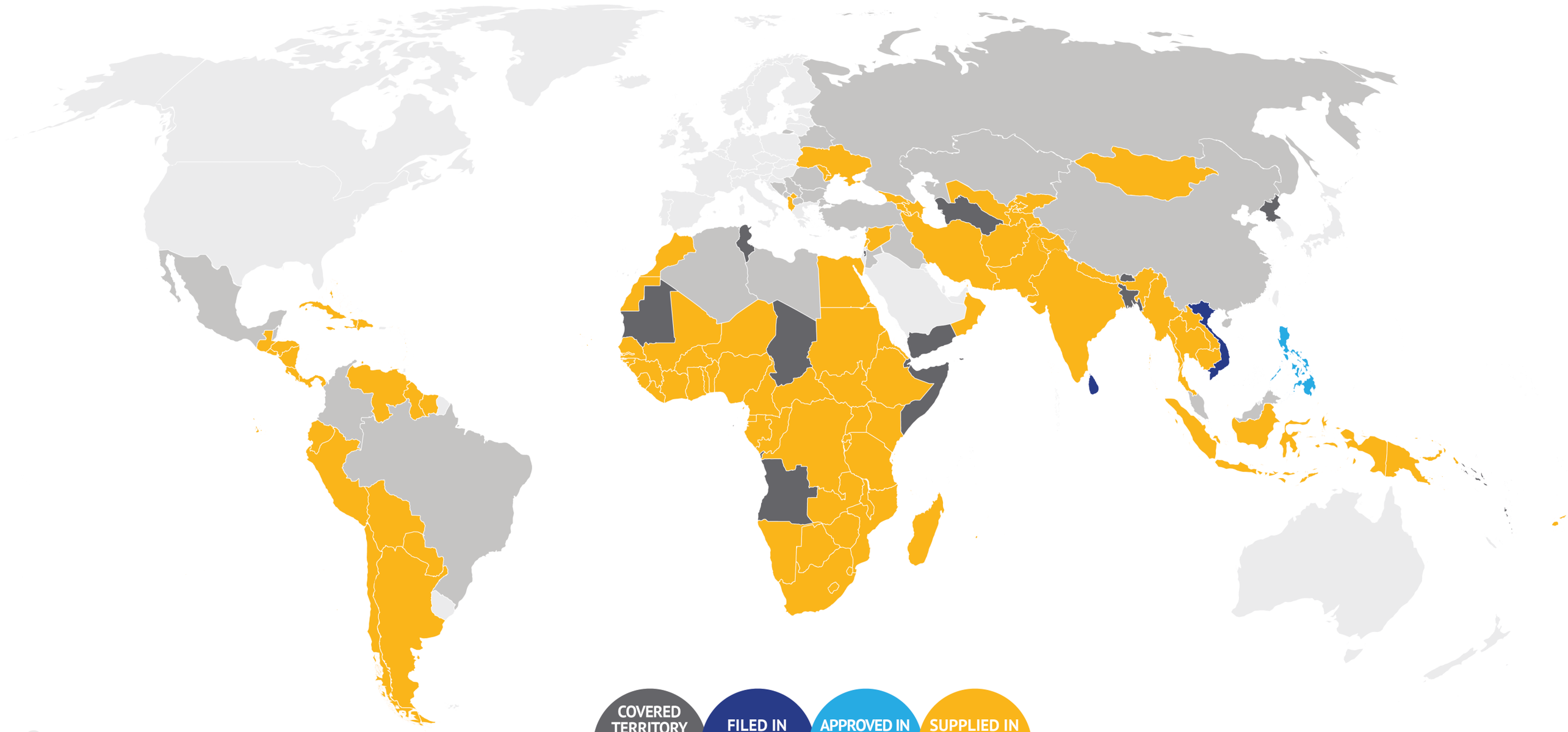
1. New filings and approvals in green *vis-à-vis last update* ***(Q1-20)***
2. Countries not included in DTG Adult licence but supply by MPP licensees permitted if no patent is being infringed in that country (*)
3. Countries where DTG 50mg has been sold indicated in **bold type**

Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions

medicines patent pool

MPP IMPACT MAP: **DTG 50mg**

DTG 50mg sales have occurred in **101** countries in which **80.4%** of PLHIV reside globally*



