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UPDATE ON PROGRESS OF MPP SUBLICENSEES

TILL DECEMBER 2022

MEDICINESPATENTPOOL.ORG

SUMMARY

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

- To date, MPP has signed agreements with 18 patent holders for 14 HIV antiretrovirals, 1 HIV technology platform, 3 hepatitis C direct-acting antivirals, 1 tuberculosis treatment, 4 long-acting technologies, 1 non-communicable disease treatment, 3 experimental oral antiviral treatments for COVID-19 and 12 Covid-19 technologies.

- 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 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.

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MPP PARTNERSHIPS WITH INNOVATORS

HIV

abbvie
lopinavir, ritonavir (adults)
lopinavir, ritonavir (paediatric)

Boehringer Ingelheim
nevirapine (non-assert)

Bristol-Myers Squibb
atazanavir

Gilead
bictegravir
cobicistat
elvitegravir
emtricitabine
tenofovir alafenamide
tenofovir disoproxil fumarate

Janssen
darunavir (paediatric; non-assert)

MSD
raltegravir (paediatric)

NIH
darunavir
related

ViiV Healthcare
abacavir (paediatric)
dolutegravir (paediatric)
dolutegravir (adults)
dolutegravir (adults, for AZ, BY, KZ, MY)

Roche
valganciclovir (pricing agreement)

COVID-19

MSD
molnupiravir

Pfizer
nirmatrelvir

Shionogi
ensitrelvir

Hepatitis C

Abbvie
glecaprevir/pibrentasvir

Bristol-Myers Squibb
daclatasvir

Pharco Corporation
ravidasvir

Tuberculosis

Johns Hopkins University
sutezolid

Pfizer
sutezolid

Technologies (e.g., long-acting, diagnostics)

ViiV Healthcare
Cabotegravir LA for HIV Prep

University of Liverpool
solid drug nanoparticles technology (disease agnostic)
ETFD LAI (TB, malaria, HCV)

CSIC
serological antibody diagnostic test (COVID-19)

Medincell
LA technology for Malaria vector control

Tandem Nano Ltd
LA technologies for HCV, TB and Malaria treatment

University of Washington
TLD LAI (HIV)

NIH
serological antibody diagnostic test (COVID-19)

Cancer

Novartis
nilotinib

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MPP PARTNERSHIPS WITH GENERICS

Hepatitis C

daclatasavir
Beximco Pharma
Cipla
Hetero
Laurus Labs
Mylan
Natco
Zydus Cadila

glecaprevir/pibrentasvir
Arene Lifesciences
Mylan
Remington
USV

HIV

abacavir (paed)
Aurobindo

atazanavir
Aurobindo
Cipla
Desano
Emcure
Mylan

bictegravir
Adcock Ingram
Arene Lifesciences
Aurobindo
Biochem
Desano
Emcure
Laurus Labs
Lupin
MacLeods

cobicistat
Adcock Ingram
Arene Lifesciences
Biochem
Emcure
Lupin

dolutegravir
Adcock Ingram**
Arene Lifesciences
Celltrion**
Cipla **
Desano **
Emcure **
Hetero **
Langhua
Laurus Labs **
Lupin **
MacLeods **
Mangalam
Micro Labs **
Mylan **
Strides**
Sun Pharma **

elvitegravir
Adcock Ingram
Arene Lifesciences Limited
Biochem

emtricitabine
Adcock Ingram
Arene Lifesciences
Aurobindo
Biochem
Desano
Emcure
Laurus Labs
Lupin
MacLeods
Micro Labs Limited
Natco

lopinavir, ritonavir
Adcock Ingram
Arene Lifesciences
Aurobindo
Cipla*
Desano
Emcure
Hetero#
Lupin
Sun Pharma

Raltegravir / Paed
Lupin

tenofovir alafenamide
Adcock Ingram
Arene Lifesciences
Aurobindo
Biochem
Desano
Emcure
Langhua
Laurus Labs
Lupin
MacLeods
Micro Labs
Natco

Tenofovir, disoproxil, fumarate
Adcock Ingram
Arene Lifescience
Biochem

COVID-19

molnupiravir
Arene Lifesciences
BDR
Beximco Pharma
Biophore
Bright Gene
CPT Pharma
Desano
Dongbang FTL
Fosun Pharma
Kimia Pharma
Hikma
Incepta
Langhua
Laurus Labs
Lonzeal
MSN
Natco
Remington
SMS Pharma
Stella
Strides
Universal Corporation ltd

nirmatrelvir
Amneal
Apeloa
Arene Lifesciences
Aurobindo
Biocon
Cadila Pharmaceuticals
Celltrion
Cipla
Darnitsa
Desano
Divis
Dr. Reddy's
Dongbang FTL
Emcure
Fosun Pharma
Glenmark
Granules
Hetero
Hikma
Huahai
Jiuzhou
Laurus Labs
MacLeods
Magnachem
MSN
Mylan
Neolpharma
Remington
SMS Pharma
Stella
Strides
Sun Pharma
Torrent Pharma
Zdravlje Leskovac

Tuberculosis

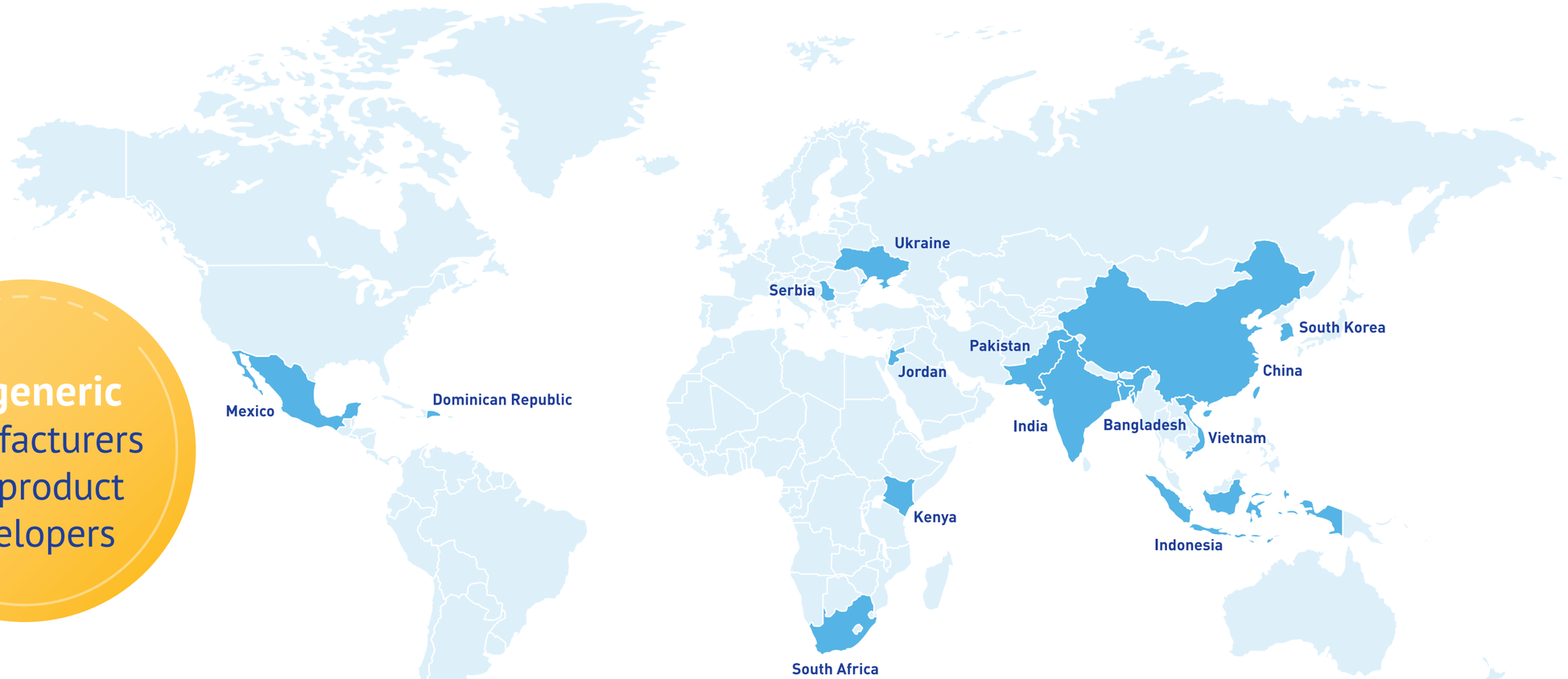
sutezolid / John Hopkins University
TB Alliance

sutezolid / Pfizer
Bill & Melinda Gates Foundation

* Only LPV/r paed licence #Also has LPV/r paed licence ** Also have DTG paed licence

MPP'S NETWORK OF GENERIC MANUFACTURERS AND PRODUCT DEVELOPERS ARE IN 14 COUNTRIES

55 generic manufacturers and product developers



Bangladesh
Incepta
Beximco

China
Apeloa
Aurisco
Biochem
BrightGene
Desano
Fosun
Jiuzhou
Huahai
Langhua
Lonzeal

Dominican Republic
Magnachem

India
Amneal
Arene
Aurobindo
BDR
Biocon
Biophore
Cadila
Cipla
Divi's
Dr Reddy's
Emcure
Glenmark
Granules
Hetero
Laurus
Lupin
Macleods
Mangalam
Micro Labs
MSN
Natco
SMS Pharma
Strides
Sun
Torrent
USV
Viatris
Zydus Cadila

