



**Tropical Health
Solutions**



Systematic Literature Review of HIV/AIDS Research in PNG from 2009 – 2012

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Executive Summary

This systematic literature review (SLR) of HIV/AIDS research in Papua New Guinea (PNG) is an activity under Priority Area 3 Systems Strengthening of the PNG National HIV and AIDS Strategy 2011-2015 (NHS). This current SLR covers literature from 2009-2012 and builds on the previous SLR which covered research published in 2007-2008.

However, the approach adopted is different from the 2009 review with a much greater emphasis on methodological quality. Since HIV and AIDS research in PNG covers a very wide array of research topics, areas and themes, it did not seem practical nor meaningful to summarize information according to a set number of themes only. As a consequence, several practical research tools were developed to facilitate the identification and access to information on specific topics of HIV/AIDS research in PNG.

The overarching goal is to improve control of HIV/AIDS in PNG through using research to generate better evidence. The **specific aims** of the SLR are:

- to assist the PNG National AIDS Council Secretariat (NACS) to determine what relevance these findings have for HIV/AIDS control and management in PNG;
- to assist the PNG NACS and other national government organisations to identify new, or to update existing priority areas, in order to effectively and efficiently plan, program and coordinate national responses to the HIV epidemic;
- to highlight areas where evidence based on local research in PNG is either lacking or of poor quality;
- to make specific recommendations for which topics local research can provide important evidence to improve control and management of HIV/AIDS in PNG;
- to inform national and international non government organisations and faith-based organisations where and how they could optimally contribute to the overall effort to stem the epidemic;
- to facilitate local research studies and programs by providing practical research tools including a fully functional Endnote library, a folder containing PDF files of included publications, and searchable Excel spreadsheets detailing and summarizing all publications identified in this SLR.

The SLR includes all sources reporting research, and divides the literature into four types: journal articles, reports, book/book chapters, and conference abstracts. The attempt to locate literature was exhaustive with methods used including database research search engines, obtaining and utilizing literature from individuals (facilitated by face to face meetings in Port Moresby and Goroka), searching of abstracts of relevant conferences, and follow up of citations from the literature obtained. Inclusion criteria were broad being all publications (including “grey” literature) related to HIV/AIDS in PNG conducted or published between 2009 and 2012. Exclusion criteria were minimal: duplicate studies and publications that contained no evidence of original data (e.g., ‘expert’ opinions not accompanied by original data), or conference presentations with insufficient information to evaluate any quality of evidence.

Overall, 308 publications are included in this SLR, made up of 39 journal articles, 135 reports, 46 book chapters, and 88 conference abstracts. Since the strongest evidence is generated by

research that evaluates impacts and outcomes, this SLR highlights the importance of assessing each item of literature to determine its conceptual research stage. Using this approach the SLR found that 50% of publications contained original data, but did not report on any primary research; 44% of publications were in the formative stage and only 6% were in the summative evaluation stage. Of this latter group, 11 (3.6%) publications evaluated process, 7 (2.3%) evaluated impact and no publication evaluated outcome.

Owing to the cultural and geographical diversity of PNG local evidence must inform local planning; hence formative research is needed, driven by the intrinsic nature of PNG. However, since research that evaluates outcomes provides the strongest evidence, for research on HIV/AIDS in PNG to contribute effectively to improvements in HIV/AIDS control, it must shift focus from the planning (formative) stage to the evaluation of impacts and outcomes (summative stage). From 2009 to 2012 there was a trend in publications showing an increase towards more summative research. This is an encouraging development.

The SLR assessed individually the methodological quality of all 18 studies that were in the summative stage of research, and found that the majority (63%) applied reasonable or good quality methodology. All publications identified as containing primary research (153) were assessed and areas where modifications of methodology would have led to better quality evidence are highlighted. Primary research publications were assigned to one of the three Priority Areas under the NHS and further to the next level, Strategic Priorities. Research shows a healthy spread over all sections of primary, secondary and tertiary prevention and also covers to some extent the system strengthening component: Priority Area 1 Prevention (48%), Priority Area 2 Counselling, testing, treatment, care and support (35%), Priority Area 3 Systems strengthening (18%).

