

PUBLIC POLICY FAILURES AND THE DEVELOPMENT OF NEW INSECTICIDES

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Introduction

Vector control is a proven and consistent method of preventing vector-borne diseases, such as malaria, dengue and leishmaniasis. Public health insecticides (PHIs) are vital to vector control and when used appropriately are safe for human health and the environment. Indoor residual spraying (IRS) and insecticide treated bednets are vector control interventions that rely on safe, effective and long-lasting insecticides. It is essential to ensure continued availability and use of the current suite of insecticides for vector control while adopting policies that will bring new, safe and effective PHIs to market.

Public health vs Agricultural insecticides

With the exception of DDT, all PHIs were first developed and commercialized for agriculture. Agriculture dominates the pesticide market; the public health market comprises approximately 1.3% of the total pesticide market.¹

While agricultural pesticides are required to be short acting with a narrow activity spectrum, PHIs require different properties and should be long lasting, with broader activity spectrum, safe for humans, and should embrace different modes of action – e.g. spatial repellency.

Given the limited incentives to develop new, safe and effective PHIs that embrace the full range of proven modes of action, far-reaching policy reforms and increased funding will be required.

Anti-insecticides agenda

Despite the importance of PHIs to disease control, World Health Assembly (WHA) resolution 50.13 calls on member states to “take steps to reduce reliance on insecticides for control of vector-borne diseases.”²

Vocal environmentalist groups such as Pesticide Action Network North America (PANNA) campaign against PHIs needed in many developing countries and propose unproven methods. PANNA:

- Aims to replace pesticide use “with ecologically sound and socially just alternatives”,³ and
- Advocates for malaria prevention methods such as “improved sanitation” and “water drainage.”⁴

BioVision, ICIPE and Millennium Institute “ask for a worldwide stop of DDT use and production for malaria vector control.”⁵

Anti-insecticide activism at the UN

The Stockholm Convention Secretariat has proposed and promoted a timeline for eliminating all production and use of DDT by 2020.⁶

The Global Environment Facility (GEF), UNEP, Stockholm Convention Secretariat, and environmental sectors of the WHO and PAHO, made false claims about the success of environmentally sound malaria control interventions in Mexico and Central America in an effort to prove that malaria can be controlled without PHIs, specifically DDT.⁷

- Achim Steiner, UNEP Executive Director, called the project “calculated and tested science,”⁸ despite an epidemiological evaluation finding no difference in malaria rates in demonstration areas versus control areas.

WHO response to anti-insecticide agenda

While WHO supports the use of DDT for malaria control, WHO's Global Malaria Program (GMP) “does not have the manpower to engage more actively in the debate [on the availability of DDT].”⁹