Indonesia
Kimia Farma

Jordan
Hikma

Kenya
UCL

Mexico
Neolpharma

Pakistan
Remington

Serbia
FHI Zdravlje

South Africa
Adcock Ingram
CPT

South Korea
Celltrion
Dongbang

Ukraine
Darnitsa

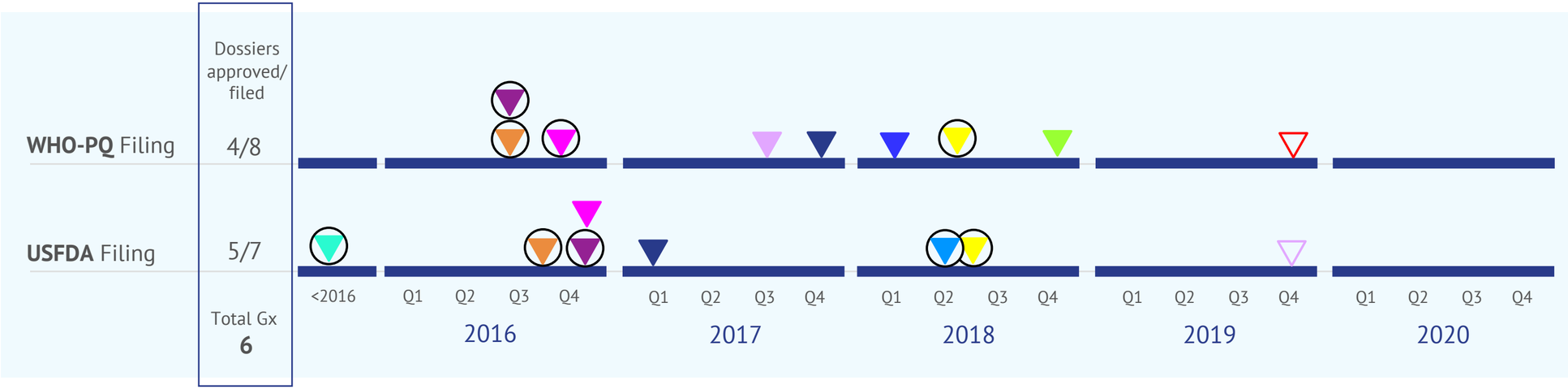
Vietnam
Stella

Product developers
TB Alliance*
Gates MRI*

*Not a generic manufacturer

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

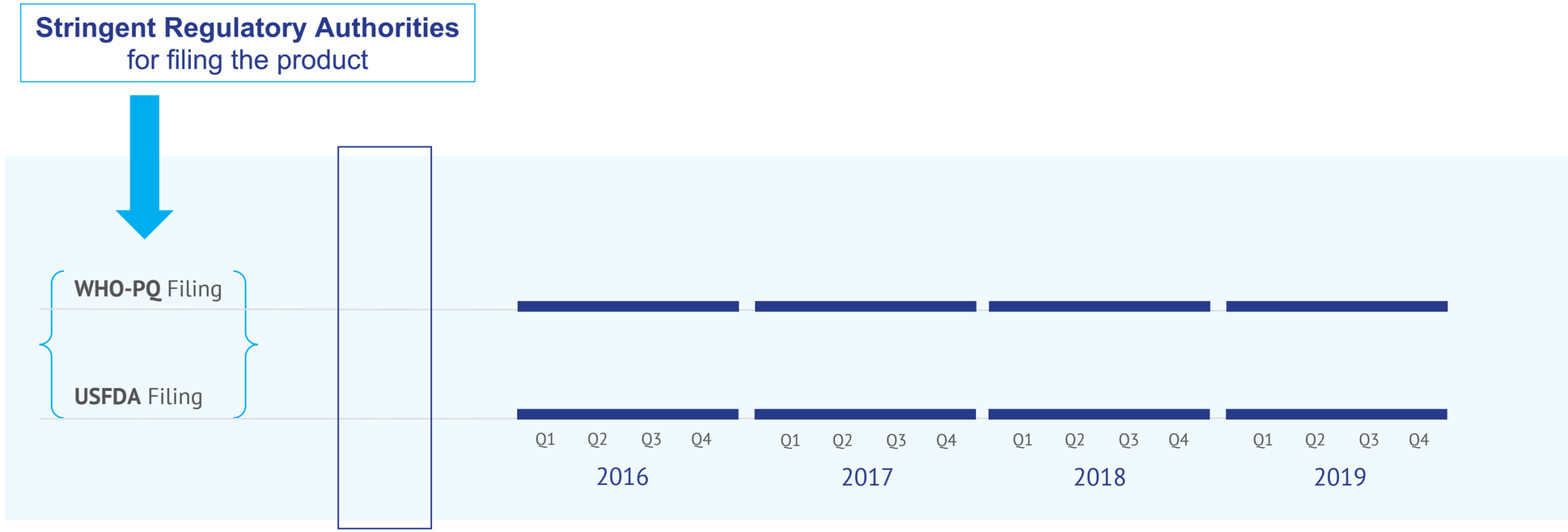


Companies approved ▼ Companies filed ▽ Companies planning to file

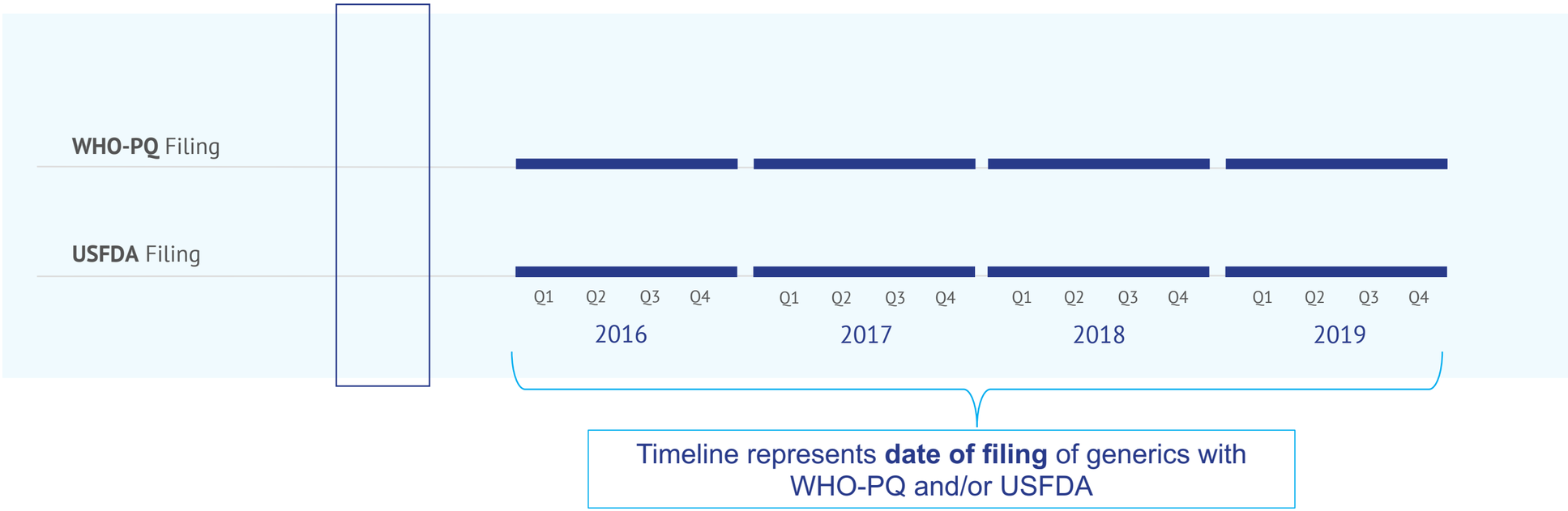
Note: *Each triangle represents a manufacturer and timelines represent date of filing*

See following slides for explanation

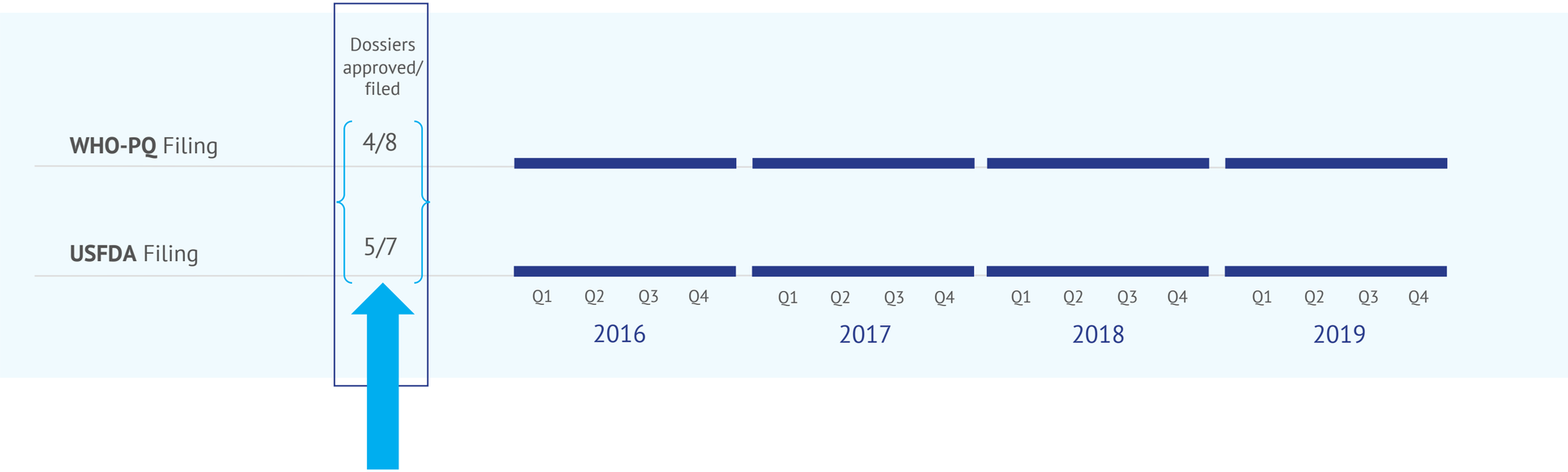
TRIANGLE CHARTS EXPLAINED (1/7)



TRIANGLE CHARTS EXPLAINED (2/7)

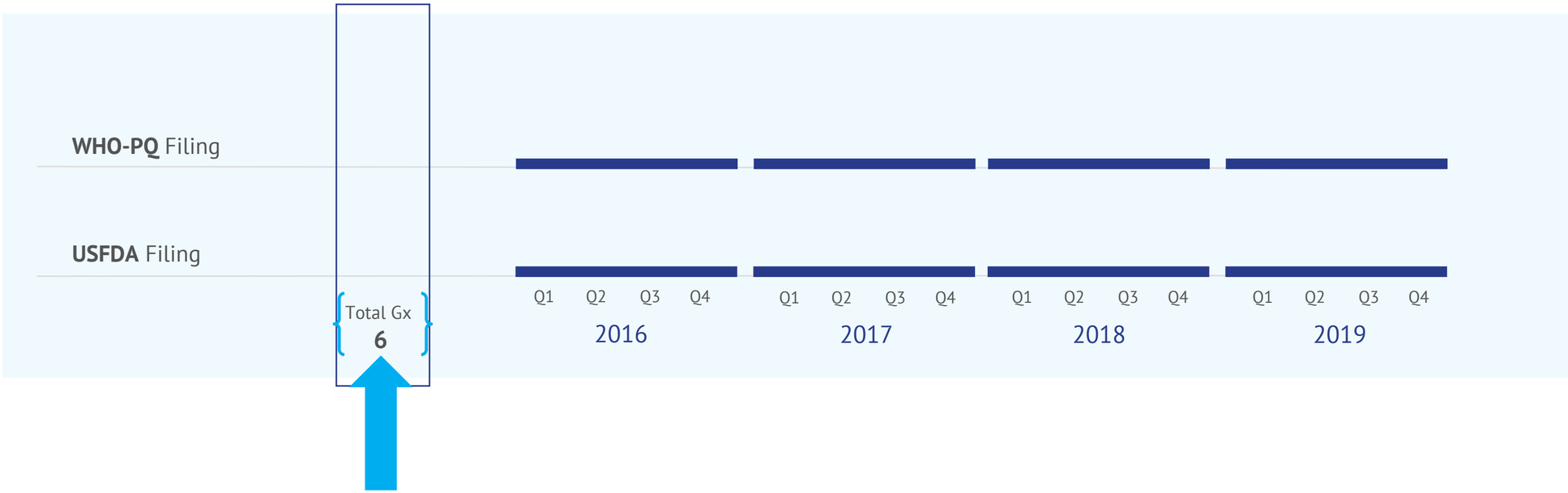


TRIANGLE CHARTS EXPLAINED (3/7)



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

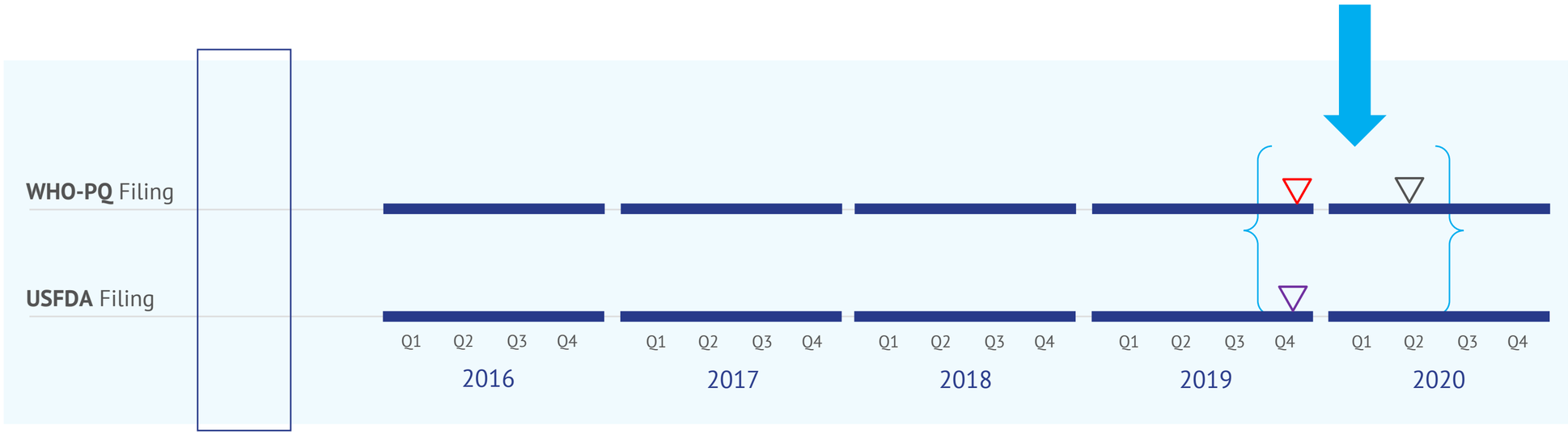
TRIANGLE CHARTS EXPLAINED (4/7)



