Chapter 5
Research-capacity strengthening and network building

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Contents

Abstract ................................................................................................................................................. 157
Introduction ............................................................................................................................................. 158
Methods ................................................................................................................................................... 158
Findings .................................................................................................................................................. 158
Conclusions ........................................................................................................................................... 161
1 Introduction ........................................................................................................................................... 159
   1.1 HRP’s strategy for capacity building for research ................................................................. 159
   1.2 Regional advisory panels ........................................................................................................... 160
   1.3 Objectives of the evaluation for research capacity-strengthening and network building ........ 160
   1.4 Scope of the evaluation ............................................................................................................. 160
2 Methods .............................................................................................................................................. 160
3 Findings .............................................................................................................................................. 161
   3.1 Overview ...................................................................................................................................... 161
   3.2 Relevance and effectiveness in fulfilment of HRP’s objectives ................................................. 161
   3.3 Development of regional networks .......................................................................................... 164
   3.4 Outputs of HRP-strengthened research centres are being used to improve health and save lives .......................................................................................................................................... 167
   3.5 Sustainability of HRP’s work ..................................................................................................... 167
   3.6 HRP work through research capacity strengthening and network building has impacted on women's reproductive health and children’s health globally .............................................................................................................. 168
   3.7 The extent to which HRP contribute to global goods .............................................................. 168
   3.8 The extent to which capacity-strengthening and network-building outputs have reflected the mandate of HRP ........................................................................................................................................... 169
   3.9 The comparative advantage of HRP for research-capacity strengthening and network building and as global leader for research in human reproduction ........................................................................................................... 170
   3.10 The extent to which HRP work has been relevant to programme countries, particularly to low income countries ........................................................................................................................................ 170
   3.11 The extent to which HRP's work in research-capacity strengthening is contributing to the achievement of MDGs, ICPD agenda, poverty reduction and women’s health in general ........................................................................... 171
   3.12 Programme strengths and weaknesses ..................................................................................... 171
4 Conclusions ....................................................................................................................................... 172
5 Lessons learnt ....................................................................................................................................... 172
6 Recommendations ............................................................................................................................. 172
References ............................................................................................................................................. 173
Annex 1: Centre recipients of long-term institutional development grants from HRP that were sent a questionnaire by the external evaluator ........................................................................................................ 174
**Abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>CENEP</td>
<td>Centro de Estudios de Población [Centre for Population Studies]</td>
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<td>CIR</td>
<td>competitive intraregional research</td>
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<td>CREP</td>
<td>Centro Rosarino de Estudios Perinatales [Centre for Perinatal Studies]</td>
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<td>CWS</td>
<td>courses, workshops and seminars</td>
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<td>EmONC</td>
<td>emergency obstetric and neonatal care</td>
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<td>HVH</td>
<td>Hung Vuong Hospital (Viet Nam)</td>
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<tr>
<td>IByME</td>
<td>Instituto de Biología y Medicina Experimental [Institute of Experimental Biology and Medicine]</td>
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<tr>
<td>ICPD</td>
<td>International Conference on Population and Development</td>
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<td>ICPD/PoA</td>
<td>Programme of Action of the International Conference on Population and Development</td>
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<td>LID</td>
<td>long-term institutional development</td>
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<td>MDG</td>
<td>Millennium Development Goal</td>
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<td>MTCT</td>
<td>mother-to-child transmission</td>
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<tr>
<td>NIH</td>
<td>National Institutes of Health</td>
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<td>OWER</td>
<td>organization-wide expected result</td>
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<td>PCC</td>
<td>Policy and Coordination Committee</td>
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<td>RAP</td>
<td>regional advisory panel</td>
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<td>RCS</td>
<td>research-capacity strengthening</td>
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<td>REG</td>
<td>re-entry grant</td>
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<tr>
<td>ReproNet-Africa</td>
<td>African Network for Research and Training in Sexual and Reproductive Health and HIV</td>
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<tr>
<td>RHR</td>
<td>WHO Department of Reproductive Health and Research</td>
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<td>RMC</td>
<td>resource maintenance and capital</td>
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<td>RMG</td>
<td>resource maintenance grant</td>
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<td>RPM</td>
<td>research project monitoring</td>
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<td>RTG</td>
<td>research training grant</td>
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<td>SGC</td>
<td>service guidance centre</td>
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<td>SRH</td>
<td>sexual and reproductive health</td>
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<td>SSG</td>
<td>small supplies grant</td>
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<tr>
<td>STAG</td>
<td>Scientific and Technical Advisory Group</td>
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<tr>
<td>STI</td>
<td>sexually transmitted infection</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<tr>
<td>VIA</td>
<td>visual inspection with acetic acid</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Abstract

Introduction

The World Health Organization’s (WHO’s) Global reproductive health strategy includes supporting action-oriented research and research-capacity strengthening (RCS) that contribute to the overarching goal of achieving universal access to quality sexual and reproductive health (SRH) services. The United Nations Development Programme (UNDP)/United Nations Population Fund (UNFPA)/United Nations Children’s Fund (UNICEF)/World Health Organization (WHO)/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP) is the research arm of WHO’s Department of Reproductive Health and Research (RHR). The goal of HRP in RCS is “to improve reproductive health in countries and regions through support to priority national/regional research, in particular that which is linked to improved operations of reproductive health programmes”.

The strategies to achieve a sustainable local resource for national governments and countries of evidence on policy and programme interventions to advance SRH include provision of various forms of grants, including long-term institutional development (LID) grants to institutions to develop the infrastructure for research. After the period of the LID grants, institutions are monitored and become eligible for resource maintenance and capital (RMC) grants to sustain the gains made.

HRP has established and convenes regional advisory panels (RAPs) that serve as regional scientific and technical advisory bodies to HRP on priority national/regional research, capacity-building and programmatic activities in SRH.

Methods

The methodology and process of this evaluation involved desk review of relevant documents related to HRP’s work during the period of the evaluation. A global e-mail questionnaire was also sent to 25 institutions that have benefited from LID grants. The objective of the questionnaire was to assess the performance of the collaborating centres in relation to the support given by HRP. Site visits were made for verification of reports and to assess the extent of national and regional outcomes. Discussions were also held with the ministries of health and other national institutions that collaborated with the collaborating centres, to assess how the collaborating institutions are impacting on these institutions.

Findings

The findings presented are based on the desk reviews, analysis of the responses from the global questionnaire and the site visit.

Overview

HRP was funding and collaborating with 103 research centres in 55 countries around the world (11 in the Region of the Americas, 10 in the European Region, 23 in the African and Eastern Mediterranean Regions, and 11 in the South-East Asia and Western Pacific Regions). The questionnaire was sent to 25 LID grant recipients in the Americas, Africa, Asia and the Pacific, and Eastern Mediterranean. Twenty-three heads of the collaborating institutions in 23 institutions responded (5 in Latin America; 10 in Africa; 7 in Asia and the Pacific, and 1 in the Eastern Mediterranean), which represents a 92% response. HRP assists the institutions to identify their needs and visits the sites a number of times to provide expertise on the process of implementation of the agreed activities. Sixty-four per cent of the centres felt that these HRP visits were frequent enough to provide the support that the centres needed. The visits
also encouraged the institutions to adopt corrective interventions for any shortcomings, to further improve the research orientation.

**Relevance and effectiveness in fulfilment of HRP’s objectives**

The extent to which HRP objectives related to capacity building for research were still valid can be deduced from the fact that, in most countries, heads of the HRP-supported centres sit on bodies that set the national research agenda for SRH, and WHO/HRP guidelines and handbooks for SRH programmes are universally used to guide national programmes. In most institutions, the number of courses offered by the centres and the number of presentations at scientific meetings increased after the HRP support.

**Development of regional networks**

Through network building, HRP has promoted interregional collaboration in promotion of women’s and children’s health and development of global public goods. Although, understandably, emphasis has been on support for low- and middle-income countries, collaboration with high-income countries has led to development of global goods such as methods for medical abortion. Researchers feel the networks are very useful for exchanging views and learning.

Eighty-nine per cent of the centres collaborated with other institutions: of these, 63% collaborated with other local institutions, thereby cascading the knowledge and skills benefit from HRP support, while 37% collaborated with regional institutions and with global/international institutions. In some countries, this collaboration has enhanced the capacity to attract funding from other institutions. For example the Centro Rosarino de Estudios Perinatales [Centre for Perinatal Studies] in Argentina has been able to attract diverse funding towards its activities. This also promotes HRP objectives to provide evidence-based practice in the delivery and provision of clinical reproductive health services, thereby accelerating the achievement of Millennium Development Goals (MDGs).