High-income countries

Low- and middle-income countries

COVERED TERRITORY 94 COUNTRIES

FILED IN 21 COUNTRIES

APPROVED IN 44 COUNTRIES

SUPPLIED IN 101 COUNTRIES

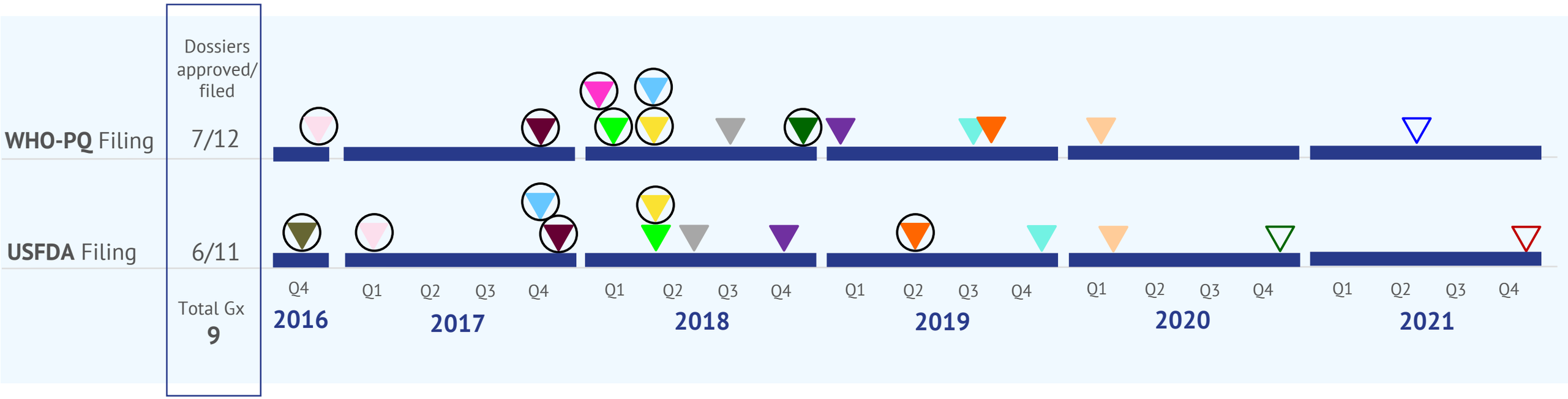
Data as of June 2020 by MPP licensees

Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions

*Latest estimated Global PLHIV population (2019) is 38M as per UNAIDS data http://aidsinfo.unaids.org/

medicines patent pool

TDF/3TC/DTG (TLD)
(TENOFOVIR DISOPROXIL / LAMIVUDINE / DOLUTEGRAVIR)



Companies approved ▼ Companies filed ▽ Companies planning to file

Note: *Each triangle represents a manufacturer and timelines represent date of filing*

13 MPP LICENSEES HAVE DEVELOPED TDF/3TC/DTG, OF WHICH: 9 COMPANIES ARE READY TO SUPPLY PRODUCT

Licensees Approved*: Aurobindo, Celltrion, Cipla, Hetero, Laurus, Macleods, Mylan, Strides, Sun Pharma

5 licensees awaiting WHO-PQ approvals | **5** licensees with USFDA | **2** other licensees are still developing this product

*USFDA, WHO-PQ and/or Global Fund ERP
Recent approvals: Strides (WHO-PQ-June 2020)

Data as of June 2020

medicines patent pool

TDF/3TC/DTG: COUNTRY-WISE FILING STATUS

Generic TLD has been filed in **66** countries, of which approval is received from **45** countries.
Filings have occurred where **72.7%** of PLHIV reside, globally

APPROVED (45)
65.4% PLHIV

Anguilla*	**Côte d'Ivoire**	**Mali**	**Thailand**
Antigua & Barbuda*	Dominica*	**Mauritania**	Turkmenistan
Argentina*	**Eswatini**	Mauritius	**Turks & Caicos***
Bahamas*	**Gabon**	Montserrat*	**Uganda**
Barbados*	**Ghana**	**Mozambique**	**Ukraine**
Benin	Grenada*	**Namibia**	**Uzbekistan**
Botswana	**India**	**Nigeria**	**Vietnam**
Cambodia	**Kenya**	**Rwanda**	**Zambia**
Cameroon	**Kyrgyzstan**	**South Africa**	**Zimbabwe**
Chad	**Lesotho**	St. Lucia*	
Congo, Dem. Rep.	**Madagascar**	St. Vincent & the Grenadines*	
Congo, Rep.	**Malawi**	**Tanzania**	

FILED (21)
7.3% PLHIV

Bolivia	Kazakhstan
Burkina Faso	**Myanmar**
Burundi	**Nicaragua**
Chile*	**Niger**
Dominican Republic*	**Pakistan**
Ecuador*	**Peru***
El Salvador	Philippines
Ethiopia	**Senegal**
Guatemala	**Sierra Leone**
Haiti	**Sudan**
Indonesia	**Togo**
Lebanon*	