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

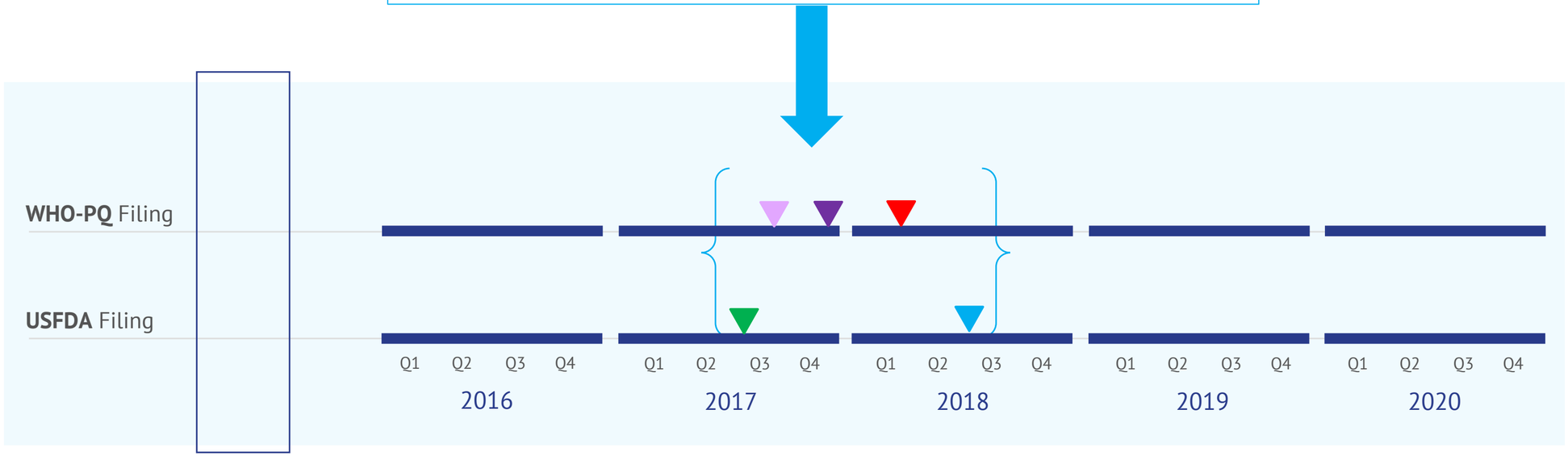


▽ Companies planning to file

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

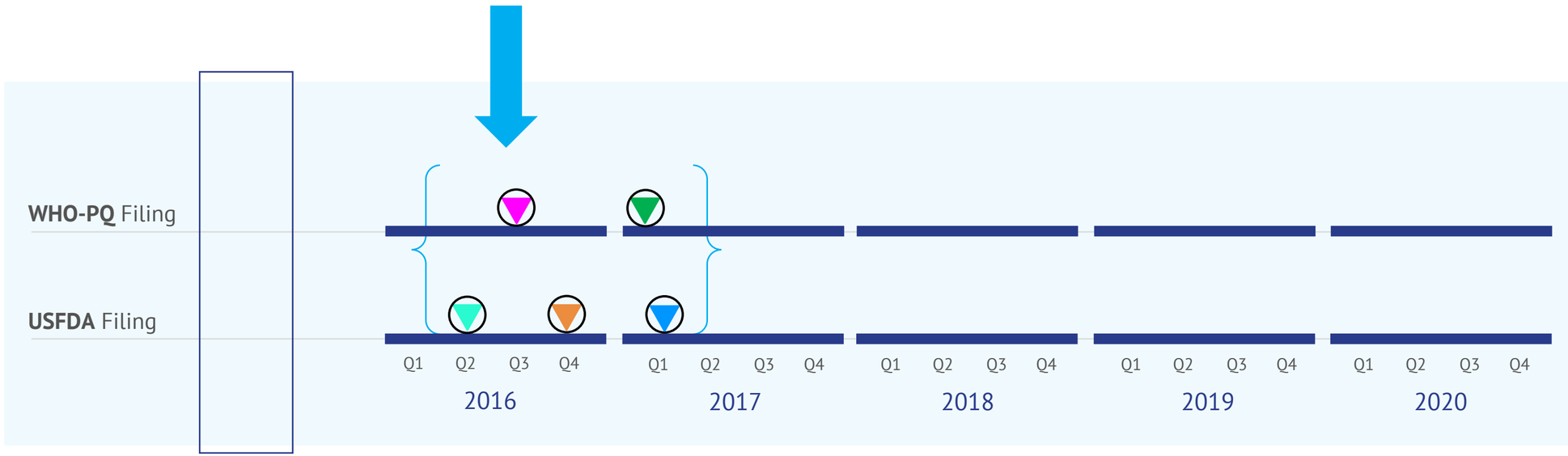


▼ Companies filed

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

CURRENT SUBLICENSEES

FOR VIIV-MPP DOLUTEGRAVIR LICENCE

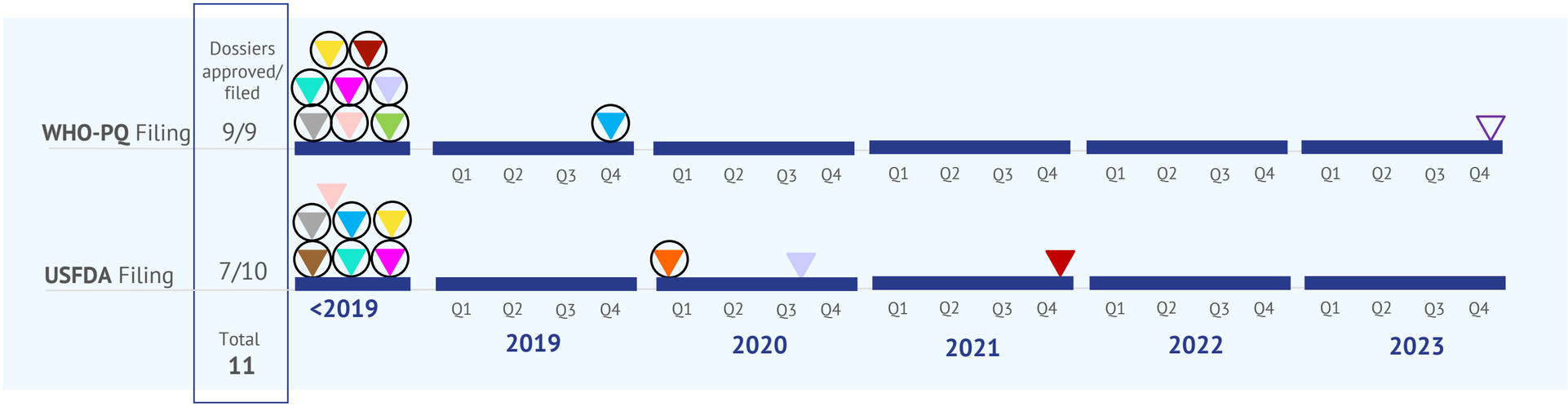
16 dolutegravir sublicensee agreements

adcock ingram
Arene Lifesciences Limited
CELLTRION
Cipla
DESANO
Emcure SUCCESS THROUGH INNOVATION
HETERO
LANGHUA 朗华制药
LAURUS Labs Knowledge . Innovation . Excellence
LUPIN
MACLEODS
MANGALAM
MICRO LABS LIMITED
Mylan
Strides
SUN PHARMA

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

Note: the following presentation contains updates as of December 2022, however approvals through March 2023 are included.

DTG 50MG:
FORMULATION DEVELOPMENT TIMELINES



Companies approved ▼ Companies filed ▽ Companies planning to file

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

11 MPP LICENSEES HAVE DEVELOPED DTG 50MG, OF WHICH ALL 11 ARE READY TO COMMERCIALIZE THE PRODUCT

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

3 licensees awaiting USFDA approval | 1 additional licensee developing

*USFDA and/or WHO-PQ

Data as of December 2022

medicines patent pool

DTG 50MG: COUNTRY WISE FILING STATUS

Generic DTG 50mg has been filed in 74 countries, of which approval has been received in 59 countries

Filings have occurred where 92.6% of PLHIV^ reside in the licensed territory#

APPROVED (59)
88.5% PLHIV

Anguilla*	Botswana	Dominica*	Kazakhstan	Namibia	Saint Lucia*	Ukraine
Antigua and Barbuda*	Burundi	Ethiopia	Kenya	Nicaragua	Saint Vincent and the Grenadines*	Uruguay*
Armenia	Cambodia	Ghana	Kyrgyzstan	Niger	South Africa	Uzbekistan
Azerbaijan	Chad	Grenada	Malawi	Nigeria	Tajikistan	Zambia
Bahamas*	Chile*	Guatemala	Malaysia	Pakistan	Tanzania	Zimbabwe
Barbados*	Congo	Honduras	Mauritius	Panama*	Thailand*	
Belarus	Congo, DR	India	Montserrat*	Peru*	Turkmenistan	
Benin	Costa Rica*	Indonesia	Mozambique	Philippines	Turks and Caicos Islands*	
Bhutan	Côte d'Ivoire	Iran*	Myanmar	Rwanda	Uganda	

FILED (15)
4.1% PLHIV

Bolivia	Gabon	Moldova
Burkina Faso	Guyana	Morocco
Cameroon	Jamaica	Senegal
Dominican Republic*	Madagascar	Sri Lanka
El Salvador	Mali	Viet Nam

- New filings in green *vis-à-vis last update (Q3-22)*
- Countries where DTG has been sold indicated in **bold type**

* Countries not included in DTG Adult licence but supply by MPP licensees permitted if no patent is being infringed in that country

^ People living with HIV

\# MPP-ViiV DTG licence agreement

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

Data as of December 2022

DTG IMPACT MAP

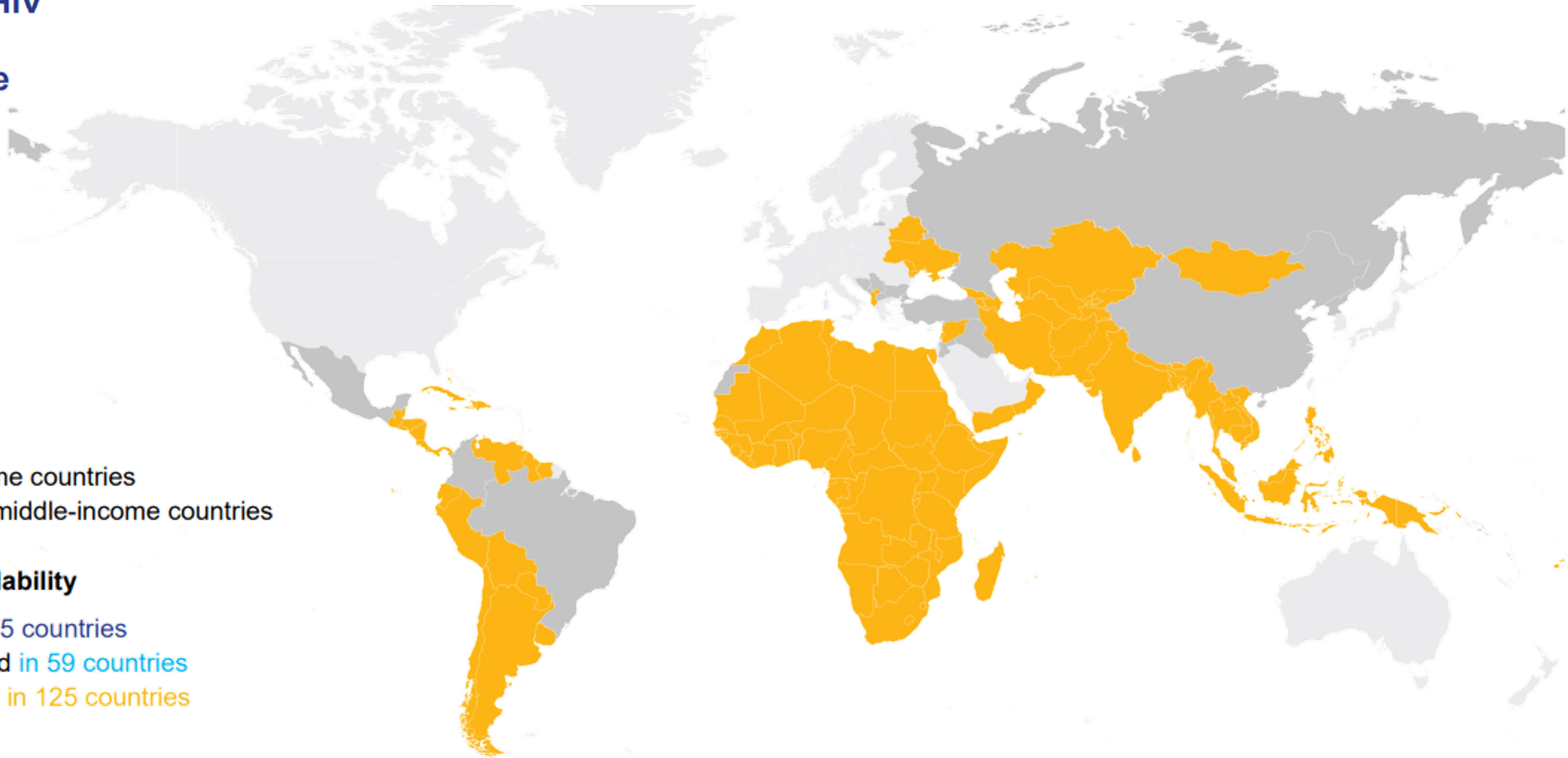
medicines patent pool

DTG 50mg sales have occurred in **125** countries
in which **99.9%** of PLHIV^ reside in the licensed territory#

DTG adult (50 mg)

Disease: HIV

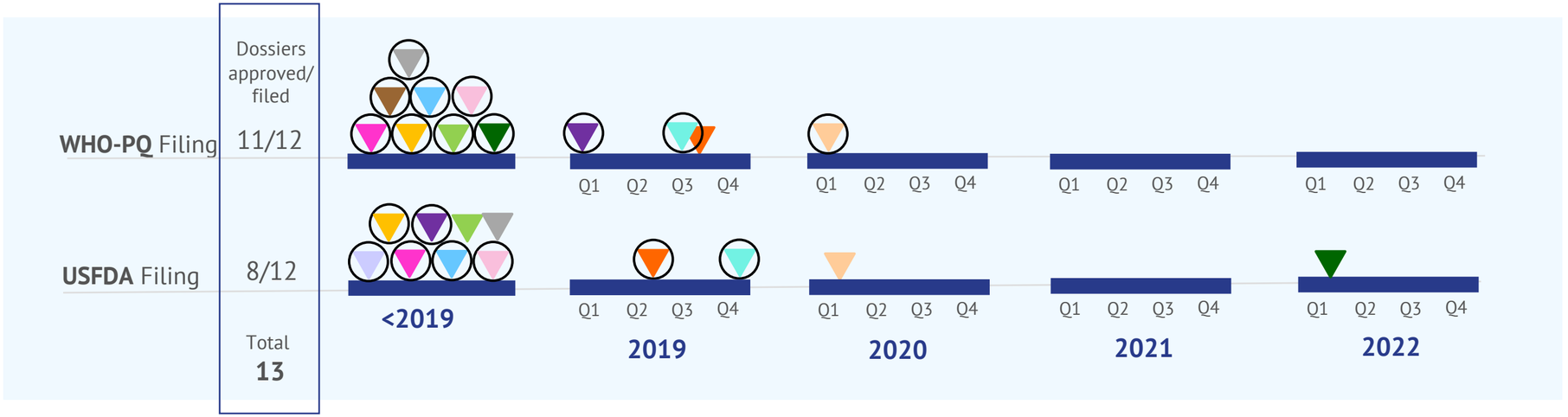
Worldwide



Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions
^ People living with HIV
# MPP-ViiV DTG licence agreement

Data as of December 2022

TDF/3TC/DTG (TLD): FORMULATION DEVELOPMENT TIMELINES



13 MPP LICENSEES HAVE DEVELOPED TDF/3TC/DTG, OF WHICH ALL 13 ARE READY TO COMMERCIALIZE THE PRODUCT

Licensees Approved*: Aurobindo, Celltrion, Cipla, Desano, Emcure, Hetero, Laurus, Lupin, Macleods, Micro Labs, Mylan, Strides, Sun Pharma