**Outputs of HRP-strengthened research centres are being used to improve health and save lives**

There are many examples of research results that have led to improvement in women’s lives. For example, a study that concluded that controlled cord traction can be omitted with little increase in the risk of postpartum haemorrhage in settings where skilled birth attendants are not available, has potential to save many lives in low- and middle-income countries where postpartum haemorrhage remains the top cause of maternal death. A multicountry survey on maternal and newborn health, with a focus on the management of severe complications in pregnancy and childbirth, in 29 countries, has the potential to reduce case-fatality rates from obstetric complications and save many lives.

**Sustainability of HRP’s work**

From the start, the supported institutions are encouraged to develop a sustainability plan to allow them to continue thriving beyond the period of support. A number of institutions have since been weaned off HRP support, in many countries, including Argentina, Brazil, Kenya, Senegal, Tunisia and Zimbabwe, but have continued to turn out large quantities of good-quality research results.

However, the ending of the LID grant has led to the loss of salaries for some research staff in some centres, which has resulted in their leaving, with consequent weakening of the centres. This has reduced the capacity of centres to train others. Other services that have suffered are library services and journal acquisition, which have become depleted.
HRP work through research-capacity strengthening and network building has impacted on women’s reproductive health and children’s health globally

Among recorded policy changes and practice are the use of emergency contraception and provision of safe medical abortion care in many countries worldwide; adoption of the use of magnesium sulfate in the management of pregnancy-induced hypertension; use of misoprostol in the management of postpartum haemorrhage and incomplete abortion; and replacement of dilatation and evacuation with manual vacuum aspiration. Together, these have the potential to significantly reduce maternal mortality and morbidity and to create significant cost savings in the delivery of health care.

Although studies have not been conducted to assess the impact of centres on health-related MDGs in their countries, there is evidence that work by supported centres has contributed to the achievement of MDGs in their countries. For example in Côte d’Ivoire, the results of the Emergency Obstetric and Neonatal Care survey made the Government introduce the delivery of free care for children and pregnant women, thereby increasing coverage, which will accelerate the achievement of MDGs 4 and 5 in Côte d’Ivoire. In Viet Nam, Hung Vuong Hospital collaborated with WHO task forces to investigate the effectiveness of several interventions, in an effort to minimize maternal morbidities and mortalities through calcium supplementation or supplementation with vitamins C and E for prevention of pre-eclampsia, or misoprostol for prevention and treatment of postpartum haemorrhage. In Peru, a study demonstrated that burning biofuel led to reductions in birth weight over and above the effect produced by living in a hypoxic environment. Further studies led to the introduction of biofuel kitchens in hypoxic high-altitude areas, which reduces the incidence of low birth weight. It is estimated that the use of 500,000 such improved kitchens may reduce the rates of low birth weight.

The centres have also contributed to the promotion of an International Conference on Population and Development (ICPD) Programme of Action (PoA) in their countries. For example, in Ethiopia some of the studies that were conducted by the centre were on family planning and abortion; these are ICPD/PoA studies. In Kenya, adoption of family planning guidelines and promotion of contraception among women who are HIV positive has promoted the ICPD agenda. In the Plurinational State of Bolivia, as a result of the institutional research agenda, new topics have been introduced in population studies, such as, interculturality, violence against women, teenage pregnancy and motherhood.

Implementation research is increasing, but rather slowly, probably because of inadequate funding. On discovering that the country could not afford to scale up the Papanicolaou smear test for cervical cancer screening, the United Republic of Tanzania participated in a six-country (ReproNet) visual inspection with acetic acid (VIA) study, which found that VIA was acceptable and feasible. VIA has since been adopted in these countries, leading to scaling up of screening services for cervical cancer, the commonest cancer in women in low- and middle-income countries.

The extent to which HRP contributes to global goods

An example of global goods from HRP-supported research is the non-scalpel vasectomy developed by the Sichuan Family Planning Research Institute in Chengdu, China. This method is now practised worldwide and has made vasectomy more acceptable and accessible to many individuals. Research on the development of the award-winning Odon device, which can potentially be safely used by nurses in rural health centres without risk of maternal and newborn trauma, is another global good that could provide a low-cost simplified way to shorten the second stage of labour without recourse to caesarean section.
The extent to which capacity-strengthening and network-building outputs have reflected the mandate of HRP

The institutions that have benefited from RCS have subsequently been able to participate in implementation of the global research agenda. HRP has been very effective in developing the research capacity of institutions, leading to increased high-quality output from the collaborating centres published in peer-reviewed journals. There are many examples that reveal that supported institutions have conducted studies that influenced national health policy, and that in turn led to improvement in the health of women in all regions. HRP support has enabled researchers in low- and middle-income countries to undertake and manage new types of projects and take advantage of previous research outputs to undertake in-depth studies. Satisfaction among the countries with HRP support is high; 74% of the centres surveyed indicated that HRP had fully met their expectations. Through training and provision of logistics support by HRP, a culture of research has been established in many low- and middle-income countries.

The comparative advantage of HRP for research-capacity strengthening and network building and as a global leader for research in human reproduction

WHO remains the organization that countries look up to for guidance on health promotion, and countries are more likely to adopt HRP guidelines, which are informed by HRP-supported studies globally, than those produced by other partners. There are a number of other players in the area of research capacity-development in reproductive health in low- and middle-income countries, but they are mostly either supporting or complementing HRP and not competing with it, as HRP is seen to be better placed to influence policy and programmes. Studies funded by HRP, by being focused on country needs, have led to the development of treatment guidelines and global standards that are used in SRH programmes worldwide, focusing on the five key causes of maternal mortality, notably postpartum haemorrhage, infection, eclampsia, obstructed labour and complications resulting from unsafe abortion. Among these are the award-winning Medical eligibility criteria for contraceptive use; Safe abortion: technical and policy guidance for health systems; and guidelines on antenatal care, postpartum haemorrhage, and birth spacing.

Seventy-five per cent of the institutions felt that this advantage was because HRP work was more specific to SRH research issues; 45% also felt that this was related to the high-quality training provided through sponsorship to good institutions and the provision of experts for local training. One third reported that HRP promoted studies that were more specific to national needs, which was greatly appreciated by the countries.

The extent to which HRP work has been relevant to programme countries, particularly to low-income countries

HRP outputs have been accessible to all and used to improve lives.

Studies supported by HRP have provided evidence that service coverage can be safely scaled up with task-shifting or sharing, and many low- and middle-income countries have reached more people with essential health services this way. HRP’s RCS initiatives are also influencing the development of women’s and children’s programmes in many countries. Research staff from the collaborating centres sit on national SRH research policy planning bodies, thereby influencing the development of reproductive health programmes in their countries and, in some cases, their region. Among recorded policy changes and practice are the adoption of VIA of the cervix to screen for cervical cancer, to replace the Papanicolaou smear, which was not affordable for most low- and middle-income countries, thereby reducing the prevalence of cervical cancer.
The extent to which HRP’s work in research capacity-strengthening is contributing to the achievement of MDGs, ICPD agenda, poverty reduction and women’s health in general

HRP has funded the training of a large number of scientists in research methodology, as well as postgraduate education for senior researchers, which has influenced policy and programmes in low- and middle-income countries and promoted evidence-based treatment and programming of health care in low- and middle-income countries. This is promoting universal coverage of SRH services, while also improving the quality of care, e.g. through the adoption of focused antenatal care.

HRP has been very effective in developing the research capacity of collaborating institutions. The major outputs attributable to HRP in the collaborating centres include an increase in high-quality research proposals and paper output, and the development, or revision, of national guidelines. This is contributing to achievement of national MDGs; countries have also benefited from HRP collaboration through the promotion of the ICPD/PoA.

Conclusions

There is enough evidence that HRP objectives to strengthen capacity for research are achieved or are likely to be achieved. Testimonials from institutions consider the HRP support as the only real possibility to train with first-line researchers in the area of reproductive health. Workshops and seminars were found to be an enriching experience that create a scientific frame of mind. There were few financial opportunities to travel to training centres for most researchers in low- and middle-income countries, other than those provided by HRP. The result is a greatly increased output of publications in peer-reviewed journals that have worldwide influence on policy and practice for the improvement of women’s and children’s health.

