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## The Papua New Guinea national health and HIV research agenda

National health research agendas are important for helping to allocate funding to research areas of greatest need, and for aiding countries that receive donor funding to develop ownership and control over their national health research portfolios.<sup>1</sup> However, before 2013, Papua New Guinea did not have an agenda of this kind. Here, we describe the development of the Papua New Guinea National Health and HIV Research Agenda (NHHRA) for 2013–18.

The Papua New Guinea Health Research Policy<sup>2</sup> calls for research in the country to target national health priorities. The NHHRA is the answer to this call. It includes the first high-level

research agenda for all areas of health in Papua New Guinea. Under this high-level agenda, it is envisioned that more detailed lists of strategic research priorities for specific health areas can subsequently be developed (such as for tuberculosis, cancer, HIV, child health, or environmental health). The NHHRA also includes the first list of strategic research priorities for HIV. By starting with HIV, this priority-setting exercise drew on the lessons learned from developing and implementing the National Research Agenda for HIV and AIDS in Papua New Guinea 2008–13.<sup>3</sup> The strategic research priorities for HIV are intended to function as an example for the future development of research priorities for other health areas.

Overarching guidance for the development of the programme and the methods that led to the establishment of the NHHRA were

derived from the checklist on health research priority setting.<sup>1</sup> A three-stage consultation process was developed to enable the inclusion of a broad range of different stakeholders. In stage one, four workshops of 1 day each were held. Each focused on a different research domain: reproductive, maternal, and child health; communicable diseases; healthy lifestyles; and health systems. These four research domains are aligned with the key result areas of the Papua New Guinea National Health Plan 2011–20.<sup>4</sup> During these workshops, technical experts brainstormed on the values that should underlie the development of the agenda, discussed which health areas were relevant to the agenda within each research domain, and identified 10–15 research topics for each research domain. In stage two, during a workshop of 2 days, senior



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|    | Domain | Research topic   |
|----|--------|--|
| 1  | RMCH   | Research on how community-level postnatal care interventions that are known to be effective can be best implemented in the Papua New Guinea context  |
| 2  | RMCH   | Research to evaluate current maternal and neonatal care practices in health facilities and in the community (eg, partogram usage or management of low birthweight or prematurity)  |
| 3  | CD     | Research on the prevalence and socioeconomic determinants of tuberculosis, drug-resistant tuberculosis (multidrug resistant, extensively drug resistant), and tuberculosis/HIV co-infection  |
| 4  | HS     | Quality assurance research of medicines and medical supplies along the whole supply chain, from procurement to distribution and storage  |
| 5  | HL     | Research on the coverage of access to safe water and proper sanitation, especially rurally and in urban settlements  |
| 6  | HL     | Research on solutions for increasing coverage of diagnosis, screening and early detection of cancer in Papua New Guinea, with a view to understanding the relative burden of different cancers (eg, breast, cervical, liver, and oral cancers)       |
| 7  | CD     | Research on the causes of treatment failure, in particular the causes of poor adherence to treatment for tuberculosis, HIV, and HIV/tuberculosis co-infection and how adherence can be improved  |
| 8  | RMCH   | Research on the barriers and enablers to accessing supervised delivery in health facilities.   |
| 9  | CD     | Research on the magnitude and determinants of drug resistance for tuberculosis, malaria, pneumonia, meningitis, sexually transmitted infections, and HIV   |
| 10 | RMCH   | Research on the serotype distribution of major pathogens causing pneumonia and meningitis and their susceptibility to antibiotics  |
| 11 | RMCH   | Research on the effectiveness and feasibility of different mechanisms for introducing or scaling up coverage of new and existing vaccines (eg, outreach or supplementary immunisation activity or introduction of immunisation at health post level) |
| 12 | CD     | Research on the size, geographical distribution and HIV and health-care seeking behaviours of most-at-risk populations for HIV and sexually transmitted infections   |
| 13 | HL     | Research on the cost-effectiveness and sustainability of different possible systems for safe waste disposal (including urban solid waste, waste water, medical waste, and chemical waste)  |
| 14 | HL     | Research on the prevalence, determinants, and burden of violence, especially gender-based violence, and on the effectiveness of interventions  |
| 15 | HS     | Research on why there is low utilisation of health information and how this can be improved at all levels of the health system   |
| 16 | RMCH   | Research on sexual and reproductive health knowledge, attitudes, and practices of youth and adolescents (eg, preventing unwanted pregnancy and sexually transmitted infections)  |
| 17 | RMCH   | Research on the prevalence of vaccine preventable diseases to inform planning and monitoring of immunisation programmes  |
| 18 | HS     | Research on the satisfaction of health workers with their working conditions and on solutions for improving recruitment and retention of health workers  |
| 19 | HS     | Research on the factors that impact on the quality of health workforce performance.  |
| 20 | HL     | Epidemiological studies on the burden of different mental health problems, in particular at community level  |