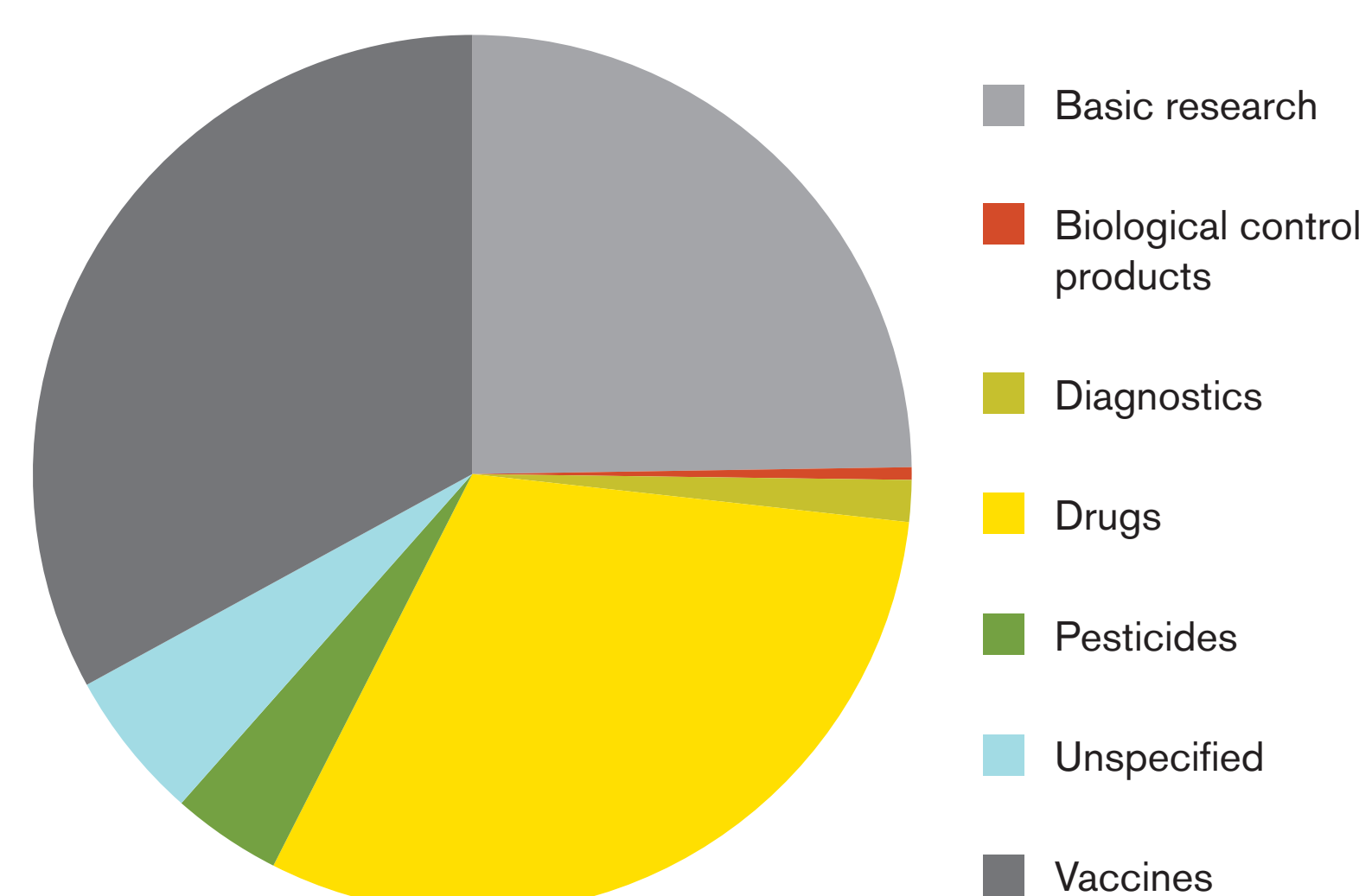
The search for new PHIs

A new pesticide active ingredient would require an investment of more than \$175 million over 12 years.¹⁰

RBM acknowledged the need for new classes of insecticides and a market for such products. Yet no UN organization provides sufficient leadership, funding or suggests policy reforms to assist in creating new PHIs.