There is evidence that work by supported centres has contributed to the achievement of MDGs in their countries. In most countries, heads of the HRP collaborating centres sit on bodies that set the national research agenda for SRH, and WHO/HRP guidelines and handbooks for SRH programmes are universally used to guide national programmes.

The centres have also contributed to the promotion of ICPD the PoA in their countries. For example in Kenya, adoption of family planning guidelines and promotion of contraception among women who are HIV positive has promoted the ICPD agenda. In the Plurinational State of Bolivia, as a result of institutional research agenda, new topics have been introduced in population studies, such as interculturality, violence against women, teenage pregnancy and motherhood.

Implementation research is increasing, but rather slowly, probably because of inadequate funding. The results of a study on the coverage of antenatal syphilis screening and predictors for not being screened in Ulaanbaatar, Mongolia were used to develop an operational research proposal on one-stop service for antenatal syphilis screening, which greatly increased coverage for syphilis screening. A study in the United Republic of Tanzania, which found that VIA was acceptable and feasible, led to the scaling up of screening services for cervical cancer, the commonest cancer in women in low- and middle-income countries.

Development of networks to promote the development of global goods, and the promotion of sharing of information and skills in research have been effective in strengthening research capacity and accelerating improvement in women’s health. However, gaps still remain in the needs of individual countries, as a result of inadequate funding to satisfy the needs of the centres. In the face of reduced funding to HRP, it remains to be seen whether reductions in the amounts of RCS grants and lengths of study will result in a slower pace of RCS by HRP.
Some institutions are still not able to stand on their own after the 10-year LID grant. Many centres in low-income countries will still not have adequate numbers of research staff at the end of the 10-year support for institutional development. This is partly because of staff mobility and partly due to countries’ dependence on HRP support. The ending of LID grants in some institutions has led to the loss of salaries for some research staff, with consequent loss of staff and weakening of the centres. This reduced the capacity of centres to train others. However, these are exceptions rather than the rule, as many institutions received LID grants from other institutions and resource maintenance grants from HRP.

WHO remains the organization that countries look up to for guidance on health promotion, and countries are more likely to adopt HRP guidelines that are informed by HRP-supported studies globally than those produced by other partners.
1 Introduction

1.1 HRP’s strategy for capacity building for research

The World Health Organization’s (WHO’s) commitment to attaining global reproductive health goals (Millennium Development Goals (MDGs) 4, 5 and 6), the goals of the 1994 Cairo International Conference on Population and Development (ICPD), and WHO’s Global reproductive health strategy (1), which, among others, underpin HRP’s work, include supporting action-oriented research and research capacity-strengthening (RCS) that contribute to the overarching goal of achieving universal access to, and quality of sexual and reproductive health (SRH) services. Such RCS is premised on the need for self-reliance in generating solutions to national SRH problems and contributes to sustainable development.

The United Nations Development Programme (UNDP)/United Nations Population Fund (UNFPA)/United Nations Children’s Fund (UNICEF)/World Health Organization (WHO)/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP) is the research arm of WHO’s Department of Reproductive Health and Research (RHR). The goal of HRP in RCS is “to improve reproductive health in countries and regions through support to priority national/regional research, in particular that which is linked to improved operations of reproductive health programmes” (2).

The strategies deployed by HRP aim to ensure a sustainable local resource to national governments and countries for evidence on policy and programme interventions to advance SRH. They include promotion of sharing lessons learnt within and between countries, through network building. Preference is given to “South-to-South” collaboration1, to provide a working environment similar to the one in which the researchers operate.

HRP is also using a variety of mechanisms to promote and develop research capacity. These include the provision of individual research training grants (RTGs) to promising researchers to follow research degrees or postgraduate courses in epidemiological, biological biostatistics or social sciences related to SRH. HRP also funds group learning activities that further strengthen research capacity through courses, workshops and seminars (CWS) grants. Long-term institutional development (LID) grants are awarded to institutions to develop their infrastructure for research, hire additional staff critical to conducting research and purchase laboratory equipment, data-management software and hardware and supplies linked to the studies. During the period of the LID grants, institutions are also provided with technical assistance and group learning materials by HRP staff or other regional experts, to address any gaps identified. After the period of the LID grants, institutions are monitored and become eligible for resource maintenance and capital (RMC) grants to sustain the gains made by the research centre following the LID. Institutions are also funded through service guidance centre (SGC) grants to serve at the national level, as a resource for the dissemination, adaptation and adoption of tools and guidelines into health systems and service delivery. Other mechanisms include competitive intraregional research (CIR) grants, small supplies grants (SSGs), and research project monitoring (RPM) grants. For details, please see: http://www.who.int/reproductivehealth/topics/countries/grants/en/index.html.

Grants for RCS include support to research proposals that are integrated within the RCS package. Examples of research and other areas of collaboration with centres for capacity building include:

1 Collaboration between countries in the southern hemisphere with similar incomes; these are mostly low- and middle-income countries.
• development, testing, introduction and application of new methods of family planning, including their promotion within service programmes, through guidance tools to expand choice;
• development and testing of methods for dual protection against unplanned pregnancies and sexually transmitted infections (STIs);
• development and testing of interventions for prevention of STIs and HIV, including microbicides and protocols or models for the prevention of mother-to-child transmission (MTCT) of HIV;
• generating and synthesizing evidence for development and testing of interventions for the promotion of best practices for improving maternal and newborn health;
• generating evidence and new knowledge for action, policy, programme support and advocacy for best practices for addressing the SRH of adolescents;
• developing action plans for the prevention of unsafe abortion and provision of post-abortion care;
• generating evidence and testing standards for the prevention and management of STIs, infertility and cancer of the cervix;
• learning users’ and potential users’ perspectives with regard to reproductive health technologies and services;
• developing and testing of prevention interventions for unintended pregnancies;
• promotion, through research and programme development, of models of best practice for male involvement in reproductive health;
• promotion of gender equity and rights in reproductive health, including research and research-linked service and advocacy programmes for the elimination of traditional harmful practices and gender-based violence;
• participation in the development and implementation of programmes to support global initiatives for promoting SRH;
• facilitation of the dissemination and promotion of utilization of normative guidelines and tools, including advocacy for best practices.

Scholarships are also awarded to young investigators to spend an average of 3–6 months in a reputable research institution to perfect their analytical skills, using relevant databases and coursework. This has included attachments to laboratories to develop their expertise in methods and procedures. After receiving individual training, trainees will often return to their original institutions, with projects funded through re-entry grants (REGs) to assist them to reintegrate in their country of origin and put their newly acquired skills into practice.

1.2 Regional advisory panels

HRP has established and convenes regional advisory panels (RAPs) that consist of researchers, SRH programme managers, public health specialists and other experts drawn from the region, for primary advice. The RAPs serve as regional scientific and technical advisory bodies to HRP on priority national/regional research, capacity-building and programmatic activities in SRH. They receive and review applications for research. The research protocols are reviewed for relevance and acceptability of the methodologies and funded on approval. LID and related grant applications are also reviewed and funded, based on the findings of a site visit, the needs of the institution and the relevance to the country. RAPs consider the availability of other research institutions operating in the country at the time and the support that the applicants
get from other funding agencies. RAPs also decide on other activities, such as dissemination of research results and funding of consultants to support specific RCS activities through RPM grants, related seminars and workshops, among others.

There are currently four RAPs: one each for the Region of Americas; the African and Eastern Mediterranean Regions; the South-East Asia and Western Pacific Regions; and the European Region, including Central Asian republics. These panels sit at least once a year to review the work of the collaborating centres and advise accordingly. They also undertake missions to the research centres to promote their work and address some of the challenges identified with or without HRP staff.

1.3 Objectives of the evaluation for research capacity-strengthening and network building

The objective of this evaluation includes assessment of:

- the achievement of HRP objectives and provision of evidence that these objectives can be achieved or that the activities are contributing to the achievement of relevant WHO organization-wide expected results (OWERs, especially for OWERs 4.1, 4.2 and 4.7), and make recommendations on how best to achieve them more efficiently and effectively;

- the comparative advantage of HRP in RCS and network building and the impact and sustainability of its work.

