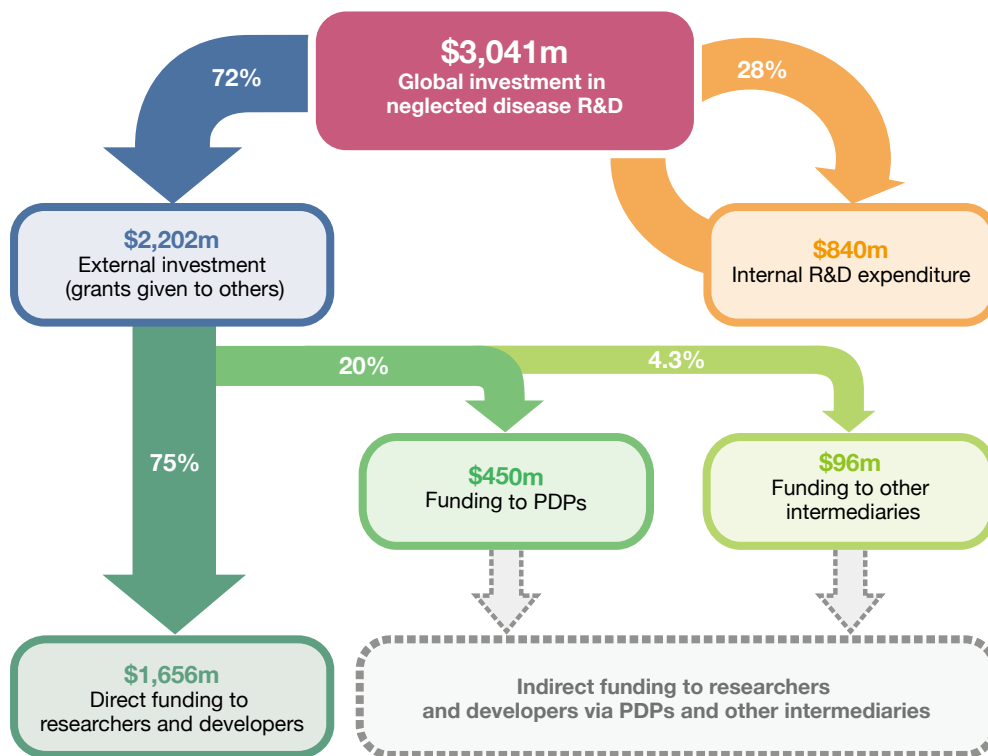


## FUNDING FLOWS

Organisations can invest in neglected disease R&D in two main ways: by funding their own in-house research (internal investment, also referred to as intramural or self-funding); or by giving grants to others (external investment). This external investment can either be given directly to researchers and developers, or it can be provided via PDPs<sup>viii</sup> and other intermediaries. Some organisations invest only internally (for example, most pharmaceutical companies); others, such as the Wellcome Trust, only invest externally (i.e. they do not conduct R&D themselves). Other organisations, such as the US NIH and the Indian ICMR, use a mixed model, providing external grants to others in addition to funding their own research programmes.

**Figure 24. R&D funding flows 2015**



A key point to note when analysing external investment flows is that different types of funders generally invest in different types of recipients. Science and technology (S&T) agencies, for example, mainly provide funding directly to researchers and developers (usually providing around three-quarters of their funding); while philanthropic and aid agency funders are the source of the vast majority of PDP funding (usually over 90%). In contrast, non-PDP intermediary organisations generally have a broad funding base, supported by both S&T and development agencies, as well as philanthropic funders.

As a result, changes in S&T funding are more likely to affect researchers and developers; changes in philanthropic or aid agency funding are more likely to affect PDPs; and non-PDP intermediary organisations are least vulnerable to changes from one donor funding stream.

<sup>viii</sup> PDPs are public health driven, not-for-profit organisations that typically use private sector management practices to drive product development in conjunction with external partners. Some PDPs focus on a single neglected disease or product type, while others work across multiple diseases and products, but all share a common goal to develop products that are suitable for DC use. While their primary aim is the advancement of public health rather than commercial gain, they generally use industry practices in their R&D activities, for instance portfolio management and industrial project management. Additionally, many PDPs conduct global advocacy to raise awareness of their target neglected diseases

## FUNDING FLOW TRENDS

Nearly three-quarters (\$2,202m, 72%) of all funding for neglected disease R&D in 2015 was given externally in the form of grants (or contracts) to other organisations, with internal investment (\$840m, 28%) making up the remainder. YOY external investment fell for the third year in a row (down \$72m, -3.3%), but self-funding continued its slow and steady growth (up \$3.8m, 0.5%), largely reflecting the ongoing growth in industry investment in neglected disease R&D.