1 licensee awaiting WHO-PQ approval | 4 licensees awaiting USFDA approval

*USFDA and/or WHO-PQ

Data as of December 2022

medicines patent pool

TDF/3TC/DTG (TLD): COUNTRY WISE FILING STATUS

Generic TDF/3TC/DTG has been filed in **80** countries, of which approval has been received in **60** countries
Filings have occurred where **93.7%** of PLHIV^ reside in the licensed territory#

APPROVED (60)
90.8% PLHIV

Anguilla*	**Botswana**	**Côte d'Ivoire**	Kazakhstan	Montserrat*	**Rwanda**	**Uganda**
Antigua and Barbuda*	**Burkina Faso**	Dominica*	**Kenya**	**Mozambique**	Saint Lucia*	**Ukraine**
Armenia	**Burundi**	**Ethiopia**	**Kyrgyzstan**	**Myanmar**	Saint Vincent and the Grenadines*	**Uzbekistan**
Azerbaijan	**Cambodia**	**Gabon**	**Madagascar**	**Namibia**	**South Africa**	**Viet Nam**
Bahamas*	**Cameroon**	**Gambia**	**Malawi**	**Niger**	**Tajikistan**	**Zambia**
Barbados*	**Chad**	**Ghana**	Malaysia	**Nigeria**	**Tanzania**	**Zimbabwe**
Belarus	**Chile***	Grenada*	**Mali**	**Panama***	**Thailand**	
Benin	**Congo**	**India**	**Mauritania**	**Peru***	**Turkmenistan**	
Bhutan	**Congo, DR**	**Indonesia**	Mauritius	**Philippines**	**Turks and Caicos Islands***	

FILED (20)
2.9% PLHIV

Bangladesh	**Guatemala**	**Moldova**	**Sierra Leone**
Bolivia	**Guinea**	**Morocco**	Sri Lanka
Costa Rica*	**Guyana**	**Nepal**	**Sudan**
Dominican Republic	**Jamaica***	**Pakistan**	**Togo**
El Salvador	**Lebanon***	**Senegal**	Uruguay*

- New filings and approvals in green *vis-à-vis last update (Q3-22)*
- Countries where TLD has been sold indicated in **bold type**

* Countries not included in DTG Adult licence but supply by MPP licensees permitted if no patent is being infringed in that country
^ People living with HIV
# MPP-ViiV DTG licence agreement
Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions

Data as of December 2022

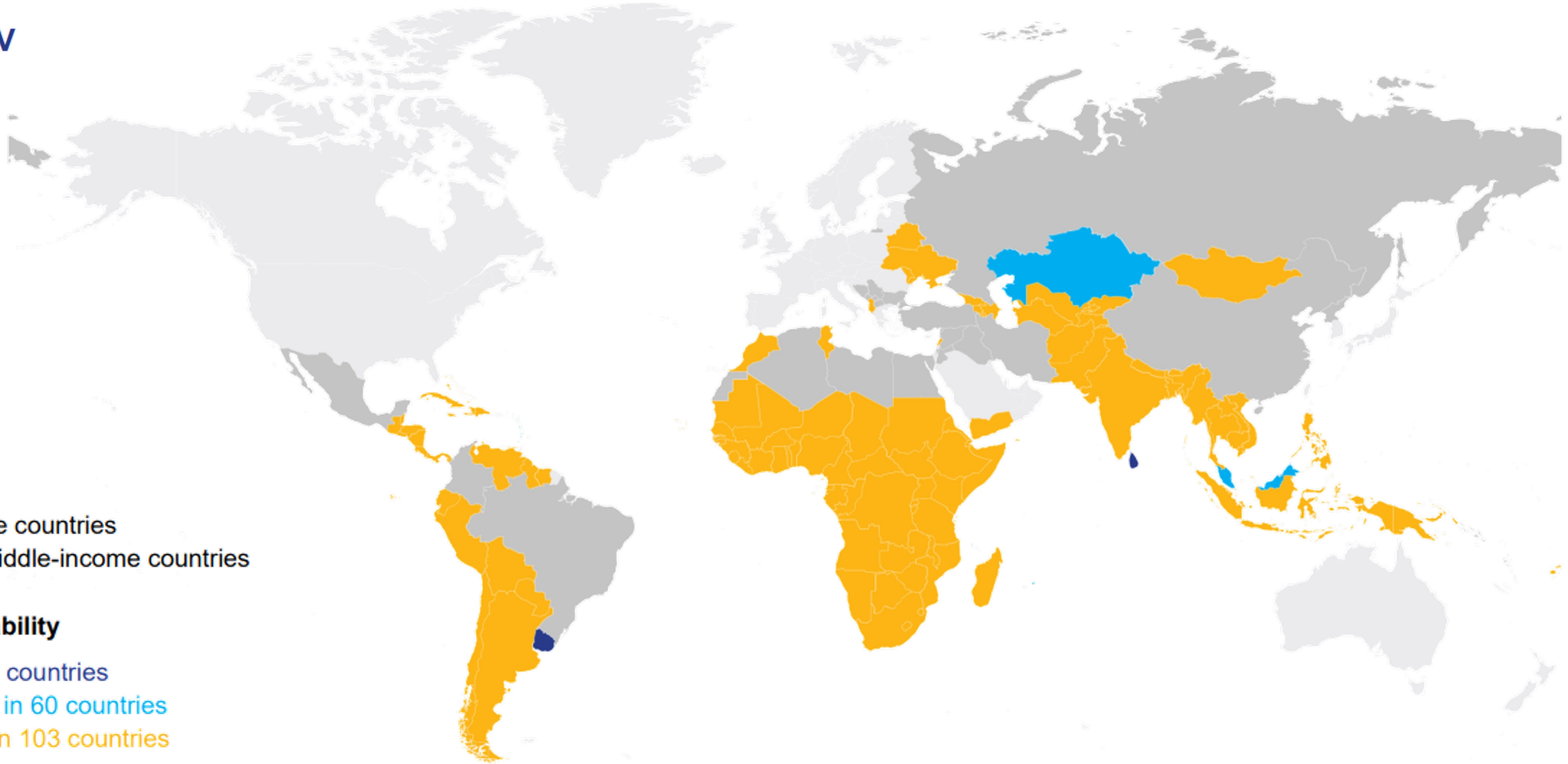
TDF/3TC/DTG (TLD) IMPACT MAP

TDF/3TC/DTG sales have occurred in **103** countries
in which **99.15%** of PLHIV^ reside in the licensed territory#

TLD - TDF/3TC/DTG (300/300/50 mg)

Disease: HIV

Worldwide



Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions
^ People living with HIV
# MPP-ViiV DTG licence agreement

Data as of December 2022

DTG 50MG & TDF/3TC/DTG (TLD): COUNTRIES OF SALE- (2017 TO DECEMBER 2022)

Countries of Sale (126), where 99.9% of PLHIV^ covered by the license reside#								
Afghanistan	Bermuda	Costa Rica	Gambia (the)	Kenya	Moldova, Republic of	Paraguay	Sudan	Uzbekistan
Albania	Bhutan	Côte d'Ivoire	Georgia	Kosovo	Mongolia	Peru	Suriname	Venezuela
Algeria	Bolivia	Cuba	Ghana	Kyrgyzstan	Montserrat	Philippines	Syrian Arab Republic	Viet Nam
Angola	Botswana	Djibouti	Grenada	Lao People's Democratic Republic (the)	Morocco	Rwanda	Tajikistan	Virgin Islands (British)
Anguilla	Burkina Faso	Dominica	Guatemala	Lebanon	Mozambique	Saint Kitts and Nevis	Tanzania	Yemen
Antigua and Barbuda	Burundi	Dominican Republic	Guinea	Lesotho	Myanmar	Saint Lucia	Thailand	Zambia
Argentina	Cabo Verde	Ecuador	Guinea-Bissau	Liberia	Namibia	Saint Vincent and the Grenadines	Timor-Leste	Zimbabwe
Armenia	Cambodia	Egypt	Guyana	Libya	Nepal	Sao Tome and Principe	Togo	
Azerbaijan	Cameroon	El Salvador	Haiti	Madagascar	Nicaragua	Senegal	Tunisia	
Bahamas	Central African Republic	Equatorial Guinea	Honduras	Malawi	Niger	Seychelles	Turkmenistan	
Bangladesh	Chad	Eritrea	India	Malaysia	Nigeria	Sierra Leone	Turks and Caicos Islands	
Barbados	Chile	Eswatini	Indonesia	Mali	Oman	Somalia	Uganda	
Belarus	Comoros	Ethiopia	Iran	Mauritania	Pakistan	South Africa	Ukraine	
Belize	Congo	Fiji	Jamaica	Mauritius	Panama	South Sudan	United Arab Emirates	
Benin	Congo, DR	Gabon	Kazakhstan	Micronesia	Papua New Guinea	Sri Lanka	Uruguay	

Analysis include sales of DTG 50mg and TDF/3TC/DTG:

Sales of DTG 50mg only (n=23) Sales of TLD only (n=1)

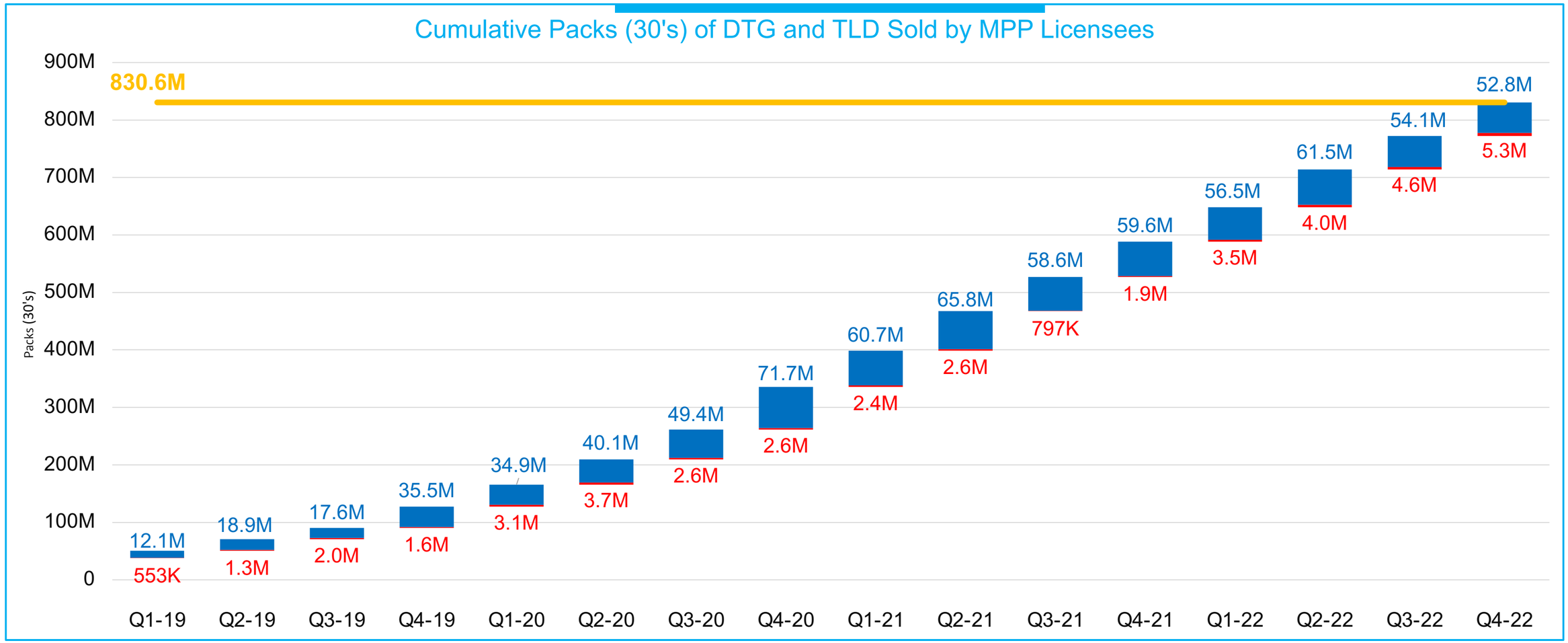
^ People living with HIV

MPP-ViiV DTG licence agreement

Data as of December 2022

CUMULATIVE PACKS SOLD: TLD & DTG 50MG (2019-DECEMBER 2022)

784.4 million packs of TLD and **46.2** million packs of DTG 50mg sold till December 2022



