In 2015, the United States through the US National Institutes of Health contributed the majority of public funding, with France, the European Union, Canada, Switzerland, United Kingdom, South Africa and Australia also being significant contributors to HIV cure research.

The successful implementation of the Global Scientific Strategy plan will require improved international scientific collaborative research teams and institutions at the international level to ensure an optimal use of resources. Active initiatives include:

- IAS Towards an HIV cure initiative
  At the end of 2014, a new international scientific working group was convened to update and revise the Global Scientific Strategy Towards an HIV Cure. The revised IAS Global Scientific Strategy Towards an HIV Cure 2016, published in Nature Medicine, was launched in Durban at the AIDS 2016 conference.

- Martin Delaney Collaboratories
  Announcement of newly funded Martin Delaney Collaboratories by the National Institutes of Health.

- amfAR Countdown to a Cure for AIDS
  amfAR begins investments over six years aimed at finding a broadly applicable cure for HIV by 2020 with partners Qura Therapeutics and University of California, San Francisco.

- GSK/UNC HIV Cure Center
  The University of North Carolina at Chapel Hill, and GSK, announced in 2015 the creation of the dedicated HIV Cure center and a jointly owned new company that will focus on discovering a cure for HIV/AIDS funded by GSK at $4 million per year for five years.

The inclusion of “cure” in the global response should not direct funding away from treatment, prevention and care programmes, or from biomedical research on HIV and its consequences, including vaccine and other prevention research. However, it is imperative that donors, governments and the AIDS community make a viable and sustained economic investment in HIV cure research.

**ACKNOWLEDGEMENTS**

The IAS Towards an HIV Cure initiative would like to thank Resources Tracking for HIV Prevention R&D, for which AVAC acts as Secretariat, and includes the International AIDS Vaccine Initiative (IAVI) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) as members.

**INVESTMENT IN CURE RESEARCH: 2015 SHOWS A CONTINUED POSITIVE TREND FOR HIV CURE FUNDING**


<table>
<thead>
<tr>
<th>Country</th>
<th>2012</th>
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<td>120.4</td>
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<td></td>
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**METHODOLOGY**

Data collection was undertaken by AVAC on behalf of the Resource Tracking for HIV Prevention R&D accessing public information and collecting information through direct appeals to funding agencies. Requests were made to the public, industry and philanthropic sector funders requesting information on any research grants awarded in 2015 using the definition developed by the US National Institutes of Health’s Office of AIDS Research. In early 2016, surveys were sent to several dozen potential cure research funders across the globe. Responses from funders may not be comparable due to subjective determinations of whether specific grants fall under the OAR definition of cure research. Some funders also decline to provide information, and some did not always provide grant specific detail. In reviewing responses, AVAC accepted funders’ designation that specific research programs or grants are within the OAR definition.

**INVESTMENT IN CURE RESEARCH: 2015 SHOWS A CONTINUED POSITIVE TREND FOR HIV CURE FUNDING**

Current Research Investment, 2012–2015 (US$ millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>US$160.8 million</th>
<th>US$201.8 million</th>
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**GLOBAL INVESTMENT IN HIV CURE RESEARCH AND DEVELOPMENT IN 2015**

**FUNDING GROWS AS CURE NETWORKS AND PRIORITIES EVOLVE**

**JULY 2016**
Antiretroviral treatment (ART) has radically changed the face of HIV infection, from a lethal disease into a manageable chronic condition. All of 36.7 million people currently living with HIV are now eligible for ART based on the 2015 WHO guidelines for treatment and prevention. Unfortunately, the UNAIDS Global AIDS Update from June 2016 found that only 17.1 million of these individuals are currently accessing ART. At the same time, daily antiretroviral regimens are costly and sometimes difficult for patients and most importantly not curative HIV patients, despite even the best treatment, and contributes to the development of non-AIDS morbidities.

As such, it is time to strengthen our investments in the search for an HIV cure or remission. Over the last decade, our understanding and knowledge of the mechanisms of HIV persistence and latent virus have improved greatly. Many members of the scientific community now agree that the search for a functional cure or remission for HIV should be the main priority. Indeed, the past year has seen important new developments in the area of cure research:

- Sustained periods of seroconversion in the absence of therapy in adults receiving very-early initiated ART.
- New tools to quantify replication-competent virus.
- New data on latency reversing agents in clinical trials.
- Ongoing and new studies examining if early ART can re-activate HIV in latently infected cells.
- Results from toll like receptor, TLR7-agonist show promise in monkey studies in stimulating and eliminating latent virus.
- Neutralizing antibodies could be used in combination with ART for cure research.
- Findings that HIV persistence results from the immune system's inability to recognize certain cellular environments, which lead to the persistence of HIV in the body.
- Advances in using CRISPR technology to create HIV immune cells.
- Continued progress in understanding how broadly neutralizing antibodies could be used in combination approaches to HIV cure.
- Advances in understanding how to activate the innate immune system of people living with HIV.
- Despite these and other encouraging results, the scientific challenges remain important, as exemplified for the challenges faced by researchers’ continued unsuccessful attempts to replicate the results achieved by Timothy Brown, the only documented person to be cured of HIV using bone marrow or peripheral blood stem cell transplants in other patients.
- To ensure effective future outcomes for cure research, the International AIDS Society (IAS) revised its Global Strategic Framework towards an HIV Cure. In 2014, it identified the following scientific focal areas:
  - Molecular biology (of HIV latency and reversal strategies).
  - Viral reservoirs (immunology of HIV persistence and latency).
  - Models for HIV cure or sustainable remission.
  - Paediatric HIV cure.
  - Gene and cell therapy.
  - Novel biomarkers and technologies to quantify and measure HIV reservoirs.
  - Social sciences and health system research.

The IAS Global Scientific Strategy towards an HIV Cure 2014 also identified the following five key objectives:

- Understanding the innate immune system's role in HIV persistence and latency.
- Understanding the role of viral and cellular mechanisms in HIV latency and persistence.
- Developing novel biomarkers to quantify and measure HIV reservoirs.
- Developing new tools to quantify replication-competent virus.
- Understanding the role of the innate immune system in HIV persistence.

Estimates for global investments more than doubled in past four years. In 2015, the IAS HIV Cure Research grant group joined forces with AVAC, acting on behalf of the Resource Tracking Working Group for HIV Prevention R&D, to estimate global investments in HIV cure research. To date, this collaboration has yielded estimates for investment in cure research from 2012 to 2015. The Working Group estimates that in 2015, US$202.8 million was invested in cure research, representing a substantial increase of 25% over the US$160 million invested in 2014, and an increase of 72% over the US$116 million invested in 2012. The majority of investments (US$181.7 million) came from the public sector with US$1.73 million invested by philanthropies such as amfAR, CAFARE, Fair Foundation, the Bill and Melinda Gates Foundation, and Welcme Trust. Despite outreach by the Working Group this year, only two companies responded to the survey whilst several eminent experts have agreed to active research programmes, resulting in a significant underestimation for commercial investment in cure research.

INVESTMENT IN CURE RESEARCH: 2015 SHOWS A CONTINUED POSITIVE TREND FOR HIV CURE FUNDING

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