Exactly three-quarters (\$1,656m, 75%) of all external funding disbursed in 2015 was given directly to researchers and developers. Of this, three-quarters came from S&T agencies (\$1,252m, 76%), with philanthropic funders providing the bulk of the remainder (\$360m, 22%). YOY direct funding to researchers and developers fell slightly compared to 2014 (down \$38m, -2.3%). This was primarily due to a \$36m drop in external investment from the US DOD<sup>ix</sup>, although funding from S&T agencies also fell (down \$16m, -1.3%), driven by markedly lower funding from the Australian NHMRC (down \$16m, -62%). Philanthropic funding for researchers and developers increased (up \$11m, 3.2%). This was entirely due to increased funding from the Gates Foundation (up \$38m, 18%), which masked a drop in funding from the Wellcome Trust (down \$26m, -23%).

As noted above, not all external grant funding for neglected disease R&D is given directly to researchers and developers. A quarter (\$546m, 25%) of all external funding disbursed in 2015 was given to fund managers (PDPs and other intermediary organisations), who then pass this funding on to researchers and developers or invest it in their own internal R&D activities. A total of \$450m (20% of all external funding) was channelled through PDPs in 2015, most of which came from philanthropic organisations (\$268m, 59%) and aid agencies (\$145m, 32%). This was a drop in YOY PDP funding of \$65m (-13%) compared to 2014, reflecting the highly cyclical nature of grant funding to PDPs, especially from the Gates Foundation.

Other intermediary organisations received \$96m (4.3% of all external funding) in 2015. YOY funding for intermediaries increased substantially (up \$31m, 50%), primarily driven by increased funding from S&T agencies (up \$22m, 83%) related to the second phase of EDCTP, along with a smaller increase in philanthropic funding (up \$6.5m, 88%) to the Global Health Innovative Technology Fund (GHIT Fund).

A more in-depth analysis of funding for PDPs and other intermediaries is presented on the following pages.

<sup>ix</sup> The apparent drop in external funding by US DOD may be partly artefactual, as a breakdown of internal vs external expenditure was not available for all programmes

**Figure 25. R&D funding flow trends 2007-2015**



## FUNDING FOR PRODUCT DEVELOPMENT PARTNERSHIPS

PDPs received a total of \$450m in 2015, accounting for 15% of all funding for neglected disease R&D, and a fifth (20%) of all external investment.

However, the central role of PDPs is somewhat obscured by the ‘NIH factor’. The US NIH is by far the largest funder of neglected disease R&D, but allocates only a small portion of its funding to PDPs (\$4.6m in 2015, or 0.4% of its total investment). If the US NIH is excluded, the role of PDPs in product development for neglected diseases becomes clearer, with PDPs collectively managing well over a third (39%) of all non-NIH grant funding in 2015.

As was the case in 2014, half of all PDP funding in 2015 (\$223m, 50%) went to three PDPs – this time comprising the Medicines for Malaria Venture (MMV), PATH and TB Alliance.

Funding to PDPs fell by \$65m (down 13%) compared to 2014, although this was almost entirely due to the cyclical pattern of large grant disbursements to PDPs from the Gates Foundation. PATH (down \$47m, -39%), Aeras (down \$23m, -42%) and DNDi (down \$22m, -43%) all saw large reductions in YOY funding, marking a return to more normal levels after each received significant disbursements from the Gates Foundation in 2014. The biggest increases went to the International AIDS Vaccine Initiative (IAVI, up \$25m, 62%) and IVCC (up \$19m, 188%), reflecting large disbursements from the Gates Foundation to both of these organisations in 2015.

**Table 38. Funds received by PDPs 2007-2015**

PDPs	US\$ (millions)									2015 % of total
	2007	2008	2009	2010	2011	2012	2013	2014	2015	
MMV	84	50	45	74	77	52	68	75	78	17
PATH	44	128	142	76	100	85	83	120	75	17
TB Alliance	44	38	39	53	38	45	52	56	70	16
IAVI	85	93	76	70	64	63	60	40	65	14
DNDi	28	22	33	34	37	32	34	54	33	7.2
Aeras	44	72	59	43	43	39	40	55	32	7.1
IVCC	-	11	15	17	<0.1	10	22	10	29	6.4
IPM	46	64	35	32	14	23	30	27	25	5.7
FIND	26	34	23	27	23	22	24	24	16	3.5
IVI	15	2.3	13	9.6	5.6	8.2	9.6	6.4	7.0	1.5
IDRI	9.3	16	19	13	23	11	5.9	14	6.1	1.4
CONRAD	18	16	24	19	25	31	26	17	3.8	0.8
EVI	7.0	4.0	3.5	4.8	7.1	2.0	6.0	2.8	3.4	0.8
Sabin Vaccine Institute	8.7	17	10	4.2	8.8	6.4	6.5	5.4	3.1	0.7
WHO/TDR <sup>A</sup>	34	38	35	29	31	-	-	2.3	2.5	0.6
TBVI	-	-	0.1	3.8	3.5	4.9	5.3	1.3	1.5	0.3
OWH <sup>B</sup>	31	33	17	23	11	7.2	-	-	-	-
FHI 360	14	19	19	19	12	5.9	4.5	0.2	-	-
<b>Total funding to PDPs</b>	<b>538</b>	<b>657</b>	<b>606</b>	<b>550</b>	<b>524</b>	<b>449</b>	<b>477</b>	<b>511</b>	<b>450</b>	<b>100</b>