1. New filings and approvals in green *vis-à-vis last update (Q1-20)*
2. Countries not included in DTG Adult licence but supply by MPP licensees permitted if no patent is being infringed in that country (*)
3. Countries where TDF/3TC/DTG has been sold indicated in **bold type**

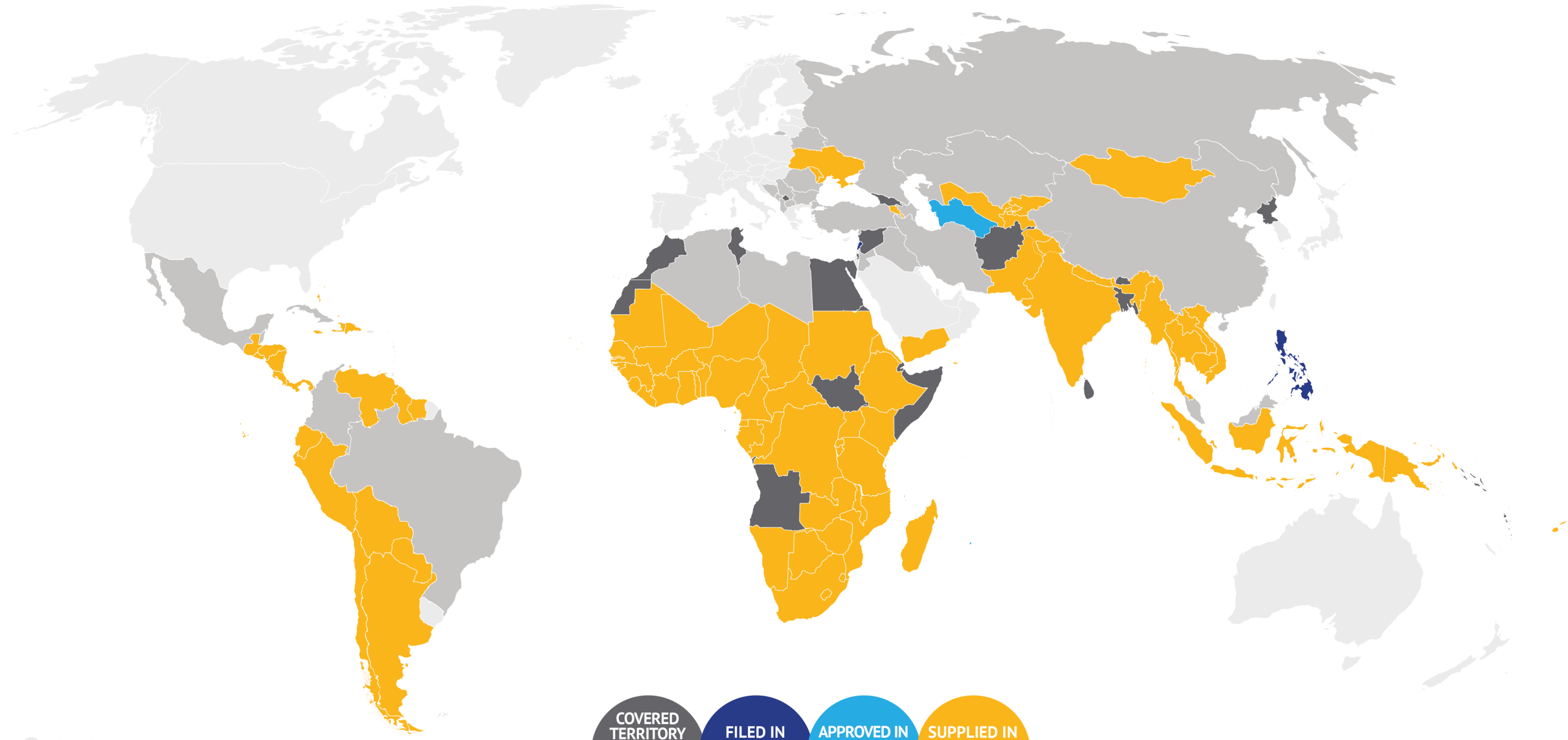
Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions

Data as of June 2020

medicines patent pool

MPP IMPACT MAP: **TDF/3TC/DTG (TLD)**

TLD sales have occurred in **81** countries in which **80.3%** of PLHIV reside globally