1.4 Scope of the evaluation

This evaluation assesses how LID grants, research training grants, courses, workshops, seminars and other training support over the period 2008–2012 have assisted in the achievement of HRP objectives in the regions assessed. While there are over 100 institutions collaborating with HRP, receipt of a LID grant signifies a national need for capacity strengthening, and thus the evaluation has concentrated on how recipients of these grants have been strengthened. Emphasis was on support to low-income countries in Asia, Africa and South America.

The evaluation has not included assessment of the impact and effect on beneficiaries other than the promotion of processes that are known to lead to improvements in women’s reproductive and children’s health.

2 Methods

This exercise involved three stages:

1. desk review of relevant documents, including HRP annual technical reports for 2008–2012; the WHO Global reproductive health strategy (1), RAP reports for 2008–2012, and reports of the Scientific and Technical Advisory Group (STAG) and the Policy and Coordination Committee (PCC). A recent study by interns Oscar Zazueta-Fierro and Alfredo Fort (personal communication, 14 September 2012) on research-capacity training provided additional information to this evaluation;

2. a global e-mail questionnaire was developed to collect relevant data and information. The questionnaire was sent to 25 institutions that have benefited from LID grants; this included eight that received grants before the period of this evaluation, to assess the performance of these institutions after being weaned off the grant (see list in Annex 1). The objective of the questionnaire was to assess the performance of the collaborating centres in relation to the support given by HRP. Indicators included were:
the number of people trained within the institution;
research output;
evidence of responsiveness to changing SRH research needs and priorities in the programme of the centres;
the impact of research on national policy formulation;
the impact on health services (adoption and utilization of research findings);
involvement of staff in national, regional and international advisory bodies/technical committees;
the networking role within the countries and also at the regional level;

3. site visits for verification of reports and to assess the extent of national and regional outcomes. Discussions were also held with the ministries of health and other national institutions that collaborated with the collaborating centres, to assess how the collaborating institutions are impacting on these institutions.

3 Findings
The findings reported are based on the desk reviews, analysis of the responses from the global questionnaire and the site visits.

3.1 Overview
HRP was funding and collaborating with 103 research centres in 55 countries around the world (11 in the Region of the Americas, 10 in the European Region, 23 in the African and Eastern Mediterranean Regions, and 11 in the South-East Asia and Western Pacific Regions). The questionnaire was sent to 25 LID grant recipients in the Region of the Americas, the African Region, South-East Asia and Western Pacific regions, and the Eastern Mediterranean Region; 25 heads of the collaborating institutions in 20 countries responded (5 in Latin America; 10 in Africa; 7 in South-East Asia and the Western Pacific Regions, and 1 in the Eastern Mediterranean), which represents a 92% response. Of these 25 institutions, eight had LID grants before the period of this evaluation and 17 during the period of this evaluation.

HRP continues to identify countries that need support for RCS; in 2011, 13 institutions were awarded LID grants. Seven institutions received SGC grants, 7 received CIR grants, 10 received RMC grants and 1 institution received a pre-LID grant. RTGs in the form of courses, workshops, and seminars were awarded to three institutions in the African Region. In the Region of the Americas, 16 fellows received awards for courses or practical training.

After identifying the institutions to support, HRP assists them to identify their needs and makes visits to the sites to provide expertise on the process of implementation of the agreed activities. Sixty-four per cent of the centres felt that these HRP visits were frequent enough to provide the support that they needed. The rest wished for more visits. It is important to mention here that HRP repeatedly informed the centres that there were inadequate resources for more frequent visits to the centres. Nonetheless, the visits also encouraged the adoption of corrective actions to any shortcomings noted, to further improve the research orientation in the reproductive health forum of the country (for research needs, prioritization, reviews and translating findings to practice guidelines).

3.2 Relevance and effectiveness in fulfilment of HRP’s objectives
The extent to which HRP objectives of the capacity building for research were still valid can be deduced from the fact that the HRP strategy is aligned to the Programme of Action of the
International Conference on Population and Development (ICPD/PoA) (3), MDGs and the United Nations (UN) Secretary-General’s *Global strategy for women’s and children’s health* (4). In most countries, heads of the HRP collaborating centres sit on bodies that set the national research agenda for SRH, and WHO/HRP guidelines and handbooks for SRH programmes are universally used to guide national programmes.

A recent study by HRP interns Oscar Zazueta-Fierro and Alfredo Fort (personal communication, 14 September 2012) revealed that while there were nine fellows in training 5 years before the LID grants, there were 25 fellows 5 years after the LID grants. Over the same period, the number of courses offered by the centres increased from 12 to 30, presentations at scientific meetings increased from 24 to 95, and publications increased from 5 to 31 per centre. This is proof that the HRP objectives to strengthen capacity for research are being met.

As regards consistency between the activities and outputs of the programme in capacity building with the overall goal and the attainment of HRP objectives, it is noted that through the collaborating centres, HRP has trained a large number of people in research methodology and supported postgraduate education to senior researchers who have influenced policy and programmes in their countries. At least 1492 participants benefited from short-term training courses, while 35 had long-term postgraduate training through HRP funding in the 23 institutions studied during the period 2008–2012.

The institutions that have benefited from RCS have subsequently been able to participate in implementation of the global research agenda (J Cottingham, Independent Consultant, personal communication, 2012). One expectation of RCS is that institutions will conduct studies that will influence national health policy and lead to improvement in the health of women and all the population. There are many examples that this occurred in all regions. HRP has been very effective in developing the research capacity of institutions, leading to increased high-quality output from the collaborating centres published in peer-reviewed journals that have influenced policy and delivery of care. These include the Centro Rosarino de Estudios Perinatales [Centre for Perinatal Studies] (CREP) in the Region of the Americas, Zimbabwe in the African Region, and Viet Nam in the South-East Asia Region. CREP had 10 publications in peer-reviewed journals in 2010 and 9 in 2011. In 2011 alone, 133 papers were published by collaborating centres globally; in addition, the scope of activities in research institutions has been broadening and expanding, from clinical studies to epidemiological and social science studies; and from descriptive studies to multicentre and operational studies. HRP support has enabled researchers to develop and manage new types of projects and take advantage of previous research outputs to undertake in-depth studies. One quarter of the institutions contacted indicated that they had collaborated with HRP in implementation research. Many countries, such as Afghanistan, revealed increased research proposals and projects in their national tertiary hospitals since their HRP collaboration started. Seventy-four per cent of the centres surveyed indicated that HRP had fully met their expectations.

The collaborating centres in all the regions are contributing to knowledge, with large numbers of publications in international and national peer-reviewed journals, as shown in Table 1. Table 2 shows that the studies from the supported centres have covered a wide range of the ICPD PoA.
Table 1

**Completed studies by 12 centres receiving long-term institutional development and resource maintenance, capital and small supplies grants in the African and Eastern Mediterranean Regions in 2009 and 2010**

<table>
<thead>
<tr>
<th>Thematic area</th>
<th>Completed studies</th>
<th>National</th>
<th>International</th>
<th>WHO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal health</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Family planning</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsafe abortion</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>3</td>
<td></td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td><strong>10</strong></td>
<td><strong>4</strong></td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

Table 2

**Research studies conducted by centres receiving support from HRP in the Region of the Americas in 2009 and 2010**

<table>
<thead>
<tr>
<th>Thematic area</th>
<th>2009</th>
<th>2010</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Adolescent reproductive health</td>
<td>24</td>
<td>23</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Family planning</td>
<td>42</td>
<td>42</td>
<td>15</td>
<td>22</td>
</tr>
<tr>
<td>Health systems</td>
<td>17</td>
<td>14</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>HIV</td>
<td>25</td>
<td>34</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Infertility</td>
<td>20</td>
<td>4</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Maternal and neonatal health</td>
<td>40</td>
<td>34</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>Reproductive biology</td>
<td>60</td>
<td>14</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>Reproductive cancers</td>
<td>16</td>
<td>6</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>RTIs/STIs</td>
<td>10</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Unsafe abortion</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Gender, violence, harmful practices</td>
<td>27</td>
<td>7</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Menopause, other reproductive health issues</td>
<td>—</td>
<td>—</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>283</strong></td>
<td><strong>193</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

RTI, reproductive tract infection; STI, sexually transmitted infection.