<sup>A</sup> TDR's mission extends beyond product development, but it operated as a de facto PDP from the mid-1970s until 2012, when it decided to focus on implementation research and research capacity strengthening. Funds received in 2014 and 2015 are related to the pooled fund demonstration projects

<sup>B</sup> As of 2013, OWH funding is included under PATH  
 - No reported funding

#### FUNDERS OF PDPs

Philanthropic organisations provided well over half (\$268m, 59%) of all funding to PDPs in 2015. Almost all of the remaining funding came from HIC governments (\$164m, 36%), mostly via their aid agencies (\$145m, 89% of HIC funding to PDPs). The Gates Foundation's contribution of \$254m made it once again the single largest funder of PDPs by a considerable margin, providing 56% of all PDP funding.

Funding from almost all of the top PDP funders was either lower or flat compared to 2014, but the \$65m overall drop in PDP funding in 2015 was largely driven by reduced funding from three organisations, all due to grant funding cycles. The largest reduction came from the Gates Foundation (down \$41m, -14%). However, this followed a big increase in the Foundation's PDP funding in 2014, when it made several major up-front grant disbursements. Similarly, the drop in the UK DFID's PDP funding (down \$19m, -25%) came after two years of increased disbursements at the start of its current five-year PDP funding stream; and the sharp drop from the Dutch DGIS (down \$13m, -76%) was the result of 2015 being a transition year between PDP funding rounds. Irish Aid was one of the few top PDP funders to contribute more than in 2014 (up \$3.3m, 150%), but this represented a rebound after a marked drop in funding in 2014.

Public sector multilateral organisations gave \$17m to PDPs in 2015 (3.9% of total PDP funding). Almost all multilateral funding to PDPs came from UNITAID, which has been playing an increasingly important role in supporting paediatric drug development for TB, malaria, and HIV/AIDS. UNITAID's \$16m investment in PDPs in 2015 was larger than in any previous year of the survey, primarily due to increased funding to the TB Alliance to support the successful development of two new TB drug formulations designed specifically for children.

**Table 39. Top funders of PDPs 2015**

Funder	US\$ (millions)									2015 % of org's funds given to PDPs		2015 % of total PDP funding
	2007	2008	2009	2010	2011	2012	2013	2014	2015			
Gates Foundation	267	390	326	290	260	246	239	294	254	49		56
USAID	77	77	79	78	76	75	62	57	58	72		13
UK DFID	31	27	76	91	71	42	69	74	56	95		12
UNITAID			6.7				8.4	10	16	100		3.5
German BMBF			-	-	1.2	5.7	4.8	6.6	8.2	35		1.8
Swiss SDC	2.3	2.3	2.5	4.7	3.7	3.4	4.5	6.8	7.9	84		1.8
Australian DFAT						8.1	-	7.7	7.5	100		1.7
Irish Aid	22	6.3	4.8	5.9	5.8	5.6	7.8	2.2	5.5	100		1.2
US NIH	4.7	3.8	8.6	2.9	21	8.0	11	9.3	4.6	0.4		1.0
MSF	6.6	6.7	4.2	4.3	4.6	5.4	5.5	4.4	4.4	76		1.0
Dutch DGIS	29	18	18	15	19	11	21	17	4.1	100		0.9
Wellcome Trust	3.7	3.6	3.5	2.5	3.0	4.2	3.7	4.3	3.9	4.2		0.9
Subtotal top 12 funders of PDPs <sup>^</sup>	492	602	559	518	485	420	444	493	429			
Total PDP funding	538	657	606	550	524	449	477	511	450			
% of total PDP funding (top 12)	92	92	92	94	93	94	93	97	95			

<sup>^</sup> Subtotals for 2007–2014 top 12 reflect the top funders for those respective years, not the top 12 for 2015

- No reported funding

■ Funding organisation did not participate in the survey for this year. Any contributions listed are based on data reported by funding recipients so may be incomplete

## FUNDING FOR OTHER INTERMEDIARIES

‘Other’ intermediary organisations (i.e. those that are not PDPs) also aim to accelerate neglected disease product development, but do so without managing a product portfolio of their own. Instead, they generally act as coordinating agencies, receiving funding from multiple sources and passing this on to researchers and developers (either directly or via PDPs). They may also perform research themselves (often operational research, or research into existing treatment regimens) or be involved in clinical trials of novel products being developed by other organisations.

