

3. BACKGROUND: DFID RESEARCH ON HEALTH AND HIV AND AIDS

Successive DFID health strategies have underlined the importance of generating new knowledge to deliver health services better, as well as scientific breakthroughs to provide new medicines and vaccines for tropical diseases and HIV and AIDS. In 2006/7 DFID invested around £45 million in health research – that is, one pound for every ten spent directly on health and over 35% of the entire central research budget. This makes DFID one of the largest investors in international health research, spending twice the minimum level for donors recommended by the Commission on Intellectual Property Rights, Innovation and Health in 2006.

2. Tropical diseases and TB together account for 12% of the global disease burden but less than 1% of new drugs developed. The 2006 White Paper “Making Governance Work for Poor People” commits DFID to boosting support for scientific innovation to develop a new generation medicines and vaccines for tropical diseases, TB and HIV and AIDS. In addition, a review commissioned to inform the forthcoming research strategy has singled out DFID’s strong track record in health sector research as an area of international comparative advantage on which to build further¹

Operations and implementation research in health and HIV

3. Decades of published research and systematic reviews provide good evidence for what basic health services are needed in poor countries and how much these interventions cost². DFID funds operational research on how these interventions can be delivered more effectively – for instance for better coverage, cost-effectiveness and user uptake. This type of research is funded through consortia of North/South research institutions working across a number of partner countries to provide comparable findings and draw out lessons. DFID’s previous experience of managed research has shown that long term programmes produce significant and coherent bodies of knowledge relevant to the health of the poor; build research capacity within developing country partner institutions; and support the translation of knowledge into policy and practice. Five examples of significant new knowledge generated by DFID health research are set out below.

Knowledge breakthroughs from DFID health research

Research in Ghana in 2006 found that breastfeeding within the first hour reduced neonatal deaths by 22%, showing that a clearer message needs to be developed about early breastfeeding as a key component of infant survival programmes.

Researchers in Zambia found that a 43% reduction in HIV and AIDS deaths was possible when children admitted to hospital were treated with a common antibiotic co-trimoxazole. This treatment regimen has subsequently become WHO recommended practice.

¹ Setting DFID’s research policy and practice in an international context, ODI April 2007

² Walford V. “Overview of the emerging health challenges and the implications for DFID support”, July 2006, DFID Health Resource Centre

Insecticide treated bednets have the potential to reduce infant mortality rates by up to 20%. DFID research showed that nets could be re-treated at home safely and effectively by semi-literate communities in Africa. As a result, DFID Tanzania helped to ensure that around 2 million nets sold annually by the three competing commercial factories were co-packaged with dipping kits.

More patient-friendly and community-based TB treatment case management guidelines produced by researchers in partnership with the Pakistan National TB Programme have been adapted and adopted by other national programmes (eg Uganda and China) and have influenced WHO advice.

Research supported by the EC and DFID in Mwanza, Tanzania in [1992] validated the link between untreated sexual infections and physical susceptibility to HIV and AIDS, leading to important changes in the way sexual health programmes are managed

4. DFID currently supports 11 research programme consortia in health and HIV. These programmes typically run over five years, covering questions in the following four broad areas:

- Communicable disease (eg TB, malaria, HIV and AIDS and other neglected tropical diseases)
- Maternal and child health
- Health systems
- Non communicable disease

Scientific innovation to produce new medicines and vaccines

5. Between 1975 and 2000 only 13 new drugs were licensed for tropical diseases – that is, around 1% of the all new licenses issued globally. DFID has sought to address this market failure by subsidising new product development public-private partnerships (PDPs) that specialise in R&D for priority diseases affecting the poor. Since the emergence of PDPs in the 1990s over 65 potential drug candidates are now in development and 3-5 new drugs are expected to be registered over the next two years.

6. PDPs work as virtual pharmaceutical companies in which a central staff manage a portfolio of potential new drugs/vaccines developed by a range of different partners including large pharmaceutical companies, pharmaceutical companies in middle income countries, biotechnology companies, contract research organisations, developing country stakeholders in disease programmes, user and advocacy groups etc. Medicines and vaccines in development cover the main “killer diseases” but also a range of neglected conditions that contribute to the disease burden in poorer countries (eg sleeping sickness; leishmaniasis). Essential health technologies such as diagnostics are also developed. PDPs aim to provide subsidy where it is needed most in the R&D pipeline: (i) at discovery and (ii) to partner projects through late stage clinical development (which is particularly costly, including clinical trials, developing country market analysis and regulation. DFID’s current investments in PDPs are shown below.