The major output attributable to HRP in the supported centres was increase in high-quality research proposals and output of papers published in peer-reviewed journals (83%). At the Instituto de Biología y Medicina Experimental (IByME) [Institute of Experimental Biology and Medicine] in Argentina, HRP support more than doubled the number of qualified researchers on the centre’s staff and publications increased five-fold. Between 2008 and 2012, the centre in Viet Nam carried out 51 studies that were published in 28 peer-reviewed journals. The staff also participated in 45 international research projects. This has promoted evidence-based treatment and programming of health care in low- and middle-income countries.

2 In the 15 institutions assessed, 922 people were trained through short-term courses, while 7 had long-term postgraduate training. A recent study by interns Oscar Zazueta-Fierro and Alfredo Fort (personal communication, 14
activities have also promoted universal coverage for SRH services, for example by reducing antenatal care visits, while at the same time improving the quality of care through the adoption of focused antenatal care after research by HRP-supported centres demonstrated its effectiveness. However, institutions complained about the lengthy process of requesting support and evaluation, approval and release of funds.

### 3.3 Development of regional networks

Creation of networks has promoted development of global public goods. Although, understandably, emphasis has been on support for low- and middle-income countries, collaboration with high-income countries has led to development of global goods such as methods for medical abortion. This collaboration has included multicentre research on family planning, with a special emphasis on methods of contraception for men. Other projects include implantable contraceptives, with participation from Brazil, Chile, the Dominican Republic, Hungary, Thailand and Turkey. RHR continues to strengthen the global collaborative research and implementation efforts of institutions and individuals working to reduce maternal and newborn deaths. In maternal and newborn health, a multinational collaborative study of gene–environment interactions in spontaneous preterm birth, in which the United Kingdom of Great Britain and Northern Ireland and Denmark are participating, and the study “Screening for pre-eclampsia: evaluation of the predictive ability of angiogenic factors for pre-eclampsia” (5), with participation of Switzerland and Italy are two examples of this collaborative research. Thirty-five per cent of the centres reported collaboration with regional networks (3 in Latin America, 2 in Asia and 3 in Africa). These all feel the networks are very useful for exchanging views and learning. They also all feel that the networks need more funding to meet the needs of their regions.

The African Network for Research and Training in Sexual and Reproductive Health and HIV (ReproNet-Africa) currently has 11 Member States (Cameroon, Egypt, Kenya, Malawi, Mali, Nigeria, South Africa, the United Republic of Tanzania, Uganda, Zambia and Zimbabwe) sharing information and influencing policy and practice.

Eighty-seven per cent of the centres in low- and middle-income countries are contributing to formulation and implementation of regional research priorities, to varying extents. The Centro de Estudios de Población (CENEP) [Centre for Population Studies] in Argentina coordinated research on “Reality and beliefs in the sexual and reproductive decision making process: men’s perceptions and behaviour” carried out by researchers in Argentina, the Plurinational State of Bolivia, Cuba and Peru. They together developed the instrument for a survey that could yield comparative results and be culturally sensitive to local conditions. In the process, the centre also strengthened its capacities.

In Argentina, the Centro Rosarino de Estudios Perinatales (CREP) [Centre for Perinatal Studies] is not only a resource for the Region of the Americas, where it has been engaged in multicentre studies (including in coordination roles) using randomized controlled trials, and systematic reviews in perinatal health, but it also trains researchers from other regions. For example, it has trained researchers from Thailand, who are in turn cascading the training in data management in the South-East Asia and Western Pacific Regions. At the request of the Government, the centre in Peru has also supported studies there, just as the centre in Burkina Faso had a memorandum of understanding with UNFPA to conduct emergency obstetric and neonatal care (EmONC) assessments in other countries in West Africa, after successfully doing the same in Burkina Faso. The reproductive health centres that participated in the six countries September 2012), revealed that between 2008 and 2011 there were 65 who benefited from long-term training (50 in the Region of the Americas, 6 in the African Region, 4 in the South-East Asia Region and 5 in the Western Pacific Region).
of Madagascar, Malawi, Nigeria, Uganda, the United Republic of Tanzania and Zambia conducted a study on the acceptability and feasibility of the technique of visual inspection with acetic acid (VIA) for prevention of cervical cancer (6), which has become the normal screening procedure for cervical cancer in the region and in many other countries, such as Viet Nam. ReproNet-Africa participated in development of the regional agenda for accelerating universal access to proven effective reproductive health services in the African Region, using the most effective and appropriate delivery system.

Seventy per cent of the centres had also contributed to formulation and implementation of national research priorities, to varying extents, to promote collaboration between the research centres and the ministries of health in their countries. The centres in Argentina, Burkina Faso, Mongolia and others in South Africa are subcontracted by governments to conduct prioritized studies. Works on partner violence, fetal loss, reproductive health care and family planning and research on the demography and reproductive health surveys in Paraguay were all included in the Paraguay National Agenda of Priorities in Health Research 2008–2013. In Zimbabwe, studies from the centre there have led to development of the national Adolescent Reproductive Health Strategy. In Ethiopia, the centre’s work led to the introduction of a maternal death audit project and national cervical cancer screening programme.

In Eastern Europe and Central Asian republics, a study exploring effective strategies to reduce maternal mortality was conducted through the collaboration of six countries. The findings revealed strategies that have worked in reducing maternal deaths as: (1) introducing innovative financing measures; (2) strengthening preservice education and in-service training for health-care providers; (3) enhancing obstetric care including infrastructure, equipment and quality of services; and (4) investments in the broader determinants of maternal mortality, particularly family planning, education and women’s empowerment.

Studies from collaborative centres gave the results of the “Active management of third stage of labour trial”, published in The Lancet in 2012 (7), and concluded that controlled cord traction can be omitted with little increase in the risk of postpartum haemorrhage in settings where skilled birth attendants are not available. In these settings, injection of intramuscular oxytocin after birth will contribute greatly to the reduction of the primary cause of maternal death – haemorrhage. A number of multicountry studies on misoprostol were also conducted. As a set, these studies, from diverse cultural, legal and services contexts, provide evidence of high uptake of contraception following abortion and that there was no difference in the level of uptake or continuation of use among women accepting medical abortion, as compared with those having surgical abortion. These studies also show that uptake of medical abortion is significantly increasing, and is acceptable, with potential to significantly reduce maternal mortality if fully utilized.

A study that showed that midlevel health-care providers can provide medical abortion as safely and effectively as physicians was published in The Lancet in 2011 (8). Where there are not enough doctors, as in most low- and middle-income countries, lack of task-shifting of abortion services is a barrier to provision of abortion services as permitted by national laws. This study has shown, unequivocally, that appropriately trained midlevel providers are able to do both surgical and medical abortions as competently as doctors in relatively low-resource settings, where the need is greatest, and this has the potential to reduce abortion mortality and accelerate the achievement of MDG 5. The centre in Viet Nam (Hung Vuong Hospital – HVH) is currently collaborating with Gynuity Health Projects in three other multicentre trials on medical abortion, to investigate the potential effectiveness of misoprostol alone for different indications in medical abortion.

Eighty-three per cent of the supported centres collaborated with other institutions: of these, 61% collaborated with other local institutions, thereby cascading the knowledge and skills
benefit from HRP support, while 39% collaborated with regional institutions as well as
global/international organizations. This all promotes the HRP objectives to provide evidence-
based practice in the delivery and provision of clinical reproductive health services, thereby
accelerating the achievement of MDGs.

Through training and provision of logistics support by HRP, a culture of research was set in
many low- and middle-income countries and the output of quality research that informs policy
and programmes has increased. The research capacity-building objectives are therefore either
achieved or likely to be achieved soon.

3.4 Outputs of HRP-strengthened research centres are being used to improve health
and save lives

There are many examples of research results that have led to improvement in women’s lives.
For example, a study that concluded that controlled cord traction can be omitted with little
increase in the risk of postpartum haemorrhage in settings where skilled birth attendants are
not available (7), has potential to save many lives in low- and middle-income countries where
postpartum haemorrhage remains the top cause of maternal death. A study by a collaborating
centre on “maternal haemoglobin and pregnancy and fetal outcome in high altitude in Peru”,
revealed that there was a relationship between very low and very high haemoglobin levels and
stillbirths (9). Additionally, given results indicating an artificial increase of adverse outcomes
due to changes in anaemia definitions because of altitude, researchers have put forward the
recommendation not to use an adjustment factor to correct haemoglobin levels in high
altitudes, as this would erroneously lower haemoglobin levels and lead to unnecessary iron
supplementation that could result in poor fetal outcomes.