Source: confidential sales data by MPP licensees

DTG 50mg TLD Total Packs

Note: Packs of 90's & 180's converted to 30's for this analysis

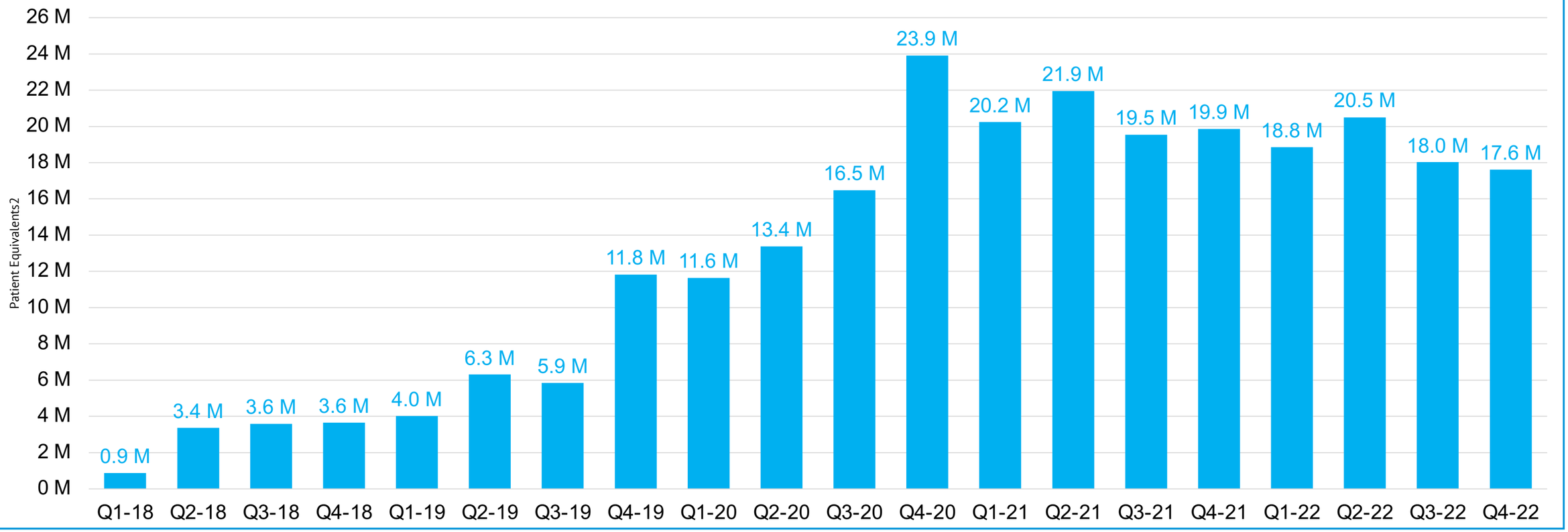
Data as of December 2022

PATIENT EQUIVALENTS RECEIVING TDF/3TC/DTG(TLD) THROUGH MPP LICENSEES

Today, at least **18.7** million people living with HIV (PLHIV) are on MPP-enabled generic TLD[1]

(>80% of PLHIV on ART in LMICs)[2]

Patient Equivalents[2] Receiving TDF/3TC/DTG Supplied Through MPP Licensees per Quarter



Source: confidential sales data by MPP licensees

Note:. Packs of 90 's and 180's converted to 30's for this analysis. Analysis excludes sales of DTG 50mg singles.

[1] Total PLHIV on TLD-based treatment calculated by dividing total packs sold in the last 4 quarters by 12 (months);

[2] "Patient Equivalents" per quarter calculated by dividing the total packs of TLD sold in a quarter by 3 (months)

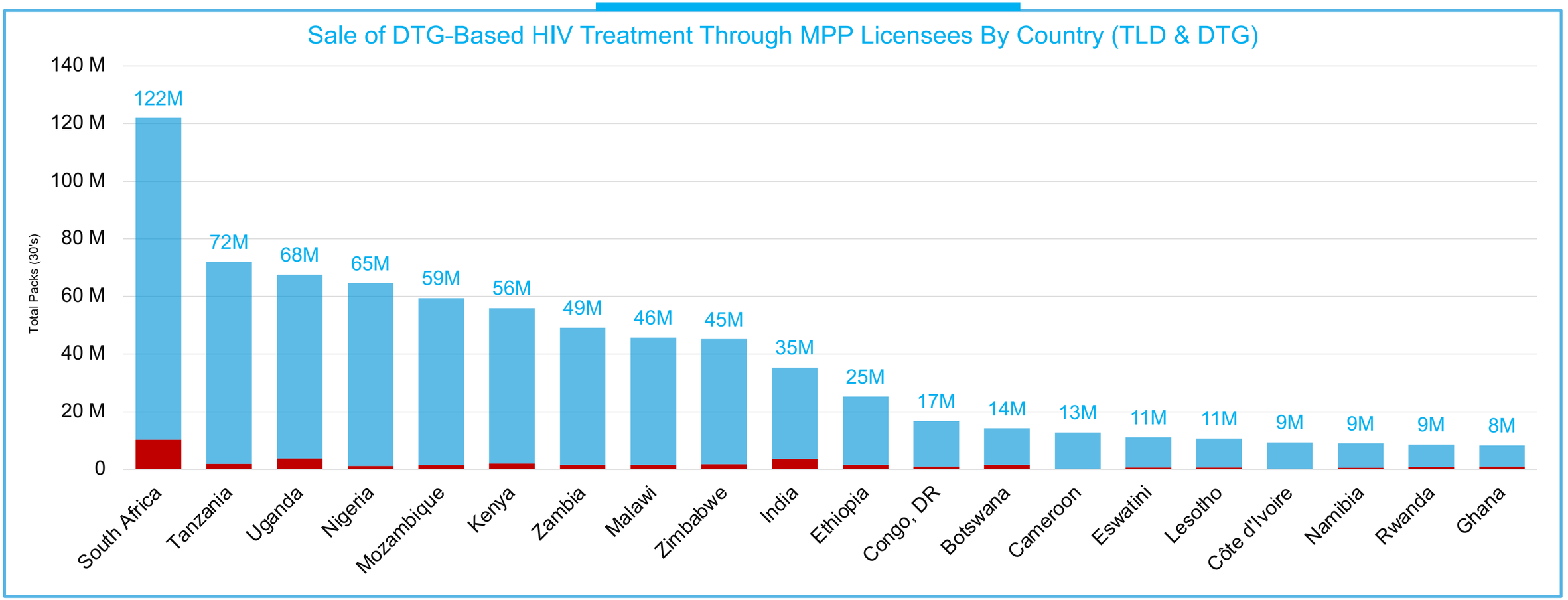
[3] Epi data sourced from Consolidated Forecast of Global ARV Demand (WHO): 22,500,000 PLHIV on DTG based (2022)

Data as of December 2022

TOP COUNTRY RECIPIENTS OF DTG & TLD (2018-DECEMBER 2022)

Top 20 countries comprise more than 80% of the TLD market in LMICs (by volume)*

Ratio of DTG 50mg:TLD in country-level sales data suggests DTG 50mg is largely being used for **TB-coinfection and/or 2L ART**



Source: confidential sales data by MPP licensees

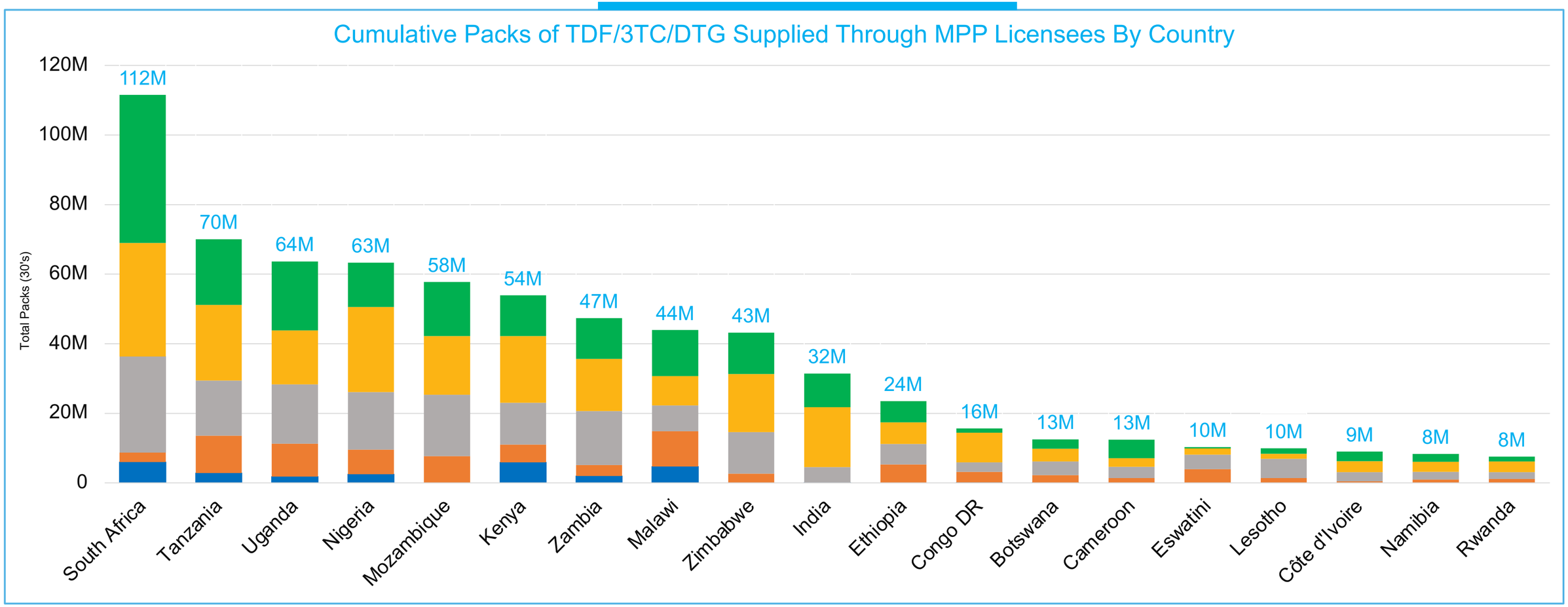
DTG 50mg TLD

Note: Packs of 90's & 180's converted to 30's for this analysis

Data as of December 2022

RAPID SCALE-UP OF TLD (2018-DECEMBER 2022)

As of December 2022, TLD was supplied in 103 countries by 12 of MPP Partners



Source: confidential sales data by MPP licensees

Note: Packs of 90's & 180's converted to 30's for this analysis

Data as of December 2022

ABC/3TC/DTG ADULT (ALD): FORMULATION DEVELOPMENT TIMELINES

Companies approved ▼ Companies filed

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

6 MPP LICENSEES HAVE DEVELOPED ABC/3TC/DTG ADULT FORMULATION

Licensee Approved: Laurus

5 licensees awaiting USFDA approval

Data as of December 2022

TAF/FTC/DTG (TAF-ED): FORMULATION DEVELOPMENT TIMELINES

Companies approved ▼ Companies filed ▽ Companies planning to file

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

7 MPP LICENSEES HAVE DEVELOPED TAF/FTC/DTG FORMULATION

Licensees Approved: Laurus, Lupin, Mylan

4 licensees awaiting USFDA approval | 1 additional licensee developing

Data as of December 2022

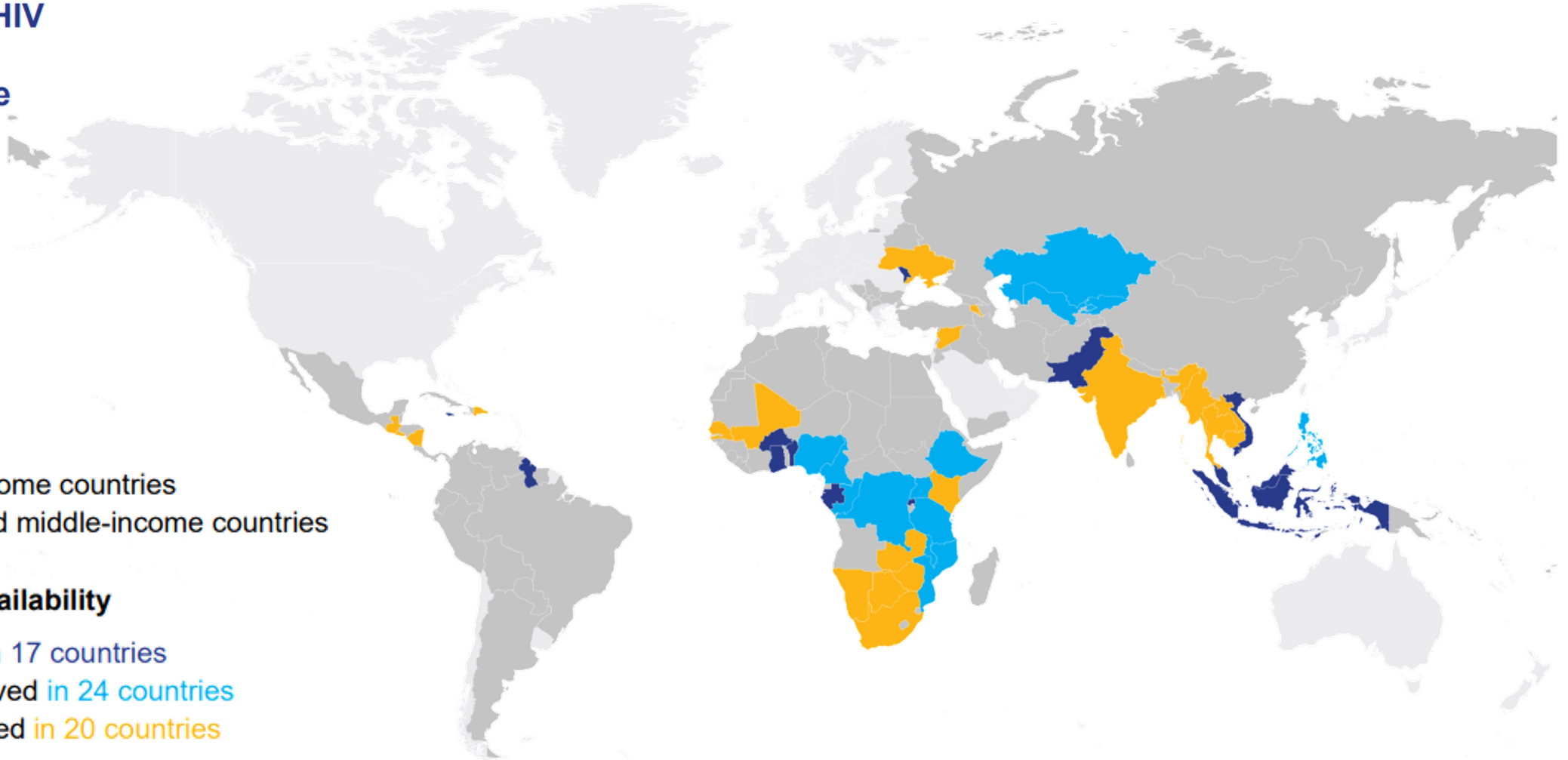
TAF/FTC/DTG (TAF-ED) IMPACT MAP

TAF/FTC/DTG sales have occurred in **20** countries
in which **52.4%** of PLHIV^ reside in the licensed territory#