High-income countries

Low- and middle-income countries

COVERED TERRITORY **94** COUNTRIES

FILED IN **21** COUNTRIES

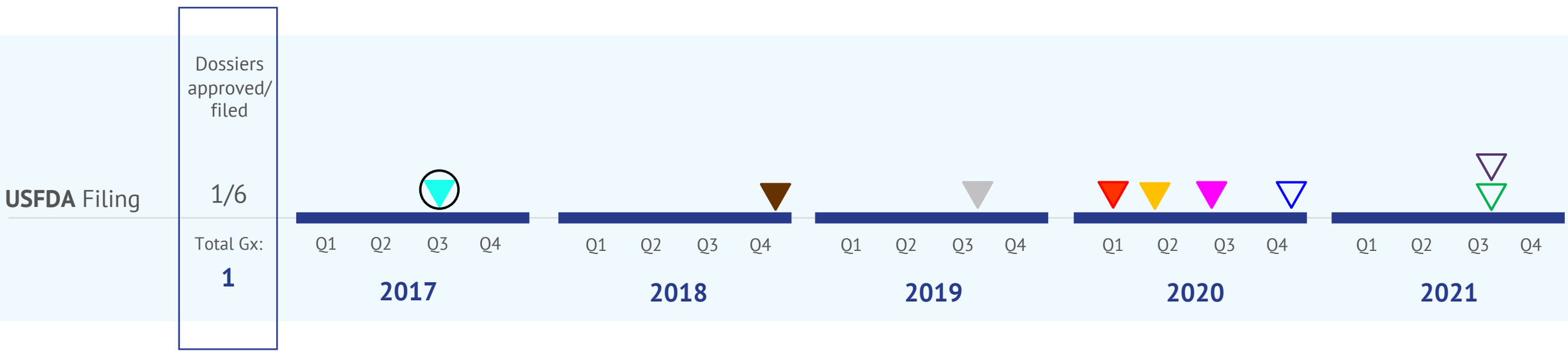
APPROVED IN **45** COUNTRIES

SUPPLIED IN **81** COUNTRIES

Data as of June 2020 by MPP licensees

Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions
#: Estimated Global PLHIV population till Dec 2019 is 38M as per UNAIDS data http://aidsinfo.unaids.org/

TAF/FTC/DTG
(TENOFOVIR ALAFENAMIDE / EMTRICITABINE / DOLUTEGRAVIR)



Companies approved ▼ Companies filed ▽ Companies planning to file

Note: *Each triangle represents a manufacturer and timelines represent date of filing*

6 MPP LICENSEES HAVE DEVELOPED TAF/FTC/DTG, OF WHICH, 1 COMPANY (MYLAN) IS READY TO SUPPLY THE PRODUCT

5 licensees awaiting USFDA approval | 3 licensees developing the product* of which, one plans to file in Q4-20 and the other two in H2-21

Approved in 9 countries and filed in additional 23 countries | Filings have occurred where 65.1% of PLHIV reside globally

**We anticipate development by additional licensees to accelerate, once there is an update on WHO's position about use of TAF-containing formulations*

Data as of June 2020

ADDITIONAL FORMULATIONS

TAF/FTC
(TENOFOVIR ALAFENAMIDE / EMTRICITABINE)

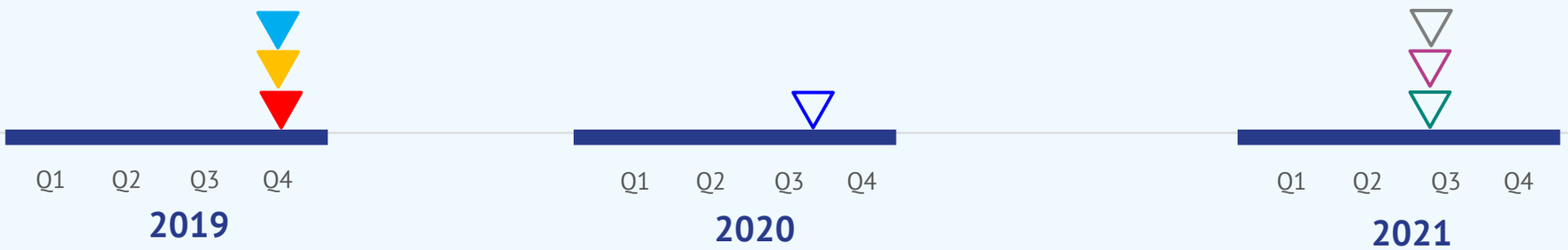
USFDA Filing

Dossiers approved/ filed

0/3

Total Gx:

0



▼ Companies filed ▽ Companies planning to file

Note: *Each triangle represents a manufacturer and timelines represent date of filing*

3 MPP LICENSEES HAVE DEVELOPED TAF/FTC COMBINATION AND ARE AWAITING USFDA APPROVAL

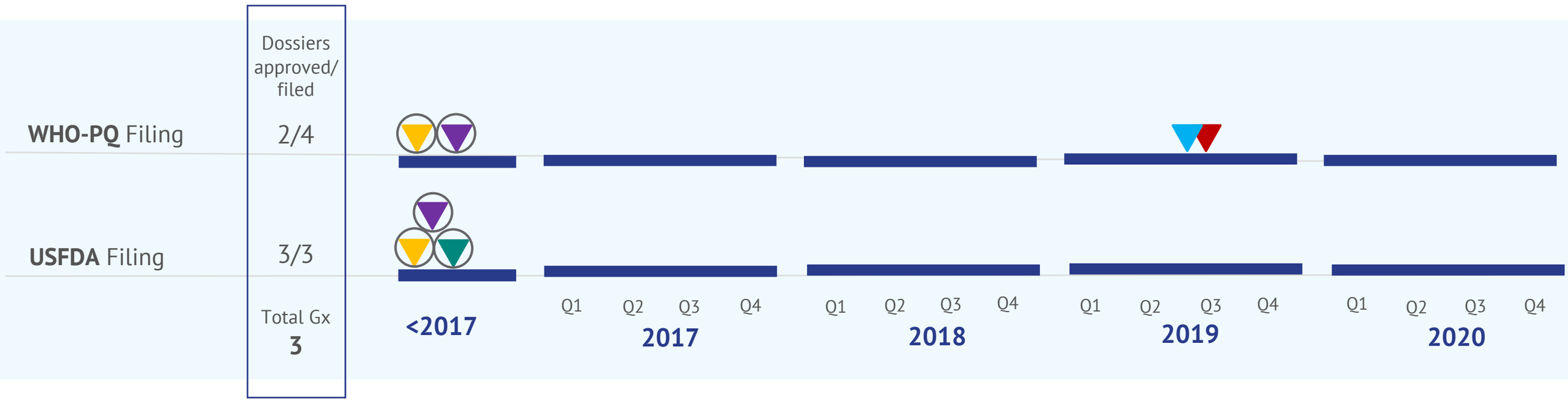
4 additional licensees developing this product* of which, one plans to file in **Q3-20** and three others in **H2-21**

Note: Gilead has direct licences with additional manufacturers, details of which are not captured here

**We anticipate development by additional licensees to accelerate, once there is an update on WHO's position about use of TAF-containing formulations*

Data as of June 2020

ATV/r
(ATAZANAVIR / RITONAVIR)



▼ **Companies approved** ▼ Companies filed

Note: *Each triangle represents a manufacturer and timelines represent date of filing*

5 MPP LICENSEES HAVE DEVELOPED ATV/R, OF WHICH, 3 COMPANIES ARE READY TO SUPPLY THE PRODUCT

Licensees Approved*: Cipla, Emcure, Mylan

2 licensees awaiting WHO-PQ approvals

Approved in 34 countries | Filed in additional 16 countries | Filings have occurred where 68.8% of PLHIV reside globally

*USFDA, WHO-PQ and/or Global Fund ERP

Data as of June 2020

medicines
patent
pool

PAEDIATRIC HIV

PAEDIATRIC PROJECTS

DTG 10mg scored *(dispersible tablets)*	• Two MPP licensees have developed this product and have filed with USFDA/WHO-PQ
ABC/3TC/DTG *(60/30/5mg dispersible tablets)*	• Three MPP licensees are developing this product combination of which, two plan to file with USFDA in H2-21 and another in H1-22
LPV/r *(40/10mg pellets)*	• One MPP licensee, approved by USFDA has commercialized this product in 30+ countries
ABC/3TC/LPV/r *(30/15/40/10mg granules)*	• One MPP licensee has developed this 4-in-1 combination and has filed with USFDA, with approval expected by Dec 2020