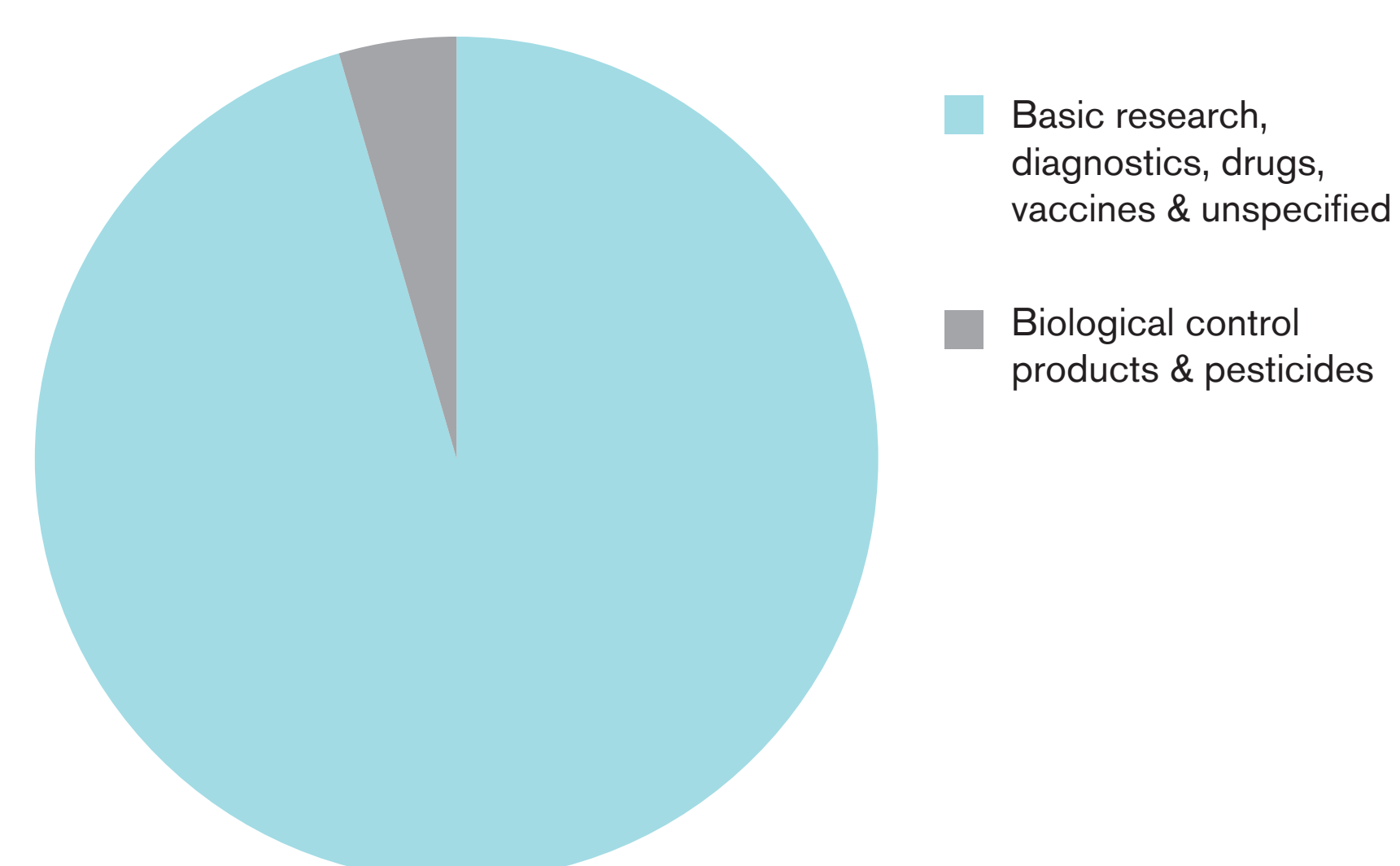
Of the \$261 million invested by GEF in POPs, only \$22 million (8%) went toward finding alternatives to DDT for vector control and most of these excluded man-made chemicals.¹¹

Distribution of Malaria R&D Funding in 2009 (USD)



Source content: G-FINDER. https://g-finder.policycures.org/gfinder_report/

Grouped Distribution of Malaria R&D Funding in 2009 (USD)



Source content: G-FINDER. https://g-finder.policycures.org/gfinder_report/

Conclusions

R&D funding for malaria is not being fairly allocated; very little is going toward the development of insecticides. This is the result of:

- Successful and aggressive advocacy by environmentalist groups; and
- Lack of effective advocacy and leadership from the malaria control community and global public health institutions.

The way forward

A system of public and private financial support, with incentives driven by sound public policy, should be developed for PHIs.

Malaria country governments and donor agencies should communicate their support for comprehensive disease control, including IRS.

Developed-country governments should prioritize investment in PHIs, enact policies to stimulate PHI investment, and dismantle the barriers that discourage investment in PHIs.

Malaria countries should be empowered and supported in their use of the best tools for their circumstances.

WHO should ensure that the GMP has sufficient resources to engage constructively in PHI and DDT debates.

WHA resolution 50.13 should be invalidated and a new resolution adopted that establishes the importance of insecticides to public health programs.

GEF's malaria-control funding should be removed and transferred to the WHO GMP.

Countries should be encouraged to work on insecticide resistance mitigation and management strategies.

The scientific community must recognize that modes of action other than toxicity are beneficial to disease control.

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