TAF/FTC/DTG (25/200/50 mg)

Disease: HIV

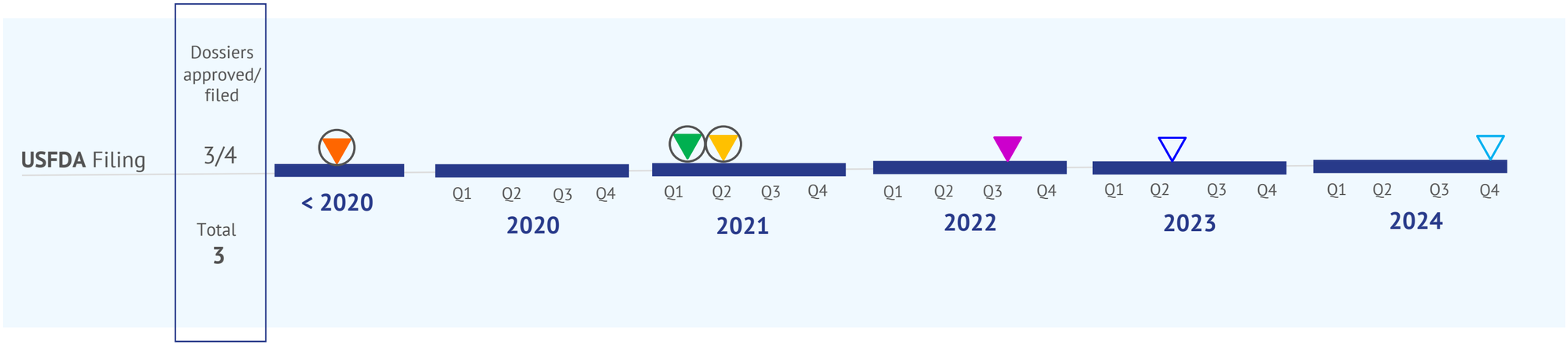
Worldwide



Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions
^ People living with HIV
# MPP-Gilead TAF licence agreement

Data as of December 2022

TAF/3TC/DTG (TAF-LD): FORMULATION DEVELOPMENT TIMELINES



Companies approved ▼ Companies filed ▽ Companies planning to file

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

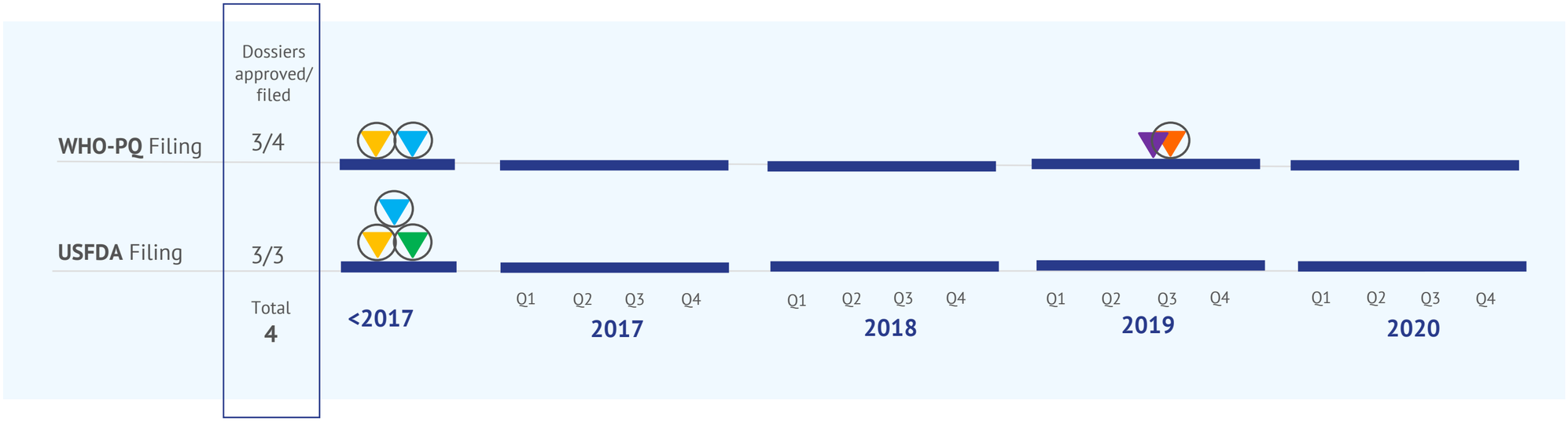
4 MPP LICENSEES HAVE DEVELOPED TAF/3TC/DTG ADULT FORMULATION

Licensee Approved: Cipla, Laurus, Mylan

1 licensee awaiting USFDA approval | 2 additional licensees developing

Data as of December 2022

ATV/r: FORMULATION DEVELOPMENT TIMELINES



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: 4 ARE READY TO COMMERCIALIZE

Licensees Approved*: Cipla, Desano, Emcure, Mylan

1 licensee awaiting WHO-PQ approval

*USFDA and/or WHO-PQ

Data as of December 2022

ATV/R: COUNTRY WISE FILING STATUS

Generic ATV/r has been filed in **51** countries, of which approval has been received in **36** countries

Filings have occurred where **91.4%** of PLHIV^ reside in the licensed territory#

APPROVED (36)
85.5% PLHIV

Armenia	**Congo**	**Kenya**	**Namibia**	**Ukraine**
Belarus	**Congo DR**	**Kyrgyzstan**	**Nigeria**	**Uzbekistan**
Botswana	**Dominican Republic**	**Madagascar**	Philippines	**Zambia**
Burkina Faso	**Ethiopia**	**Malawi**	**Rwanda**	**Zimbabwe**
Cambodia	**Ghana**	**Mali**	**South Africa**	
Cameroon	Guyana	Mauritius	**Tanzania**	
Chile	**India**	**Mozambique**	**Trinidad and Tobago**	
Colombia	**Jamaica**	**Myanmar**	**Uganda**	

FILED (15)
5.9% PLHIV

Benin	Guatemala	**Pakistan**
Bolivia	Indonesia*	**Peru**
Costa Rica	**Malaysia**	**Senegal**
Côte d'Ivoire	**Moldova**	**Sri Lanka**
El Salvador	**Niger**	Viet Nam

- New filings and approvals in green *vis-à-vis last update (Q3-22)*
- Countries where ATV/r has been sold indicated in **bold type**

* Countries not included in ATV licence but supply by MPP licensees permitted if no patent is being infringed in that country

^ People living with HIV

MPP-BMS ATV licence agreement

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

Data as of December 2022

ATV/r IMPACT MAP

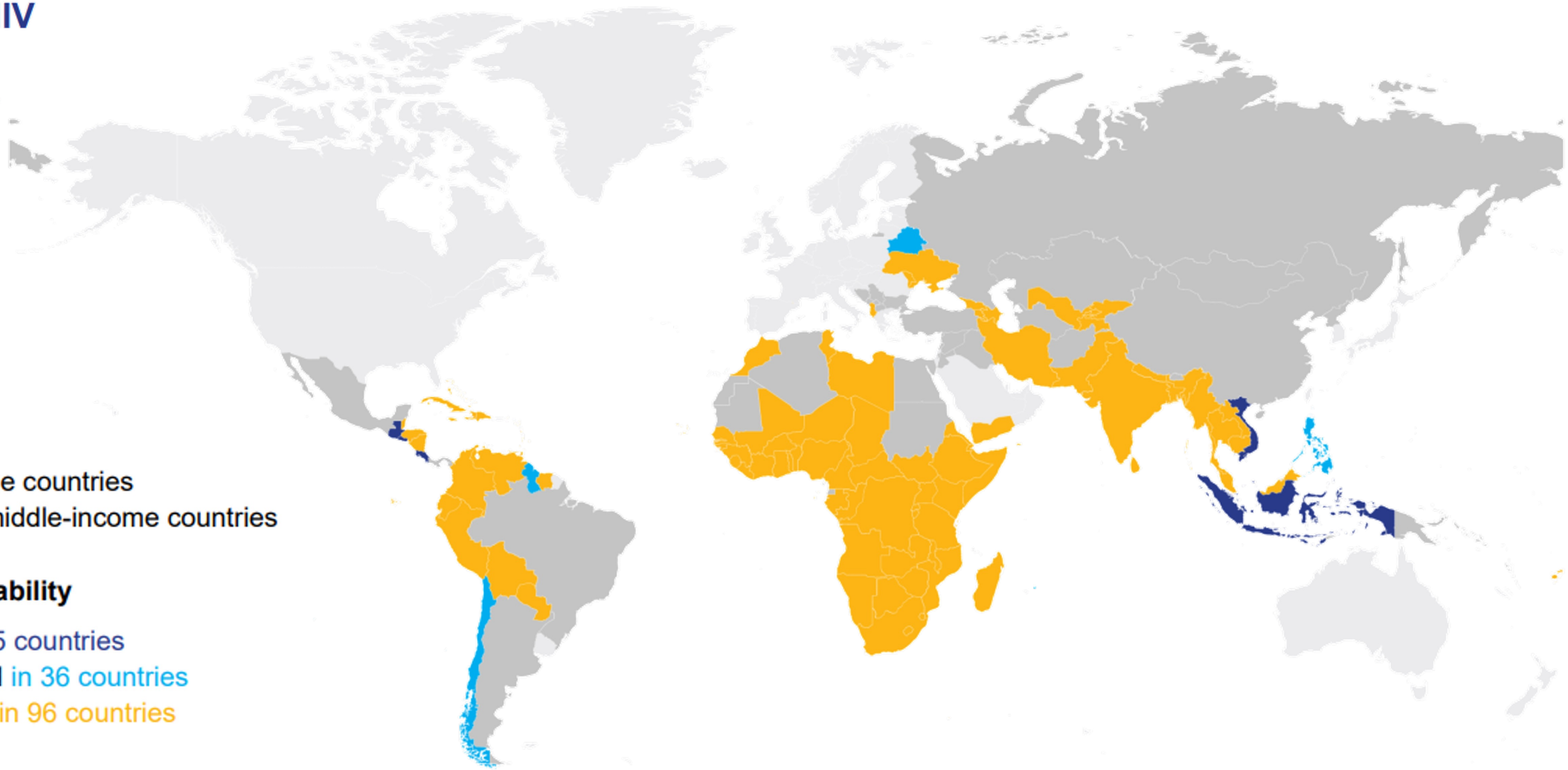
medicines patent pool

ATV/r (300/100 mg)

Disease: HIV

Worldwide

ATV/r sales have occurred in **96** countries
in which **95.1%** of PLHIV^ reside in the licensed territory#



High-income countries
Low- and middle-income countries

Product availability

is filed in 15 countries
is approved in 36 countries
is supplied in 96 countries

Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions
^ People living with HIV
# MPP-BMS ATV licence agreement