Data as of June 2020

medicines
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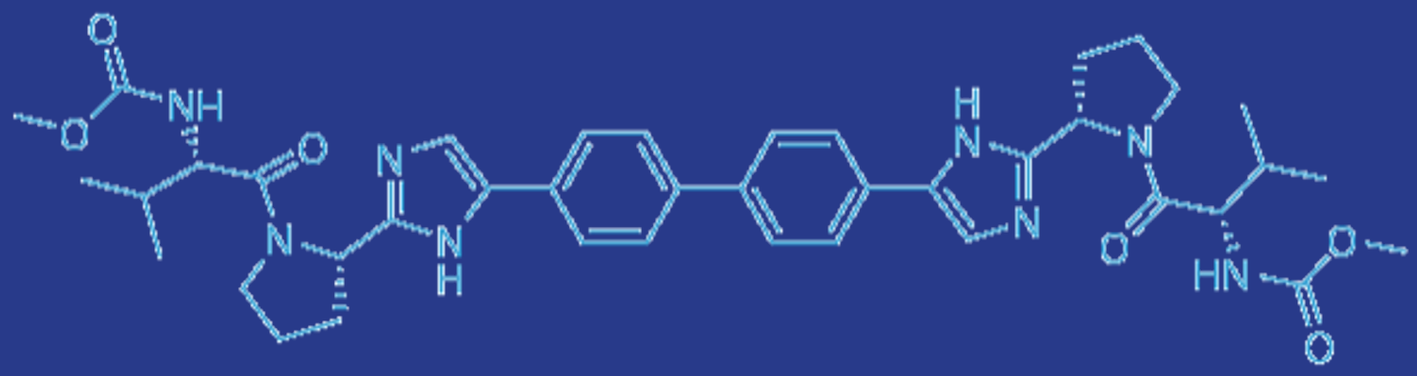
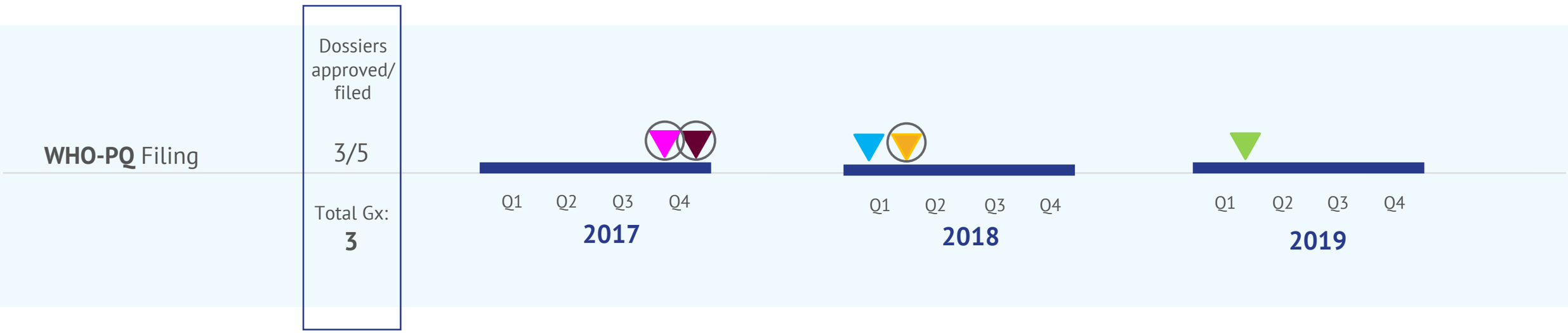
pool

DACLATASVIR



DAC 30mg and 60mg
(DACLATASVIR)



Companies approved ▼ Companies filed

Note: *Each triangle represents a manufacturer and timelines represent date of filing*

5 MPP LICENSEES HAVE DEVELOPED DAC 30/60 MG, OF WHICH, 3 COMPANIES ARE READY TO SUPPLY

Licensees Approved: Cipla, Hetero, Mylan

2 licensees awaiting WHO-PQ approval

Data as of June 2020

DAC 30mg & 60mg: COUNTRY-WISE FILING STATUS

Generic DAC has been approved in **34** countries and filed in additional **22** countries
Filings have occurred in **56** countries overall where **47.5%** PLHCV reside globally#

APPROVED (34)
41.6% PLHCV

Benin	**India**	**Pakistan**
Cambodia	**Indonesia**	Philippines
Cameroon	**Kazakhstan**	Tanzania
Chad	**Kyrgyzstan**	**Turkmenistan**
Congo, Dem. Rep.	Liberia	Uganda
Congo, Rep.	Libya	**Ukraine**
Côte d'Ivoire	Malawi	**Uzbekistan**
Dominican Republic	**Malaysia**	**Vietnam**
Eswatini	**Mongolia**	Zambia
Ethiopia	**Myanmar**	**Zimbabwe**
Gabon	Nicaragua	
Guyana	**Nigeria**	