International AIDS Vaccine Initiative
International Partnership on Microbicides
Drugs for Neglected Diseases
TB Alliance
Medicines for Malaria Venture
Bilateral or UN drug/vaccine/technology development initiatives
Microbicide Development Partnership (bilateral)
WHO/UNDP/World Bank Human Reproduction Programme
WHO/UNICEF/World Bank Tropical Disease Research Programme

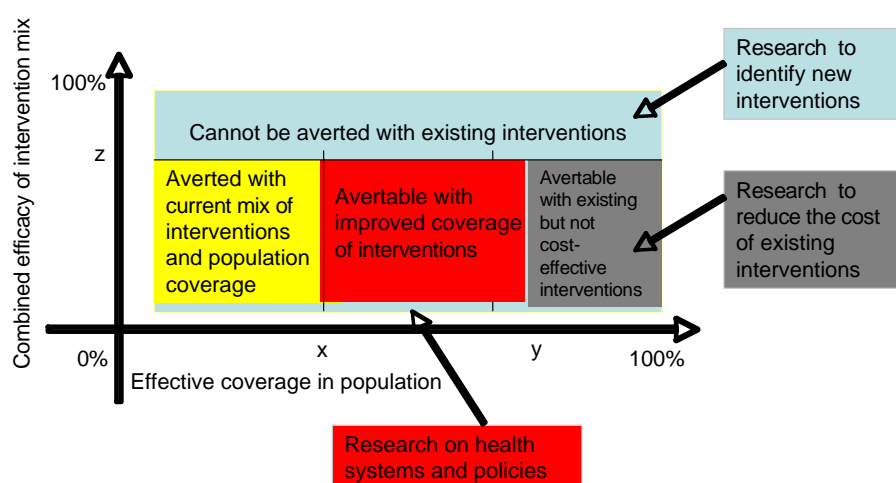
7. Existing PDPs estimate that there is an annual shortfall of \$1 billion shortfall in funding available to promote their work. Research by the Office of Health Economics (OHE) and has shown good rates of return from investing in drug and vaccine PDPs in terms of \$ per Disability Adjusted Life Year (DALY) averted:

- **for Drug PDPs** the cost per DALY averted is comparable with existing interventions e.g. use of insecticide treated bednets, residual household spraying and HIV voluntary counselling and testing.
- **for Vaccine PDPs** it is comparable with existing interventions e.g. TB DOTS therapy, HIV-TB co infection prevention and treatment, HIV and AIDS mother to child prevention

Future research priorities

8. As part of the new research strategy DFID will aim to match future research to the need for different types of evidence. Figure 1 below shows how this could potentially be done.

Figure 1:
Matching research to the need for different types of evidence



x \bar{x} population coverage with current mix of interventions

y \bar{y} maximum achievable coverage with a mix of available cost-effective interventions

z \bar{z} combined efficacy of a mix of all available interventions

Source: Adapted from Ad Hoc Committee on Health Research, *Investing in health research and development* (WHO, 1996)

9. In terms of **investigational research** future priorities could include:
 - Research to reduce the cost of existing interventions, for instance, second line treatments for TB, HIV and malaria
 - Research to investigate future changes to the disease burden, in particular the rise in non communicable disease but also the impacts of climate change on human health
10. In terms of **operational research** future priorities are likely to include:
 - Further research on health systems and policies that will enable coverage and quality of existing interventions to be improved and new models adapted, including at community level
11. In terms of **translational research** future priorities are likely to include:
 - Further investment in clinical trials to test and develop new drug treatments, health interventions and vaccines, with particular emphasis on clinical trials capacity building and co-ordination.
12. In terms of **scientific innovation** future priorities are likely to include:
 - supporting a “second generation” of medicines and vaccines for the major “killer diseases”
 - diversifying our PDP funding to include new priorities such as diagnostics
 - pay more attention to the “science” of product introduction – including funding research on drug regulatory capacity, public procurement and

distribution systems, and standards and guidelines for programme delivery.

13. Additionally, we see a need for multi-sectoral and inter-disciplinary research on the social context for health. For instance, future questions could include how women's incomes affect the survival and nutrition of their children.

There is information available on associated research in [education](#).