Data as of December 2022

DTG/3TC: FORMULATION DEVELOPMENT TIMELINES

Companies approved ▼ Companies filed ▽ Companies planning to file

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

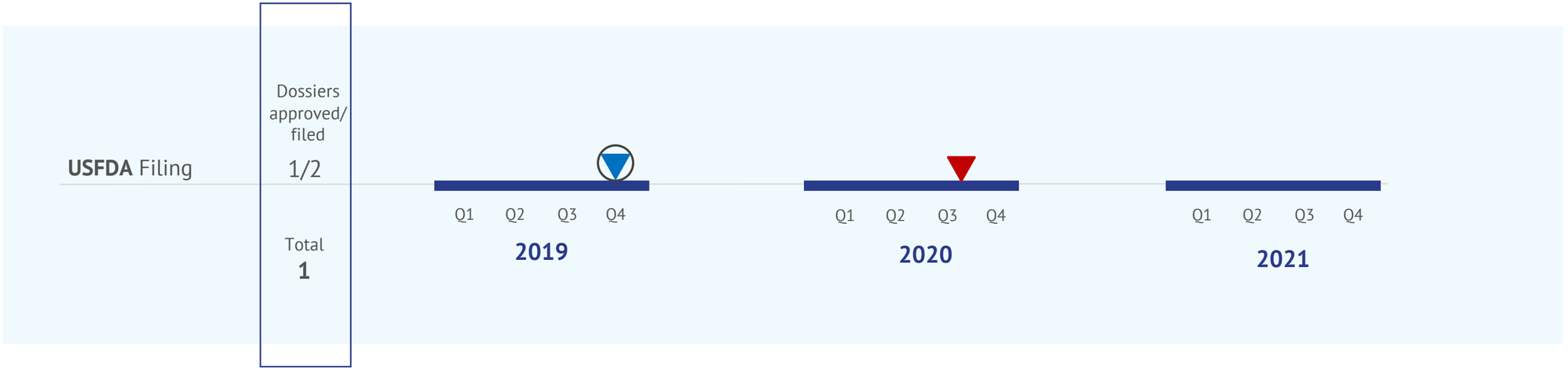
2 MPP LICENSEES HAVE DEVELOPED DTG/3TC DUAL FORMULATION

Licensee Approved: Cipla

1 licensee awaiting USFDA approval | 3 additional licensees developing

Data as of December 2022

DTG/RPV:
FORMULATION DEVELOPMENT TIMELINES



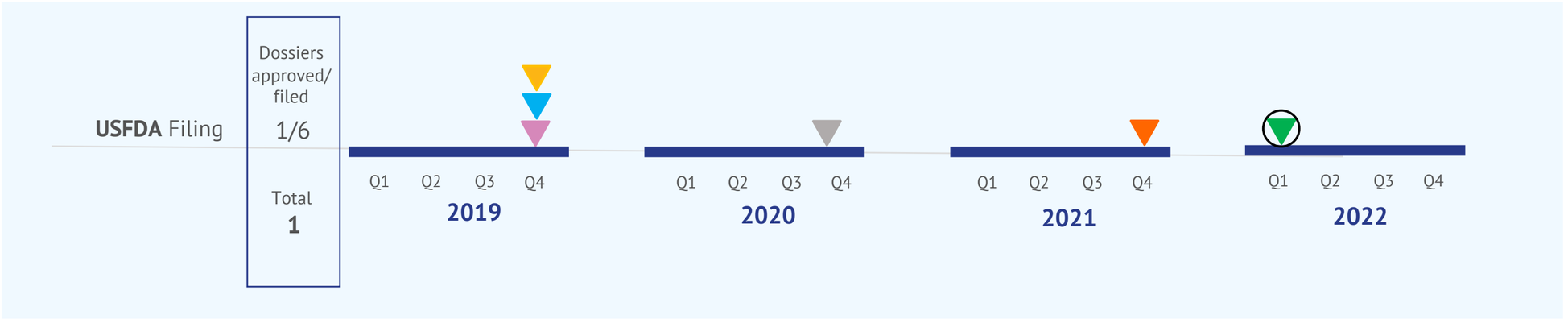
2 MPP LICENSEES HAVE DEVELOPED DTG/RPV DUAL FORMULATION

Licensee Approved: Lupin

1 licensee awaiting USFDA approval

Data as of December 2022

TAF/FTC:
FORMULATION DEVELOPMENT TIMELINES



Companies approved ▼ Companies filed

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

6 MPP LICENSEES HAVE DEVELOPED TAF/FTC DUAL FORMULATION

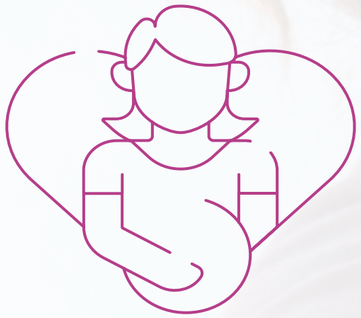
Licensee Approved: Aurobindo

5 licensees awaiting USFDA approval

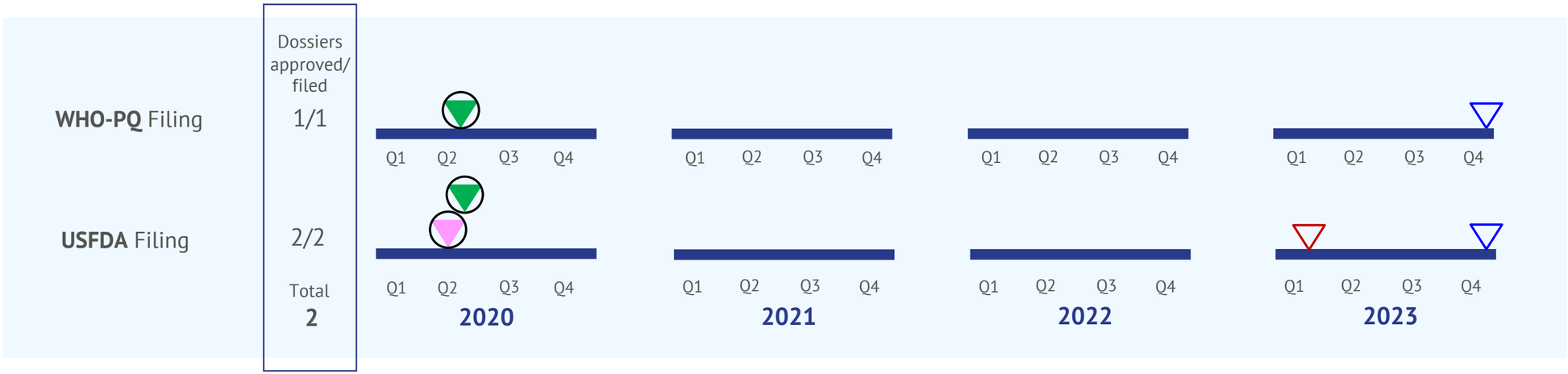
Data as of December 2022

medicines patent pool

PAEDIATRIC HIV



DTG DT PAED (10MG SCORED): FORMULATION DEVELOPMENT TIMELINES



Companies approved ▽ Companies planning to file

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

2 MPP LICENSEES HAVE DEVELOPED DTG DT PAED

Licensee Approved*: Macleods, Mylan

2 additional licensees developing

*USFDA and/or WHO-PQ

Data as of December 2022

medicines patent pool

DTG DT PAED (10MG SCORED): COUNTRY WISE FILING STATUS

Generic DTG DT 10mg has been filed in **33** countries, of which approval has been received in **14** countries
Filings have occurred where **89.3%** of CLHIV^ reside in the licensed territory#

APPROVED (14)
64% CLHIV

Cameroon	**Malawi**
Chad	**Mozambique**
Congo	**Namibia**
Congo, DR	**South Africa**
Ghana	**Tanzania**
India	**Uganda**
Kenya	**Zimbabwe**

FILED (19)
25.3% CLHIV

Benin	Indonesia	Thailand
Botswana	**Mali**	**Togo**
Burkina Faso	Myanmar	**Uzbekistan**
Burundi	**Niger**	**Viet Nam**
Côte d'Ivoire	**Nigeria**	**Zambia**
Ethiopia	**Rwanda**	
Guinea-Bissau	**Senegal**	

- New approvals in green *vis-à-vis last update (Q3-22)*
- Countries where DTG DT 10MG has been sold indicated in **bold type**

^ Children living with HIV
# MPP-ViiV DTG Paed licence agreement
Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions

Data as of December 2022

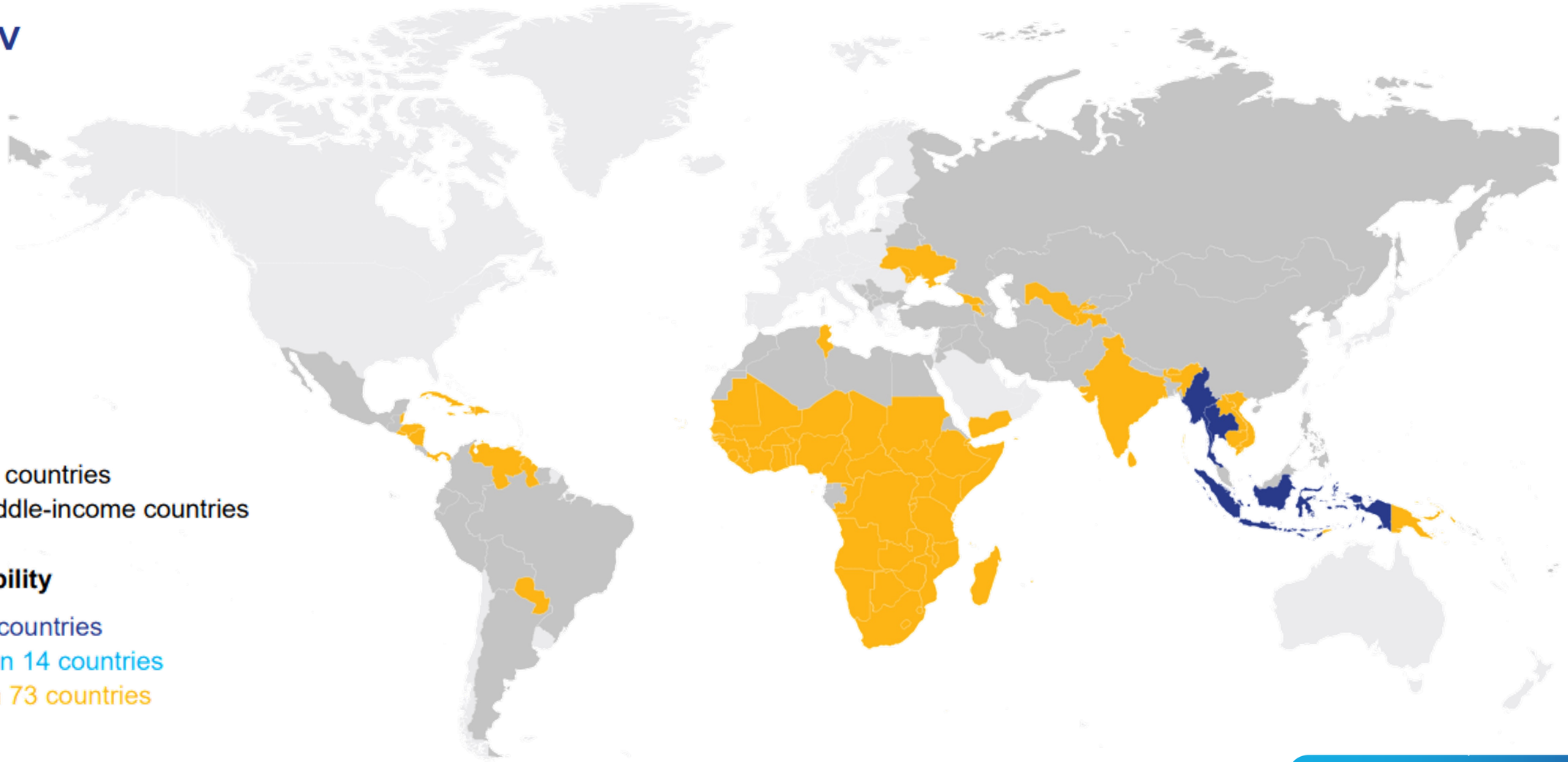
DTG DT 10MG IMPACT MAP

DTG DT 10mg sales have occurred in **73** countries
in which **95.9%** of CLHIV^ reside in the licensed territory#

DTG paediatric (10 mg scored, dispersible)

Disease: HIV

Worldwide



Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions
^ Children living with HIV
# MPP-ViiV DTG Paed licence agreement

Data as of December 2022

ABC/3TC/DTG PAED (ALD): FORMULATION DEVELOPMENT TIMELINES

3 MPP LICENSEES HAVE DEVELOPED ABC/3TC/DTG PAED FORMULATION AND ARE AWAITING APPROVAL

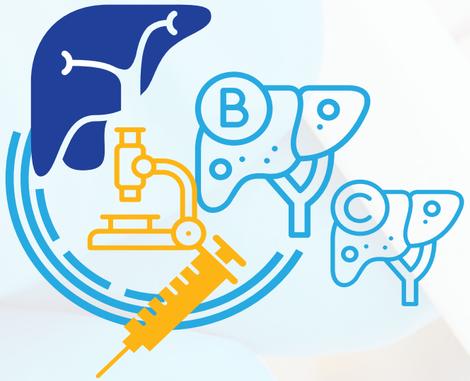
5 additional licensees developing

Data as of December 2022

medicines patent pool

HCV

DACLATASVIR



medicines patent pool

CURRENT SUBLICENSEES

FOR BMS-MPP DACLATASVIR LICENCE

7 daclatasvir sublicensee agreements

BEXIMCO PHARMA

Cipla

HETERO

LAURUS Labs
Knowledge . Innovation . Excellence

Mylan

NATCO

Zydus Cadila

DAC 30MG & 60MG:
FORMULATION DEVELOPMENT TIMELINES

Companies approved

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

4 MPP LICENSEES HAVE DEVELOPED DAC 30/60 MG

Licensee Approved: Cipla, Hetero, Laurus, Mylan

Data as of December 2022

medicines patent pool

DAC 30 & 60MG: COUNTRY WISE FILING STATUS

Generic DAC 30/60 mg has been filed in 58 countries, of which approval has been received in 41 countries
Filings have occurred where 64.5% of PLHCV^ reside in the licensed territory#

APPROVED (41)
58.2% PLHCV

Belarus	Côte d'Ivoire	Kenya	**Pakistan**	**Ukraine**
Benin	Dominican Republic	**Kyrgyzstan**	**Paraguay**	**Uzbekistan**
Burkina Faso	Ethiopia	Liberia	**Philippines**	**Viet Nam**
Burundi	Gabon	Malawi	Senegal	Zambia
Cambodia	Ghana	**Malaysia**	Suriname	**Zimbabwe**
Cameroon	Guyana	Mozambique	**Tanzania**	
Chad	**India**	**Myanmar**	Thailand	
Congo	**Indonesia**	Nicaragua	**Turkmenistan**	
Congo, DR	**Kazakhstan**	**Nigeria**	Uganda	

FILED (17)
6.3% PLHCV

Azerbaijan	Georgia	Namibia
Benin	Haiti	**Nepal**
Bolivia	Honduras	**Rwanda**
Burkina Faso	Kenya	Senegal
Ethiopia	Mali	Togo
Gabon	**Mongolia**	

- New approval in green *vis-à-vis last update (Q3-22)*
- Countries where either DAC 30mg or DAC 60mg have been sold indicated in **bold type**