RMCH=reproductive, maternal, and child health research. CD=communicable disease research. HS=health systems research. HL=research on healthy lifestyles.

**Table: The top 20 research priorities for all areas of health in Papua New Guinea**

technical and policy stakeholders refined and prioritised these topics. In stage three, during a 1-day workshop, specialised technical experts developed a more detailed list of strategic research priorities for HIV. A more detailed description of how the agenda was developed will be published on the website of the Papua New Guinea National Department of Health. The report can also be obtained from the corresponding author.

Participants identified the most important values that should inform the NHHRA, proposing that research topics focus on vulnerable populations, improve the health system of Papua New Guinea, and contribute to decision-making and policy-making (appendix). After research topics were identified for all the relevant health areas (appendix), participants agreed on a final ranked list of 60 research priorities for all areas of health in Papua New Guinea. The table presents the top 20 research priorities from the final ranked list (the appendix shows the full list, including participants' views on why each research topic is important). Retrospectively, all 60 research topics were compared by two authors (RFV and GC) to Frenk's classification of four research types.<sup>5</sup> This comparison noted that very few topics related to biomedical research or to clinical efficacy research, and that there was a strong focus on epidemiology (26 research topics) and health systems research (41 research topics) across all four research domains. For the area of HIV, participants agreed on a list of 32 more detailed strategic research priorities (appendix). The top ten HIV strategic research priorities were: research on geographic distribution, size estimations, high-risk practices and HIV/sexually transmitted infection serology among key affected populations; research on adult and paediatric HIV, sexually transmitted infection, and HIV-related opportunistic infection treatment, management, monitoring, and outcomes; research on prevention

programmes and practices for sexual transmission of HIV and other sexually transmitted infections (including condom distribution and male circumcision); research on biomedical technologies in the prevention of HIV and sexually transmitted infections; research on enablers for and barriers to creating supportive and safe environments for HIV and sexually transmitted infection prevention; research on HIV testing quality assurance and the implementation of HIV testing algorithms; research on the usefulness and impact of innovative systems to record and share information on HIV and sexually transmitted infection clients and key affected populations; research on the risk of HIV and sexually transmitted infection transmission among HIV serodiscordant couples; research on the lives of marginalised and most-at-risk populations; and finally, research on the lives of people living with HIV, their families, and their communities.

The NHHRA is an important new step in strengthening the health research system of Papua New Guinea.<sup>6</sup> A crucial next measure for Papua New Guinea will be the establishment of a national health research grants programme, funded by both government and development partners, and governed by a new national health research council. This measure is promoted in the newly published Papua New Guinea Health Research Policy<sup>2</sup> and was strongly endorsed by workshop participants. Australian Aid, a key development partner to Papua New Guinea, has shown support for a national grants programme,<sup>6</sup> and workshop participants hoped that other partners might follow. Such a programme could build on the experience gained with grants administration in the area of HIV research in Papua New Guinea.

A country's process of health research planning, funding, and evaluation should be a continuous cycle. The NHHRA makes recommendations for Papua New Guinea's health research

priorities for the next 5 years. We encourage feedback and discussion on this agenda and intend it to be the starting point for further dialogue on what the most important research areas are for Papua New Guinea, and how the health research system can be improved to address those priorities.

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See Online for appendix