

AbbVie



Leveraging scientific expertise to tackle Neglected Tropical Diseases (NTDs)

Background

Neglected Tropical Diseases (NTDs) are '...a group of parasitic and bacterial diseases that cause substantial illness for more than one billion people globally. Affecting the world's poorest people, NTDs impair physical and cognitive development, contribute to mother and child illness and death, make it difficult to farm or earn a living, and limit productivity in the workplace. As a result, NTDs trap the poor in a cycle of poverty and disease.'²⁵ They provide an excellent example of the complex inter-relationships between the different Sustainable Development Goals and highlight the need for more collaborative approaches to problem-solving.

Efforts to prevent, control or eliminate NTDs require a combination of scientific innovation, social and economic interventions, policy support, and new financing mechanisms. They rely on the discovery, development and delivery of drugs and therapeutic treatments, where there are few commercial incentives for R&D, alongside concerted efforts to strengthen health systems and address broader environmental health issues such as unsafe water and sanitation. They call for new models of partnership between governments, civil society and the corporate sector.

Above all, the effort to tackle NTDs calls for outstanding individual leadership that combines technical skills with the ability to build partnerships and a passionate commitment to the long and challenging process of improving health outcomes. The scientists who work inside large companies are one group of individual leaders who are playing an increasingly important role in the fight against these diseases. One such leader is Dale Kempf, a 30-year pharmaceutical R&D veteran and co-inventor of AbbVie's (formerly Abbott's) HIV/AIDS drugs, who leads AbbVie's *pro bono* work on neglected diseases. Kempf

comments, 'It is very motivating for our scientists to get involved. Most came to the pharmaceutical sector because they want to use their science to impact peoples' lives. Our program offers an additional opportunity beyond their normal responsibilities.'²⁶

This profile provides a brief overview of the partnership between AbbVie and the Drugs for Neglected Diseases *initiative* (DND*i*). It offers one example of how companies are leveraging their scientific expertise to support efforts to improve health outcomes through engaging in innovative product development partnerships and licensing and collaboration agreements with public and non-profit health organizations. In addition to this and similar external partnerships, within AbbVie itself there is also strong cross-functional cooperation, led by some of the company's top scientists, and fully supported by senior management, with colleagues from the corporate responsibility, public affairs and legal teams also actively involved.

Objectives

In 2009, the Bill & Melinda Gates Foundation convened the first CEO Roundtable to encourage pharmaceutical companies to work alongside the foundation to address the needs of NTDs. Concurrently, top company scientists were introduced to several research-based NGOs supported by the foundation such as DND*i*. This dialogue began to build personal relationships, strengthen mutual respect and trust, and identify specific ideas for cooperation between the participating companies and NGOs.

Asked by senior management to represent AbbVie, Kempf recognized the opportunity for the company and its scientists to make meaningful contributions, even though AbbVie had no commercial business focused on NTDs. Together with the corporate responsibility

team, Kempf established a cross-divisional initiative focused on NTDs under the umbrella of a multi-disciplinary Executive Committee for Neglected Diseases. Aimed at bringing AbbVie resources to partners working in some of these underserved disease areas, the initiative is aligned to the company's corporate responsibility strategy to leverage its expertise, philanthropy and collaboration with the goal of improving health outcomes, operating responsibly and contributing to underserved communities.

DNDi is a key partner for the initiative. It was created in 2003 by a group of public health organizations as a non-profit drug R&D organization focused on using an alternative model to develop NTD drugs using a collaborative, patient's needs-driven approach. While maintaining clear financial and scientific independence, DNDi draws on the financial, technical and material resources of its corporate and public health partners to advance its mission. It has pioneered a number of innovative legal agreements with its partners to facilitate transparency in its R&D activities as well as accessibility and affordability of any drugs and treatments that result from them.

Activities

The AbbVie-DNDi partnership, along with similar partnerships that AbbVie has with MMV and the TB Alliance, is focused around three main areas of activity.

Sharing compounds for screening—Before partnerships like this, the vast majority of chemical compounds in pharmaceutical libraries had never been tested against the pathogens causing NTDs. The ability to access well-annotated compound libraries and then screen thousands of these compounds is a crucial early stage in the R&D process of identifying potential drug candidates. As DNDi noted in a ten-year review of its experiences and lessons, 'Gaining access to classes of compounds with drug-like characteristics from companies is vital as it offers access to knowledge and know-how associated with compound series to ensure more efficient drug development.'²⁷ Since 2009, AbbVie (formerly Abbott) has provided DNDi with thousands of compounds on a *pro bono* basis for research on Chagas disease, Leishmaniasis and river blindness. Together, these NTDs undermine the health of millions of people.

Providing technical expertise and advice—DNDi has been able to attract remarkable scientists to work for it, but it also needs to be able to draw on a much greater breadth and depth of scientific expertise and experience. A number of AbbVie's scientists serve as advisors and consultants on a *pro bono* basis to product development partnerships. Kempf, for example, serves on DNDi's Scientific Advisory Committee, which advises the organization on matters related to R&D and the choice of projects as well as quality of the scientific work.

Supporting program enhancement—AbbVie scientists are also working with DNDi and similar organizations in adding value to their programs, providing a *pro bono* service in areas where the company has particular expertise or technology that can move partner programs more rapidly towards 'go' or 'no go' milestones. Kempf explains, 'We work with our partners to identify opportunities that are likely to have the biggest impact—matching the company's capabilities with our partners' needs. Regardless of where the relevant program or compounds come from, if they look promising based on initial screening we can provide partner organizations with valuable, low-cost and good quality information in key areas such as safety and toxicology through running both routine and specialized assays and tests. In this way we are able to harness the scale of our technology platform as well as our scientific and process expertise to provide substantial in-kind support worth thousands of hours in terms of scientists' time and costs.'

Results

To date, AbbVie has shared more than 100,000 compounds with DNDi and other partners, and hundreds of scientific tests have been undertaken on their behalf. Over the past several years some 100 AbbVie scientists have been working alongside Kempf in the company's neglected diseases effort, with ongoing support from the company's top senior executives.

In 2012, AbbVie was also one of 13 pharmaceutical companies that came together under the leadership of the World Health Organisation (WHO) and Bill & Melinda Gates Foundation, and alongside several public donors, private foundations and NGOs to support *The London Declaration on Neglected Tropical Diseases*. This is a public statement with clear goals and specific commitments from the participants aimed at scaling up the level of collaboration needed to control or eliminate 10 major NTDs by 2020.

Next Steps

The shared goal of combating NTDs to improve the health and economic prospects of over a billion of the world's poorest people remains a complex and daunting one. Efforts to discover, develop and deliver new drugs and implement more collaborative approaches will take years, not months. Individuals like Dale Kempf and his fellow scientists play a vital role within their companies to advance these efforts. By partnering with public and non-profit health organizations or their peers, these companies can enable their scientists to leverage world-class technical expertise for the public good, whether on a *pro bono* basis, as in this example, or commercially or through hybrid models that combine both private and public sector resources. According to Kempf, 'Only through committed long-term partnerships will we be likely to achieve significant victories against diseases that have devastated humankind for too long'.