In Mongolia studies by the HRP-supported centre led to introduction of modern contraceptive
methods for all age groups and the legalization of first-trimester abortion, which together are
accelerating the reduction of maternal and child mortality rates. In Myanmar, following the
centre’s RCS grant, guidelines for midwives were developed, entitled “Strengthening of quality
antenatal care focusing on pre-eclampsia”, which is now being used by the Ministry of Health
in Myanmar, leading to improve obstetric outcomes. The WHO multicountry survey on
maternal and newborn health, with a focus on the management of severe complications in
pregnancy and childbirth in 29 countries (10), has the potential to reduce the rates of case-
fatality from obstetric complications and save many lives.

Through network building, HRP has promoted interregional collaboration in promotion of
women’s and children’s health. Examples of this include the centre in Argentina, which was
requested by the Government of Peru to support studies in their country. The centre in
Burkina Faso has a memorandum of understanding with UNFPA to conduct EmONC
assessments in other countries in West Africa, after successfully doing the same in Burkina
Faso.

The CENEP in Argentina has also been part of the development of the National Research,
Technology and Innovation Policy for Health, approved by presidential decree. This policy
recommends strategic guidelines aimed at strengthening structures for health research and
consolidation of a national researchers’ career and human resource training, and promotes
actions to overcome asymmetries and gaps in health research.

3.5 Sustainability of HRP’s work

From the start, the supported institutions are encouraged to develop a sustainability plan to
allow them to continue thriving beyond the period of support. A number of institutions have
since been weaned off HRP support, in many countries including Argentina, Brazil, Kenya,
Senegal, Tunisia and Zimbabwe, but have continued to turn out large quantities of good-
quality research results. All the eight institutions that had been weaned off support during the period of this evaluation have obtained LID grants from other organizations, such as the United Nations Children’s Fund (UNICEF), UNFPA, UNDP, the Pan American Health Organization, their ministry of health, Emory University, the Gates Institute for Population and Reproductive Health, the World Bank, the United States Agency for International Development/Family Health International and the National Institutes of Health (NIH)/Partnership in Innovative Medical Education Kenya. In Sri Lanka, the World Bank has, since then, entered into a national-level institution-strengthening programme to encourage a research programme, as well as a health sector development project in the Ministry of Health. In 2011, 10 institutions received RMC grants to ensure their continued development after the LID grants.

Eighty-nine per cent of the centres collaborated with other institutions: 63% collaborated with other local institutions, thereby cascading the knowledge and skills benefit from HRP support, while 37% collaborated with regional institutions and with global/international institutions. After the LID grant, the institution in Vietnam (HVH) was able to establish networking with national and international centres and to participate in many multicentre and international trials. The centre is currently collaborating with Gynuity Health Projects in three other multicentre trials on medical abortion, to investigate the potential effectiveness of misoprostol alone for different indications in medical abortion.

In some countries, this collaboration has enhanced the capacity to attract funding from other institutions. For example CREP in Argentina has been able to attract diverse funding towards its activities. Its current portfolio includes funding from UNICEF-Argentina, Nestlé Foundation, the Argentinian Ministry of Health, the London School of Hygiene and Tropical Medicine, Brussels University, University of Oslo, the Pan American Health and Education Foundation, Gynuity, the National Perinatal Epidemiology Unit of the University of Oxford, the European Commission, the Ottawa Hospital Research Institute, and the NIH (United States of America).

The centre in Tunis had LID grants in 1978–1992, and 1997–2002, followed by a SSG. In 2010, the centre had 134 academic activities, 123 at national level and 11 at the international level. Other centres in Africa are also now attracting research grants and participating in multicentre studies funded by WHO or other partners.

However, the ending of a LID grant has led to the loss of salaries for some research staff in some centres, which has resulted in their leaving, with consequent weakening of the centres. This reduced the capacity of centres to train others. In Viet Nam for example, of the seven researchers trained, four have retired without replacement as the long-term training dried up. Other services that have suffered are library services and journal acquisition, which have become depleted (e.g. Sri Lanka). At IByME in Argentina, when the institution stopped getting the LID grant, the number of fellows working in the group was significantly reduced because the resource maintenance grant (RMG) does not allow the payment of salaries to personnel, and the funds for fellowships provided by the national government have been significantly reduced during recent years. ReproNet-Africa feels that the sustainability of the network remains uncertain, despite several efforts to seek funding from prospective donors. This has led to ReproNet’s inability to explore its full potential, as a result of inadequate financial support.

3.6 HRP work through research capacity strengthening and network building has impacted on women’s reproductive health and children’s health globally

HRP’s work has resulted in many changes in policy and clinical practice that have led to improvements in women’s reproductive health and children’s health globally. While many centres are not monitoring the impact of their work on policy and practice, most centres’ work is influencing national SRH policies that have improved women’s health, or processes that are
known to improve women’s and children’s health. Among recorded policy changes and
practice are the use of emergency contraception and provision of safe medical abortion care in
many countries worldwide; adoption of the use of magnesium sulfate in the management of
pregnancy-induced hypertension; use of misoprostol in the management of postpartum
haemorrhage and incomplete abortion; and replacement of dilatation and evacuation with
manual vacuum aspiration (11). Adoption of the one-stop antenatal screening for syphilis in
Mongolia improved newborn health. In Zimbabwe, the centre’s work led to the development
of national clinical guidelines for reproductive health. In Burkina Faso, the centre’s study on
contraceptive products has enabled the National Direction de la Santé de la Famille (DSF) to
review the follow-up of availability of contraceptive products. In Viet Nam, HRP collaboration
promoted evidence-based clinical practice countrywide. For example, before the collaboration,
doctors delivered breech presentations at term vaginally; nowadays, most breech
presentations are delivered by caesarean section, thereby dramatically reducing neonatal
mortality from breech delivery. All clinicians are being trained to perform external cephalic
version for breech presentation at 36 weeks, to decrease the rate of caesarean section.
Introduction of prophylactic antibiotics before surgery, as a national policy in Viet Nam,
reduced the cost for treatment of hospital-acquired infections over the years from 7% to 2% of
the hospital’s (HVG’s) overall budget. Together, these have led to significant reductions in
maternal mortality and morbidity and significant cost savings in the delivery of health care.

As a result of regional research collaborations through the establishment of networks in the
regions, many guidelines and standards of care that are universally accepted have been
developed based on regional research outcomes. Protocols on the management of major
dates of maternal and neonatal morbidity and mortality have been produced to reduce their
rates and thereby accelerate the achievement of MDGs.

Although studies have not been conducted to assess the impact of centres on health-related
MDGs in their countries, there is evidence that work by supported centres has contributed to
the achievement of MDGs in their countries. For example, studies in Peru revealed that a
haemoglobin level above 14.5 g/dl during pregnancy was associated with small-for-date births
(9), and therefore supplementation with iron for women in high-altitude areas where there
was a low rate of anaemia was discouraged, thereby contributing to a reduction of neonatal
mortality. In Côte d’Ivoire, the results of the EmONC survey made government introduce the
delivery of free care for children and pregnant women, thereby increasing coverage, which will
accelerate the achievement of MDGs 4 and 5 in Côte d’Ivoire. In Viet Nam, HVH collaborated
with WHO task forces to investigate the effectiveness of several interventions, in an effort to
minimize maternal morbidities and mortalities through calcium supplementation or
supplementation with vitamins C and E for prevention of pre-eclampsia, or misoprostol for
prevention and treatment of postpartum haemorrhage. In Peru, a study demonstrated that
burning biofuel led to reductions in birth weight over and above the effect produced by living
in a hypoxic environment. Further studies led to the introduction of biofuel kitchens in hypoxic
high-altitude areas, which reduces the incidence of low birth weight (12). It is estimated that
the use of 500 000 such improved kitchens may reduce the rates of low birth weight.

The centres have also contributed to the promotion of the ICPD PoA in their countries. For
example, in Ethiopia some of the studies that were conducted by the centre were on family
planning and abortion, which is part of the ICPD/PoA. In Kenya, guidelines for adoption of
family planning and promotion of contraception among women who are HIV positive have
promoted the ICPD agenda. In the Plurinational State of Bolivia, the centre has participated in
activities promoting Cairo+15, and now Cairo+203. As result of institutional research agenda,

3 ICPD met in 1995 in Cairo and produced a 10-year Programme of Action to 2005 (3). This was then modified for 15
years to 2010 (Cairo+15) and then for 20 years to 2015 (Cairo+20).
new topics have been introduced in population studies, such as interculturality, violence against women, teenage pregnancy and motherhood.