^ People living with Hepatitis C

MPP-BMS DAC licence agreement

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

Data as of December 2022

MEDICINESPATENTPOOL.ORG

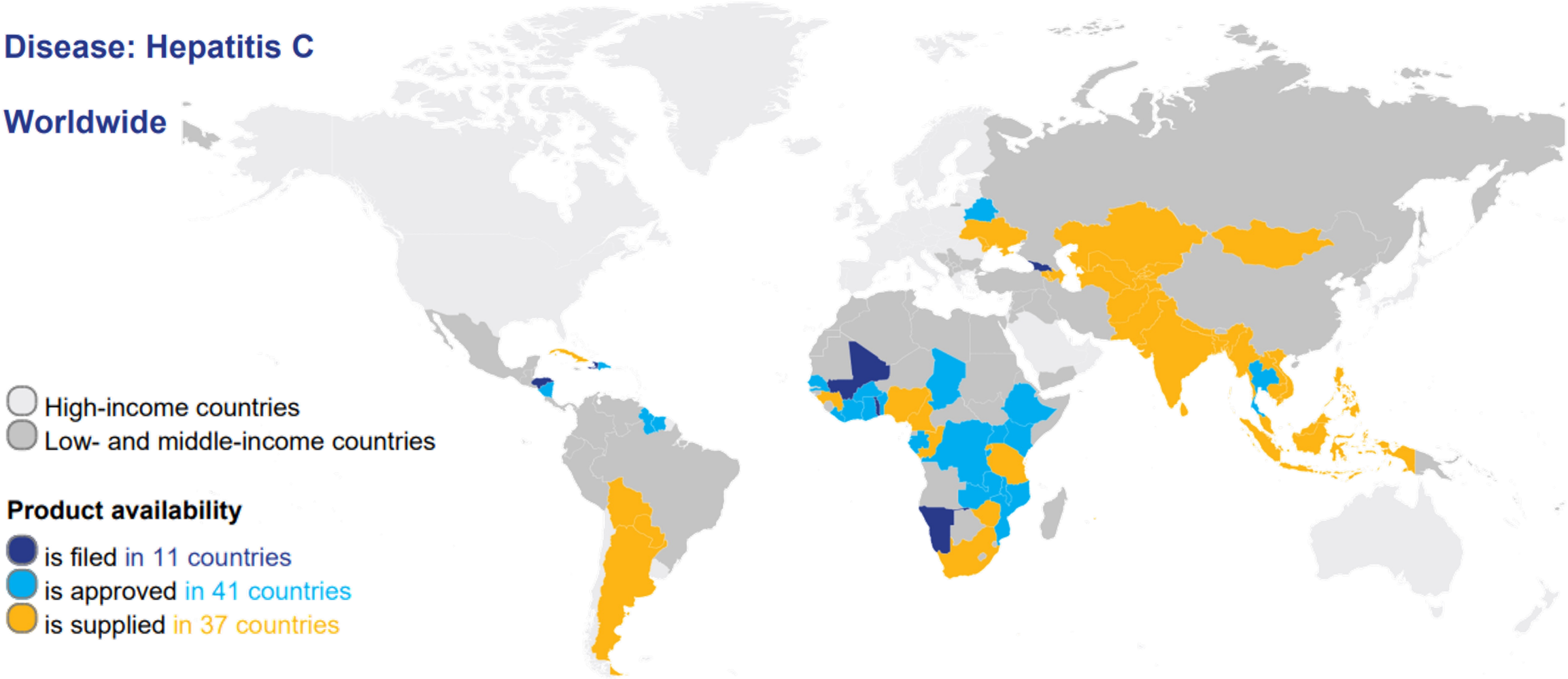
DAC 60MG IMPACT MAP

DAC 60mg sales have occurred in **37** countries where MPP licensees have supplied more than **~1.3 million treatments*** in which **55.5%** of PLHCV^ reside in the licensed territory#

DAC (60 mg)

Disease: Hepatitis C

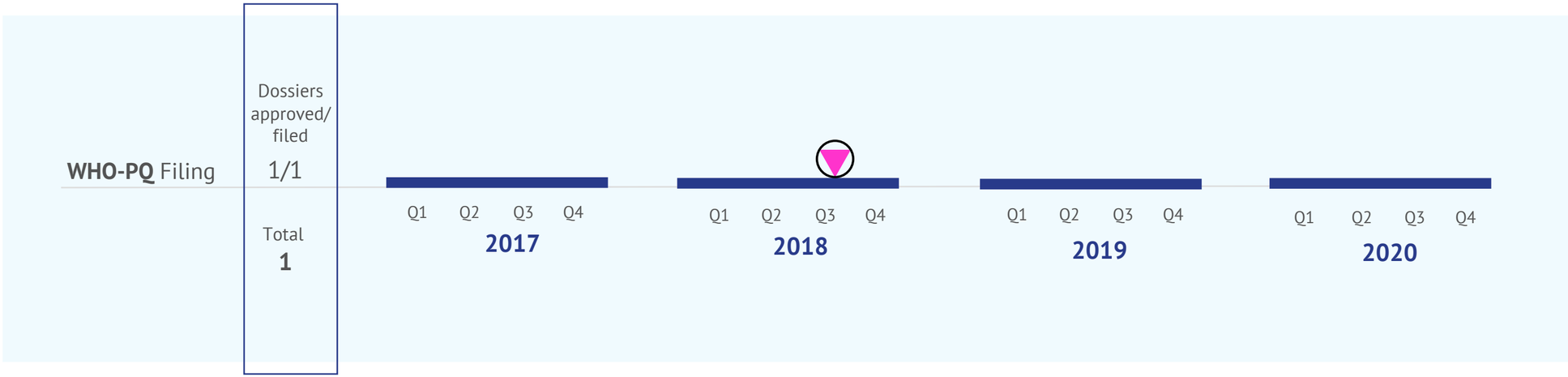
Worldwide



Note: Sales may occur in countries in the absence of registration via procurement channels, registration waivers and/or exemptions
^ People living with Hepatitis C
# MPP-BMS DAC licence agreement
**Note: 1 HCV treatment = 12 weeks therapy (3 packs)*

Data as of December 2022

DAC/SOF:
FORMULATION DEVELOPMENT TIMELINES



Companies approved

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

1 MPP LICENSEE HAS DEVELOPED DAC/SOF

Licensee Approved: Mylan

Data as of December 2022

DAC/SOF: COUNTRY WISE FILING STATUS

Generic DAC/SOF has been filed in **18** countries, of which approval has been received in **15** countries
Filings have occurred where **37.9%** of PLHCV^ reside in the licensed territory#

APPROVED (15) 36.1% PLHCV		
Belarus	Kenya	Paraguay
Côte d'Ivoire	Malawi	Suriname
Ethiopia	**Myanmar**	**Uganda**
Ghana	Nicaragua	Ukraine
India	**Nigeria**	Zimbabwe

- Countries where DAC/SOF has been sold indicated in **bold type**

^ People living with Hepatitis C

MPP-BMS DAC licence agreement

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

Data as of December 2022

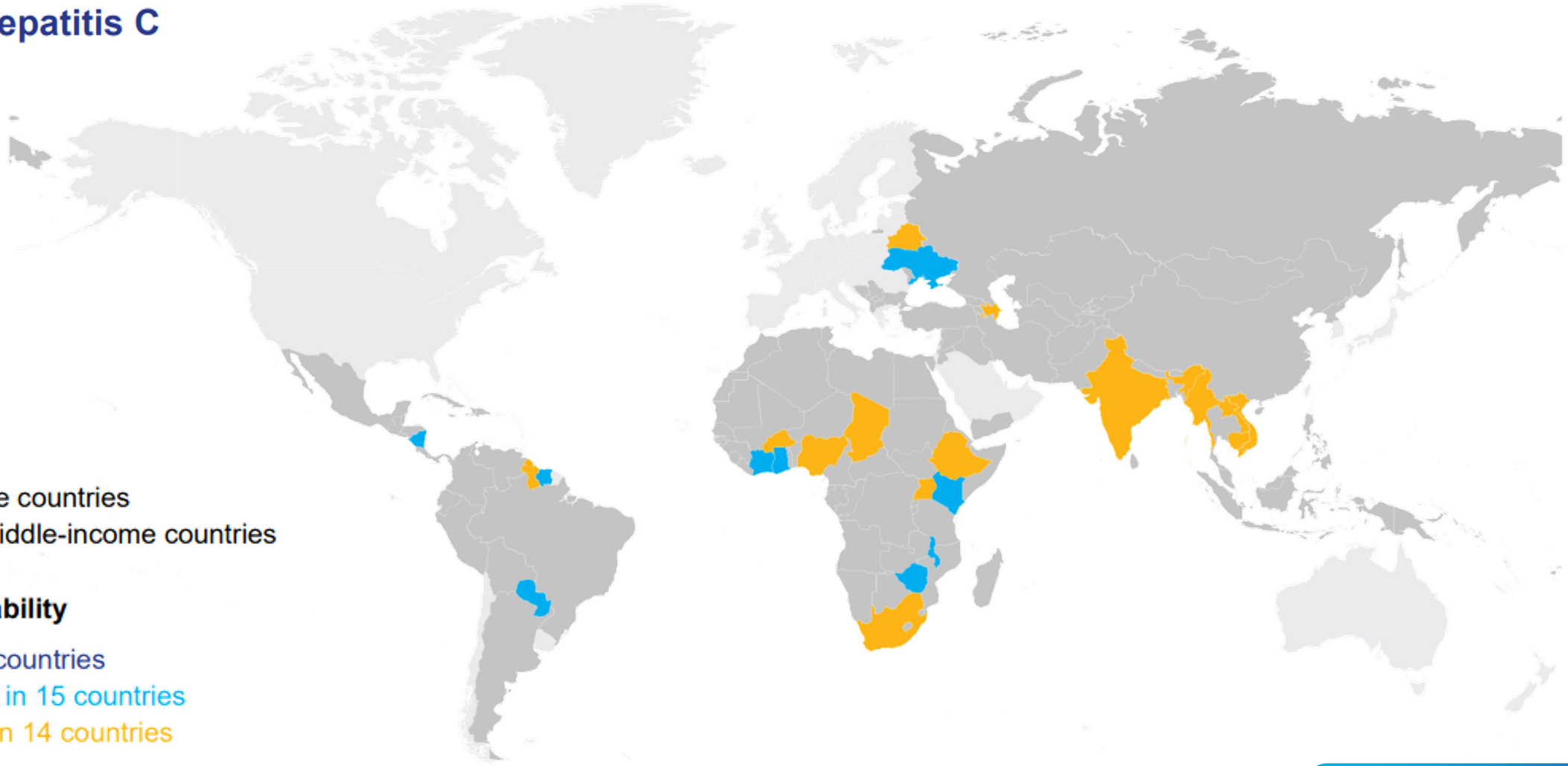
DAC/SOF IMPACT MAP

MPP licensees have supplied **~253,460** packs* of generic DAC/SOF across 14 countries

DAC/SOF (60/400 mg)

Disease: Hepatitis C

Worldwide



High-income countries
Low- and middle-income countries

Product availability

is filed in 3 countries
is approved in 15 countries
is supplied in 14 countries

*Packs of 28

Data as of December 2022

medicines
patent
pool

COVID-19

MOLNUPIRAVIR:
FORMULATION DEVELOPMENT TIMELINES

▼ Companies filed ▽ Companies planning to file

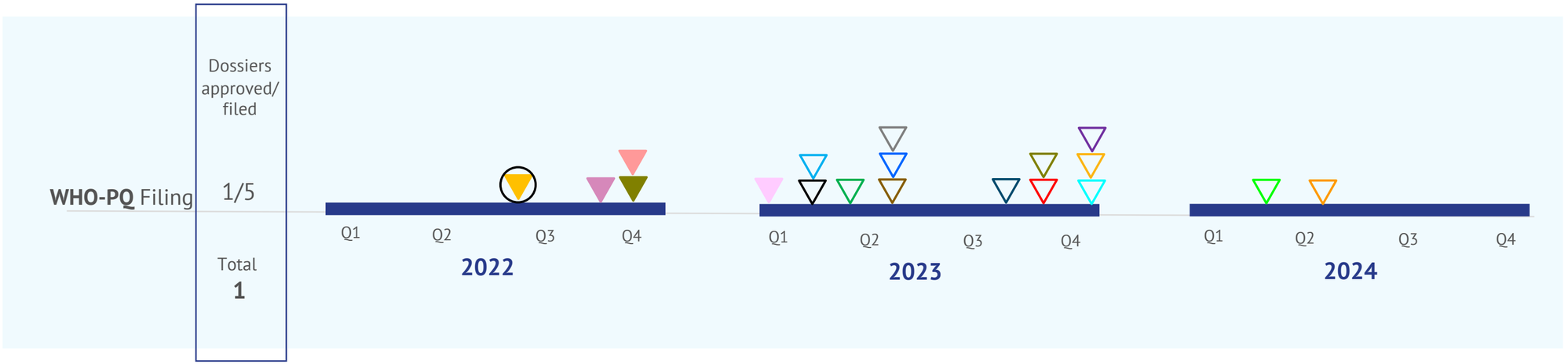
Note: *Each triangle represents a manufacturer and timelines represent date of filing*

2 MPP LICENSEES HAVE DEVELOPED MOL 200MG AND ARE AWAITING WHO-PQ APPROVAL

9 additional licensees developing

Data as of December 2022

NIRMATRELVIR+RITONAVIR (CO-PACK): FORMULATION DEVELOPMENT TIMELINES



Companies approved Companies filed Companies planning to file

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

5 MPP LICENSEES HAVE DEVELOPED NIR+RTV CO-PACK

Licensee approved: Hetero

14 additional licensees developing

Data as of December 2022

THANK YOU!

MEDICINESPATENTPOOL.ORG