FILED (22)
5.9% PLHCV

Azerbaijan	Kenya
Bolivia	Namibia
Botswana	**Nepal**
Burkina Faso	Paraguay
Burundi	**Rwanda**
Costa Rica	Senegal
Georgia	**Sri Lanka**
Ghana	Sudan
Guatemala	Suriname
Haiti	Thailand
Honduras	Togo

1. New filings and approvals in green *vis-à-vis last update (Q1-20)*
2. Countries not included in DAC 30mg & 60mg licence but supply by MPP licensees permitted if no patent is being infringed in that country (*)
3. Countries where DAC 30mg & 60mg has been sold indicated in **bold type**

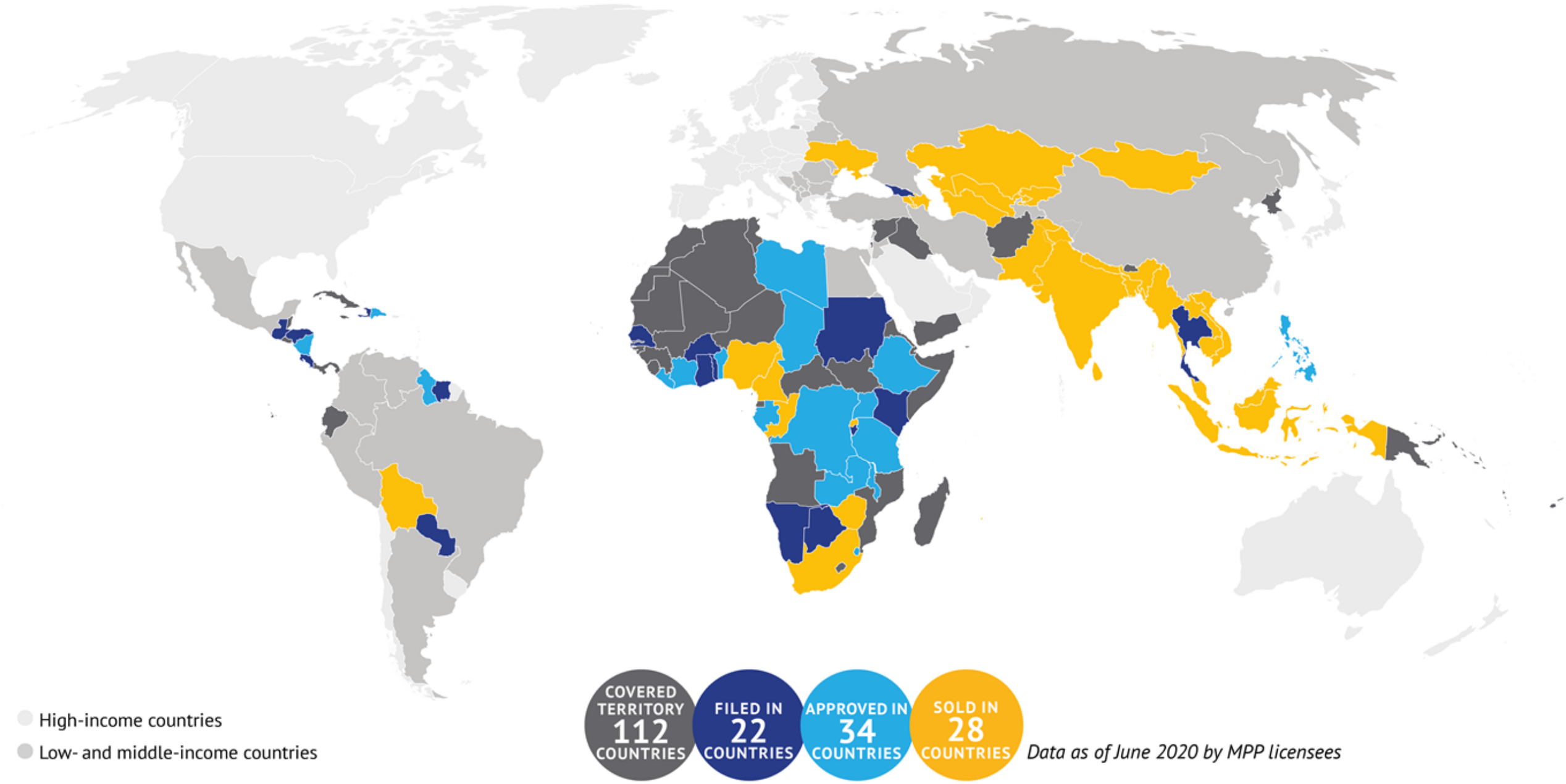
Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions
#: Estimated Global PLHCV population till Dec 2019 is 62M as per POLARIS Data