Implementation research is increasing, but rather slowly, probably because it is expensive. The few studies that have been conducted include a study on the “Coverage of antenatal syphilis screening and predictors for not being screened in Ulaanbaatar, Mongolia” (13), which found that the coverage of antenatal syphilis screening was still low in the country, with poor contact tracing. The results were used to develop an operational research proposal on one-stop service on antenatal syphilis screening. The results of the one-stop service on antenatal syphilis screening project findings (14) influenced the Government of Mongolia to reconsider the national policy revision regarding antenatal syphilis screening. On discovering that the country could not afford to scale up the Papanicolaou smear test for cervical cancer screening, the United Republic of Tanzania participated in a six-country (ReproNet) VIA study (6), which found that VIA was acceptable and feasible. VIA has since been implemented in these countries, leading to the scaling up of screening services for cervical cancer, the commonest cancer in women in low- and middle-income countries.

3.7 The extent to which HRP contribute to global goods

An example of global goods from HRP-supported research is the non-scalpel vasectomy developed by the Sichuan Family Planning Research Institute in Chengdu, China. This method is now practised worldwide and has made vasectomy more acceptable and accessible to many individuals.

Research on the development of the award-winning Odon device, which can potentially be safely used by nurses in rural health centres without risk of maternal and newborn trauma, is another global good that could provide a low-cost simplified way to shorten the second stage of labour without recourse to caesarean section. Clinical studies on the Odon device were being coordinated by a centre in Argentina that had been a recipient of an HRP RCS grant.

Among the global goods whose popularization will lead to the saving of many lives, especially in low- and middle-income countries where there is a shortage of the health-care workforce, is misoprostol, which is now registered in many countries.

3.8 The extent to which capacity-strengthening and network-building outputs have reflected the mandate of HRP

Through training and provision of logistics support by HRP, a culture of research has been established in many low- and middle-income countries and the output of quality research that informs policy and programmes has increased. The research-capacity-building objectives are either achieved or likely to be achieved with time.

Among the outputs of the investment in RCS is the increase in research staff in research institutions, leading to increased output of studies that have been accepted for publication by peer-reviewed journals.

3.9 The comparative advantage of HRP for research-capacity strengthening and network building and as global leader for research in human reproduction

WHO remains the organization that countries look up to for guidance on health promotion, and countries are more likely to adopt HRP guidelines, which are informed by HRP-supported studies globally, than those produced by other partners. There are a number of other players in the area of research capacity-development in reproductive health in low- and middle-income countries, including the Buffet Foundation and the Bill and Melinda Gates Foundation, and the Centers for Disease Control, but they are mostly either supporting or complementing
HRP and not competing with it, as HRP is seen to be better placed to influence policy and programmes. Studies funded by HRP, by being focused on country needs, have led to the development of treatment guidelines and global standards that are used in SRH programmes worldwide, focusing on the five key causes of maternal mortality, notably postpartum haemorrhage, infection, eclampsia, obstructed labour, and complications resulting from unsafe abortion. Among these are the award-winning *Medical eligibility criteria for contraceptive use* (15), *Safe abortion: technical and policy guidance for health systems* (16) and guidelines on postpartum haemorrhage (17). There are also many treatment guidelines: such as *Safe abortion: technical and policy guidance for health systems* (18), *Recommendations for induction of labour* (19) and *Recommendations for prevention and treatment of pre-eclampsia and eclampsia* (20).

Seventy-five per cent of the institutions that responded to this question felt that this advantage was more specific to SRH research issues; 45% also felt that this was related to the high-quality training provided through sponsorship to good institutions and the provision of experts for local training. One third also reported that HRP promoted studies that were more specific to national needs.

3.10 The extent to which HRP work has been relevant to programme countries, particularly to low income countries

*HRP outputs have been accessible to all and used to improve lives.*

A shortage of human resources is critical in most low-income countries. Studies that provide evidence that service coverage can be safely scaled up with task-shifting or sharing have been welcomed. Malawi increased the prevalence of contraception from 28% to 42% when depot medroxyprogesterone was made available to women through the community-based distribution service-delivery system. Likewise, the provision of first-trimester abortion by non-physicians, as in South Africa, has led to a significant fall in abortion-related deaths.

HRP’s RCS initiatives are also influencing the development of women’s and children’s programmes in many countries. For example, in Burkina Faso, Nigeria and Zimbabwe, among others, research staff from the collaborating centres sit on national SRH research policy planning bodies, thereby influencing the development of reproductive health programmes in their countries, and in some cases in their region. In Paraguay, studies on partner violence, fetal loss, reproductive care, and family planning conducted by a LID grant recipient appear on the Paraguay National Agenda of Priorities in Health Research 2008–2013.

Among recorded policy changes and practice are the adoption of the one-stop antenatal screening for syphilis in Mongolia (12) instead of the conventional screening, which led to increased uptake of the service; and the use of haemoglobin colour scale in the estimation of anaemia in pregnant women in Myanmar and other countries. In Zimbabwe, the centre’s work led to the development of national clinical guidelines for reproductive health. In Malawi, the centre’s Cervical Cancer Project report informed national SRH policy, while in Zimbabwe, studies of the centre have led to development of the country’s adolescent reproductive health strategy. In Burkina Faso, the centre’s study on contraceptive products has enable DSF to review the follow-up of contraceptives product availability, thereby promoting contraceptive security. In Peru, studies led to the introduction of biofuel kitchens in hypoxic high-altitude areas that have reduced the incidence of low birth weight.
3.11 The extent to which HRP’s work in research-capacity strengthening is contributing to the achievement of MDGs, ICPD agenda, poverty reduction and women’s health in general

HRP has funded the training of large number of scientists in research methodology and postgraduate education for senior researchers, which has influenced policy and programmes in low- and middle-income countries and promoted evidence-based treatment and programming of health care in low- and middle-income countries. This is promoting universal coverage of SRH services, while also improving the quality of care, e.g. through the adoption of focused antenatal care.

HRP has been very effective in developing the research capacity of collaborating institutions. The major outputs attributable to HRP in the collaborating centres include an increase in high-quality research proposals and paper output, and the development, or revision, of national guidelines. This is contributing to achievement of national MDGs; countries have also benefited from HRP collaboration through the promotion of the ICPD/PoA. For example, the preservice training curriculum in the Health Sciences University of Mongolia was updated to reflect new national standards adapted from those of HRP.

3.12 Programme strengths and weaknesses

Fifty-three per cent of the centres that responded to the questionnaire indicated that HRP fully met their expectations in RCS. Shortfalls identified were inadequate funding to meet their needs, including the training of adequate numbers of researchers and support to attend international meetings and share the results of studies.

Another area that requires strengthening is the translation of research into policy. Many researchers still see the end results of their work as acceptance of papers by peer-reviewed journals. There is little follow-up on the impact of their work on policy and practice within their countries or region.

Thirty-two per cent of the centres reported that HRP visits were not adequate to provide the support that the centres needed. Some reported that in the 10 years of the LID grant, they could recall only one HRP visit.

4 Conclusions

Testimonials from institutions consider the HRP support as the only real possibility to train with first-line researchers in the area of reproduction. Workshops and seminars were found to be an enriching experience that creates a scientific frame of mind. There were few financial opportunities to travel to training centres for most researchers in low- and middle-income countries, other than those provided by HRP. Many young researchers have gone on to obtain masters degrees or doctorate degrees and returned to their jobs with increased professional advancement and contributing significantly to the research output of their centres, thereby creating a critical mass of researchers who have a significant role in formulating national and global SRH policies and care. The result is a greatly increased output of publications in peer-reviewed journals that have influence on policy and practice the world over, for the improvement of women’s and children’s health. In the period evaluated, HRP’s RCS efforts continue to be among its most successful initiatives.