In summary, this SLR provides the evidence that only a limited number of research studies have been conducted into the efficacy and effectiveness of programs or interventions for HIV/AIDS in PNG. The consequence is that only a very thin layer of evidence is available for well-founded planning and programming of the National HIV response. The SLR highlights the following key points:

- (1) the two fundamental causes responsible for the identified paucity of evidence (despite quite numerous HIV research studies conducted in PNG) are: i) lack of emphasis on summative research that evaluates processes, impacts and outcomes; and ii) lack of studies that started from a testable operational research hypothesis; most studies were explorative, not confirmative.
- (2) the two methodological shifts imperative to address the fundamental causes identified are: i) focus on research that generates better evidence, a shift from formative research to research that particularly evaluates impacts and outcomes; and ii) implementation of more confirmatory research projects that test operational research hypotheses.

The SLR provides comments on research methodology relevant to improving the quality of HIV/AIDS research in PNG and uses examples from the PNG literature to illustrate how evidence could be improved.

Recommendations address the question “How can research on HIV/AIDS in PNG be conducted most effectively?”

Top Priority Recommendations

- All governmental and non-governmental organizations, bodies or persons involved in directing, approving, or granting funding for HIV/AIDS research projects and programs should:
 - be provided with very basic-level capacity building in research methodology;
 - make sure that prospective research projects are in the majority of cases engaging in summative evaluative research;
 - ascertain that quantitative research is predominantly based on explicitly stated operational research hypotheses;
 - make sure that the researchers involved have (or are directed to someone who has) the capacity i) to conduct an appropriate sample size calculation for intended quantitative projects; and ii) to undertake suitable statistical analyses of the findings;
 - encourage the results to be written up in a scientific way and disseminated (ideally published in peer reviewed journals) in a timely fashion so that there is a tangible outcome.
- 2. The functionality of the National Department of Health (NDoH) as the core of the national HIV monitoring and surveillance program must be urgently improved. The data quality, level of analysis, the interpretations provided as well as the delay in publication of the reports need immediate attention.

Other recommendations

3. Build capacity in analytical skills through offering short courses in epidemiological (study designs, sample size calculations, etc) and analytical methods (both qualitative and quantitative).
4. Build capacity in publication and professional presentation through offering writing workshops for researchers who have data suitable for publication.
5. Encourage mixed method research (MMR) as a versatile and quite powerful research approach. However, the essential qualification should be that it is based within a quite specific conceptual framework since the uncritical use of MMR does not deliver any benefits.
6. Encourage Respondent Driven Sampling in specific situations of hard to reach populations where a sampling frame is difficult to obtain, but use both the sampling strategy and the subsequent specific analysis.
7. Review the National Research Agenda for HIV and AIDS in PNG 2008-2013.
8. Use the NHS as a foundation for the guide to research in HIV/AIDS in PNG.
9. Improve routine monitoring and surveillance by:
 - i) Improving the quality and the timeliness of the annual surveillance reports; and
 - ii) Making additional use of the data collected by the NDoH by undertaking specific analyses of the data from the subgroup of sites that have been regularly reporting for some years. Comparison of the trend over time across the same sites will provide more valid information;

iii) Empowering and encouraging data usage and analysis at the provincial and local levels.

One step is to make the M&E Toolkit widely available to major NGOs.

10. Conduct repeat surveys in a representative and identical way to evaluate impacts or outcomes.

11. Increase the use of modelling as an alternative approach to achieve at least estimates of effects of already established as well as potential future programs and interventions.

The main sections of this SLR are available in hard copy and electronic format. A hardcopy is available from NACS. All material is available online at the NACS website (<http://www.nacs.org.pg>) or from the Tropical Health Solutions website (<http://www.tropicalhealthsolutions.com/pnghiv>).