Data as of June 2020

medicines patent pool

MPP IMPACT MAP: **DAC 30/60mg**

DAC 30/60mg sales have occurred in **28** countries in which **40%** of PLHCV reside globally#



Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions
#: Estimated Global PLHCV population till Dec 2019 is 62M as per POLARIS Data

DAC/SOF
(DACLATASVIR / SOFOSBUVIR)

Companies approved ▼ Companies filed

Note: *Each triangle represents a manufacturer and timelines represent date of filing*

2 MPP LICENSEES HAVE DEVELOPED DAC/SOF, OF WHICH 1 COMPANY (CIPLA) IS READY TO SUPPLY THE PRODUCT

Licensees Approved: Cipla (co-pack)

Approved in **9** countries and filed in additional **12** countries | Filings have occurred where **31.9%** of PLHCV reside globally[#]

#: Estimated Global PLHCV population till Dec 2019 is 62M as per POLARIS Data

Data as of June 2020

medicines
patent
pool

MPP’s Impact

MPP, through licensing agreements has enabled developing countries to benefit from access to affordable, quality-assured generics.
Our impact is measured by calculating savings from the purchase of medicines developed by our licensees in additional countries where such generics sale was earlier not possible.

IMPACT OF MPP AGREEMENTS THROUGH JUNE 2020
(HIV, HCV PRODUCTS)

143 countries

MPP licensees distributing generics

318 new instances of countries

Benefitted from generic competition through MPP agreements

$1662 million

Savings

73% average drop

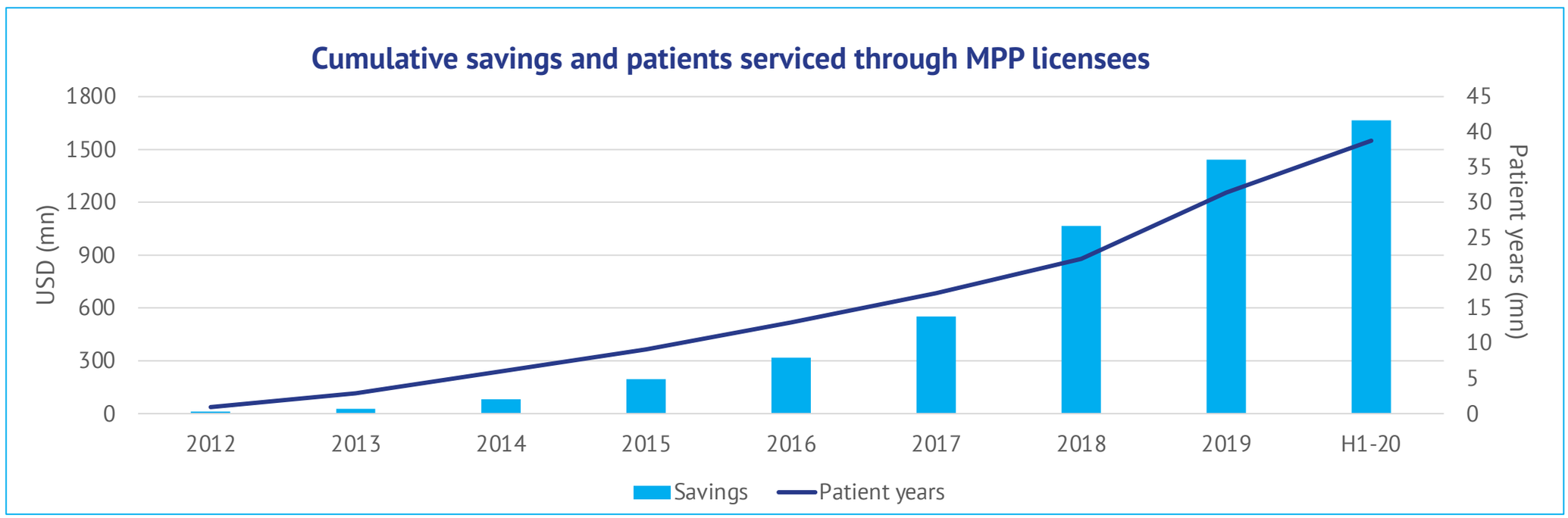
In formulation prices after MPP agreements

38.75 million patient-years

Serviced by MPP licensees

ASSURED

Review and independent assurance of impact by KPMG*



* *Available at:* https://medicinespatentpool.org/uploads/2020/10/KPMG_statement_June_2020.pdf

Data as of June 2020

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THANK YOU