The major facilitating factors for the achievement of objectives include the use of RAPs to ensure support to the prioritized needs of countries. The use of RAPs has ensured that the activities of the programme are relevant to the regions and that the activities and outputs of the programme are consistent with the intended impacts and effects. Development of networks to promote the development of global goods, and the promotion of sharing of
information and skills in research have also been effective in strengthening research capacity and accelerating improvement in women’s health. There are also partnerships that HRP has developed with other development partners, within and outside the UN system, that are providing extra support to the research institutions. However, gaps still remain in the needs of the countries, as a result of inadequate funding to satisfy the needs of the centres. In the face of reducing funding to HRP, it remains to be seen whether reductions in the amounts of RCS grants and the lengths of study will result in a slower pace of RCS by HRP.

5 Lessons learnt

The chances that research will influence policy are increased when the programme managers are involved in identification of the study topics or are involved in the conduct of the study, as occurs where centre staff are on the national committees that prioritize research topics, and when the researcher has a one-to-one dissemination meeting with the programme manager.

Where health care is decentralized, district health-care managers who attend dissemination meetings are more likely to use study results. Involvement of senior public-sector clinicians in a study is more likely to lead to change in practice.

Some institutions are still not able to stand on their own after the 10-year LID grant. Many centres in low-income countries will still not have an adequate research staff at the end of the 10-year support for institutional development. This is partly because of mobility of staff and partly due to countries’ dependence on HRP support. In Viet Nam, when four of the seven long-term training researchers retired, gaps were created in the leadership of the centre. The ending of LID grants in some institutions has led loss of salaries for some research staff, which resulted in their leaving, with consequent weakening of the centres. This has reduced the capacity of centres to train others. These are, however, exceptions rather than the rule, as many institutions got LIG grants from other institutions and RMGs from HRP.

Networks are appreciated in the regions. Fifty-eight per cent of the centres that responded to the questionnaire were collaborating with other local institutions, thereby cascading knowledge and skills benefits from HRP support. Six others were collaborating with regional and global institutions. Research institutions that are not utilizing the networks established in their regions lack understanding of their value, or lack financial support to participate in the networks. A frequently mentioned support gap is inadequate support to attend regional and international scientific meetings. Those who know these networks, however, feel that the networks are very useful in exchanging views and learning. However, respondents from all centres all feel that these networks need more funding to meet the needs of their regions.

6 Recommendations

1. To promote sustainability, LID grant support should have a clear exit strategy, which should be continuously monitored, including lobbying with national governments to sustain the centres when the HRP support comes to an end. In Benin and Cameroon, the research centres collapsed when the leading researchers left, because the objective of HRP to build up national self-reliance in research, with a view to developing a critical mass of scientists, had not been achieved at the end of the LID support.

2. Likewise, long-term scholarships should continue until centres have a full complement of staff, and provide more support to countries to carry out their research priorities, even if it means having fewer active collaborating centres at a time. Achievement of institutional development, including an adequate complement of staff, should be structured in the LID grant support and monitored throughout the period of support.
Governments should be engaged in the institutional development, to ensure that their inputs, including the transfer of staff from the centres, should be in line with the objectives of the HRP support.

3. In addition, it is recommended that LID grant implementation should include lobbying with national governments to sustain the centres as the aid comes to an end.

4. HRP could better serve countries by expanding and strengthening the regional networks to benefit countries in the regions with resources available in other countries in the region, such as from Argentina in Latin America.

5. Research grants should include a budget for dissemination and follow-up on the utilization of the research results. Appropriate dissemination processes targeting policy-makers and programme managers should be clearly outlined. University departments of obstetrics and gynaecology are critical in changing clinical practice and should be a target of meetings for dissemination of research results that are not from the university itself.

6. The objectives of studies should include deliberate steps to influence policy and programmes, with clear methodologies on how that is to be achieved. Justification of funded studies should be clear on how they would influence policy and practice, and how the researchers could influence policy-makers and programme managers. Targets for change should include health-care worker training institutions, by influencing the content of curricula.

7. HRP should promote studies that evaluate the impact of support provided on outcomes; prioritizing health system strengthening. A lot of information is now available but it needs to be put into use in programmes.

8. More studies designed to promote MDG 5B should be encouraged in low- and middle-income countries, to accelerate improvements in women’s reproductive health and neonatal health.

9. Support to regional networks should include funding that ensures that every country in the supported region is seen to be participating in the network.

10. HRP should develop a long-term strategy for RCS within HRP that includes maintaining healthy levels of funding to sustain initial support for individuals and institutions. This would include proactive identification of potential donors (including within countries and regions) and aggressive proposal writing for calls for proposals, funding of regional initiatives (e.g. adolescent pregnancy) and dissemination of research results.

11. The centres feel that HRP can best serve them by:

   11.1 expanding the regional networks and strengthening them with resources, to benefit other countries, with resources available in other countries in the region, such as from Argentina in Latin America;

   11.2 promoting exchange programmes and increasing staff development, with support for staff exchange programmes, and involvement of centres in HRP multicentre trials;

   11.3 providing more long-term scholarships to ensure centres have a full complement of staff;

   11.4 providing more opportunities for dissemination of results in international conferences through travel grants and encouraging local scientific meetings in research dissemination;
11.5 providing postdoctoral fellowships that allow those human resources that are already fully trained to continue contributing to scientific research in reproduction;

11.6 increasing financial and technical support for developing health research systems, supporting institutional linkages in areas of research, and strengthening human resource capacity;

11.7 revisiting the processing of applications for LID grants; it was observed that it is very lengthy, and the review committee changes its observation in each review! As a result, the approval process takes more than 2 years, by which time the budget is outdated.
References


Annex 1: Centre recipients of long-term institutional development grants from HRP that were sent a questionnaire by the external evaluator

<table>
<thead>
<tr>
<th>Number</th>
<th>Centre</th>
<th>Responded</th>
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<tr>
<td></td>
<td><strong>African Region</strong></td>
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<tr>
<td>1</td>
<td>Burkina Faso Institut de Recherche en Sciences de la Sante (IRSS)</td>
<td>Yes</td>
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<tr>
<td>2</td>
<td>Cellule de Recherche en Santé de la Reproduction – Côte d’Ivoire (CRESAR-CI)</td>
<td>Yes</td>
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<td>3</td>
<td>Democratic Republic of the Congo Cliniques Universitaires de Kinshasa</td>
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<td>4</td>
<td>Department of Obstetrics and Gynaecology – Ethiopia Addis Ababa University</td>
<td>Yes</td>
</tr>
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<td>5</td>
<td>Guinea Cellule de Recherche en Santé de la Reproduction en Guinée (CERREGUI)</td>
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<td>6</td>
<td>University of Nairobi Department of Obstetrics and Gynaecology – Kenya (Zahida Qureshi)</td>
<td>Yes</td>
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<td>7</td>
<td>Centre for Reproductive Health, Malawi University of Malawi</td>
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<td>8</td>
<td>Nigeria Sagamu Centre for Research in RH (CRRH)</td>
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<td>9</td>
<td>South Africa ECRU Frere Maternity Hospital</td>
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<td>United Republic of Tanzania Kilimanjaro Christian Medical Centre (KCMC)</td>
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<td>11</td>
<td>Zambia ReproNet</td>
<td>Yes</td>
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<td>12</td>
<td>Department of Obstetrics and Gynaecology, College of Health Sciences, University of Zimbabwe</td>
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<td>13</td>
<td>Centro de Estudios de Población (CENEP) – Argentina</td>
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<td>14</td>
<td>Instituto de Medicina y Biología Experimental (IBYME) – Argentina</td>
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<td>15</td>
<td>Centro Paraguayo de Estudios de Población (CEPEP) – Paraguay</td>
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<td>16</td>
<td>Instituto de Investigaciones de la Altura, Universidad Peruana Cayetano Heredia – Peru</td>
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<td></td>
<td>Postgrado en Ciencias del Desarrollo – Universidad Mayor de San Andrés (CIDES-UMSA) – Plurinational State of Bolivia</td>
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<td>19</td>
<td>Epidemiology and Research unit, Ministry of Health, Bhutan</td>
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<td>20</td>
<td>National Institute of Public Health, Phnom Penh, Cambodia</td>
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<td>18</td>
<td>All India Institute of Medical Sciences, India</td>
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<td>National Centre for Maternal and Child Health (formerly State Research Ct for MCH) – Mongolia</td>
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<td>21</td>
<td>Department of Medical Research – Upper Myanmar</td>
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<td>24</td>
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<td>25</td>
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