Non-PDP intermediaries received \$96m in 2015, representing 3.1% of total neglected disease R&D funding and 4.3% of external investment. The intermediaries that received the most funding in 2015 were the EDCTP (\$49m), the GHIT Fund (\$28m), the International Union Against Tuberculosis and Lung Disease (The Union, \$8.5m) and the Barcelona Institute for Global Health (ISGlobal, \$6.2m).

Funding to intermediaries increased substantially in 2015 (up \$31m, 50%). The most significant driver of this was new funding for EDCTP2, the second iteration of the EU’s partnership for facilitating product development for infectious diseases that affect Sub-Saharan Africa. Funding for the EDCTP more than doubled in 2015 (up \$28m, 128%), reaching a level not seen since the mid-point of EDCTP1 in 2007-08.

Most funding to intermediaries in 2015 (\$81m, 84%) was not earmarked for a specific disease by the funder. Of the intermediary funding that was disease-specific, \$8.6m was for TB, \$3.2m was for HIV/AIDS and \$2.7m was for malaria.

## FUNDERS OF OTHER INTERMEDIARIES

Non-PDP intermediary organisations receive funding from a relatively diverse range of sources, with less reliance on a single 'type' of funding organisation than either PDPs or researchers and developers. In 2015, 50% of funding to other intermediaries came from S&T agencies, 18% from development agencies, and 16% from philanthropic funders.

Almost all of the increases in funding to intermediaries from the top funders were associated with EDCTP2. The biggest increase came from the EU (up \$19m, 85%), making it the source of 41% of all intermediary funding in 2015 (compared to 35% in 2014). However, \$9.2m in new funding from the UK DFID, the UK MRC and the Swedish International Development Agency (Swedish SIDA) for EDCTP2 – none of whom contributed any intermediary funding in 2014 – meant that the share of total funding coming from the top three funders was actually slightly lower in 2015 (62%, compared to 65% in 2014).

**Table 40. Top funders of intermediaries 2015**

Funder	US\$ (millions)									2015 % of org's funds given to intermediaries	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	% of 2015 total intermediary funding	% of 2015 total funding
EU	38	36	18	2.0	23	24	24	22	41	32	43
Japanese Government							9.3	9.2	10	100	11
USAID	<0.1	4.2	5.3	5.8	5.7	5.5	5.0	9.2	8.5	11	8.9
Gates Foundation	11	8.3	13	5.9	5.2	4.2	6.8	7.4	7.4	1.4	7.8
Aggregate industry	-	1.3	3.2	-	-	-	3.4	7.5	5.0	1.1	5.2
US NIH	-	1.0	3.4	3.1	1.3	2.1	1.8	3.5	3.2	0.3	3.4
UK DFID	13	15	6.8	-	-	-	-	-	3.1	5.3	3.3
UK MRC	-	-	-	4.4	-	<0.1	-	-	3.1	7.7	3.2
Swedish SIDA	4.0	1.9	2.1	1.9	<0.1	-	0.6	-	3.0	100	3.1
Spanish MAEC	-	-	-	-	-	0.3	-	2.7	2.2	80	2.3
Subtotal top 10 funders of intermediaries <sup>^</sup>	71	76	54	29	41	52	54	62	84		
Total funding to intermediaries	71	77	55	32	41	53	56	62	96		
% of total intermediary funding (top 10)	100	99	98	92	99	97	97	100	88		

<sup>^</sup> Subtotals for 2007–2014 top 12 reflect the top funders for those respective years, not the top 12 for 2015

- No reported funding

■ Funding organisation did not participate in the survey for this year. Any contributions listed are based on data reported by funding recipients so may be incomplete

There are only a small number of intermediary organisations, and government funding (in particular) to intermediaries is usually very geographically-driven. For example, essentially all funding to intermediaries from the EU, the Swedish SIDA, the UK DFID and the UK MRC went to the EDCTP; USAID channelled its intermediary funding through The Union; the Japanese Government contributed to the GHIT Fund; and Spanish public sector organisations funded ISGlobal.