

Overview of Research Activities at World Health Organization



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List of Acronyms

ACHR	Advisory Committee on Health Research
AFRO	Regional Office for Africa
AMRO	Regional Office for Americas
CAH	Child and Adolescent Health
CDS	Communicable Diseases
CHP	Health Promotion, Surveillance, Prevention and Management of Noncommunicable Diseases
EMRO	Regional Office for Eastern Mediterranean
EURO	Regional Office for Europe
FCH	Family and Community Health
GWH	Gender, Women and Health
HAC	Health Action in Crises
HIV	HIV/AIDS
HTM	HIV/AIDS, TB & Malaria
HQ	Headquarter
HRP	Special Programme of Research, Development and Research Training in Human Reproduction
IARC	International Agency for Research on Cancer
IVB	Immunization, vaccines and biologicals
IVR	Initiative for Vaccine Research
MSD	Mental Health and Substance Abuse
NUT	Nutrition
OMB	Office of the Ombudsmen
PAHO	Pan American Health Organization
PHE	Protection of the Human Environment
PSM	Medicines, Policy and Standard
RBM	Roll Back Malaria/Partnership Secretariat
RHR	Reproductive Health and Research
RITC	Research for International Tobacco Control
RPC	Research Policy and Cooperation
SAGE	Scientific Advisory Groups of Experts

SEARO	Regional Office for South-East Asia
Sida	Swedish International Development Cooperation Agency
SIP	Schistosomiasis and Intestinal Parasites Unit
SPI	Strategic Planning and Innovation
TDR	Special Programme for Research and Training in Tropical Diseases
TFI	Tobacco Free Initiative
USD	United States Dollar
WHA	World Health Assembly
WHO	World Health Organization
WPRO	Regional Office for Western Pacific

Executive Summary

Being a donor of several WHO programs and having a special interest in research as a prime mechanism for evidence-based policies and interventions towards better global health, the Swedish International Development Cooperation Agency (Sida) decided to undertake, in consultation with WHO, a descriptive study to obtain an overview of WHO's research functions. Such a study should serve to elucidate and understand WHO's roles and activities in health research. The support from WHO for performing an overview study of research has been formalised through the resolution 4.1 of the World Health Assembly (WHA 58.34) in May 2005. This resolution on health research requests the Director General to undertake an assessment of internal resources, expertise and activities, and to develop a position paper which shall be reported back to next World Health Assembly in 2006 through the Executive Board. The Sida overview study could serve to contribute to the requested position paper on WHO's roles and responsibilities in health research.

Purpose: The purpose of this study is to provide an overview of WHO research functions at WHO. The study aims at providing a descriptive analysis and mapping of current WHO research functions and activities with special attention to mechanisms, practices and funding patterns.

Method: A survey and follow-up interviews were conducted for data collection. A structured questionnaire was sent out to departments at WHO in June 2005. Quantitative data obtained through the survey was complemented by in-depth interviews conducted with representatives of departments across the clusters at WHO. Data were collected on projects and funding patterns; mechanisms and organization of research; mechanisms of identifying the research agenda; processes of proposal invitation, review and decision making, and follow-up of research activities; as well as on perceived gaps in research at WHO.

The in-depth interviews broadly focused on perceived gaps in research at WHO and ways of addressing these gaps.

The sample (N=35) consisted of all departments other than administrative departments located at WHO headquarters. Seventeen out of the 35 departments responded to the survey resulting in a non-response rate of 51%. In-depth interviews were conducted with representatives of seven departments. It is important to note that the departments who responded to the survey probably constitute mainly those which are conducting or supporting a significant amount of research.

The preliminary findings and conclusions were presented and discussed with WHO's Advisory Committee for Health Research (ACHR) on November 9, 2005.

Main findings: Of the 17 departments that responded to the survey, research projects are currently ongoing in 15 departments. Results presented in this report are based on data from the 14 departments for which comprehensive information was available.

- *Location and types of research:* Of the 841 total ongoing research projects reported by WHO departments, nearly one-third (238 projects) are conducted in the AFRO region. Fewest research projects are reported in the EMRO (5%) and WPRO (9%) regions. Laboratory based experimental studies (114) and product R&D (93) are the types of research that account for the majority of the research projects conducted by departments at WHO. These are almost exclusively reported by those departments where research is an explicitly stated component. Surveillance is the largest type of research activity reported by the departments where research is not the primary activity.
- *Partners in research:* The majority (59%) of research activities at WHO are conducted in collaboration with partners. Thirteen of the fourteen departments (93%) have partnership with academic institutions across the world. Nearly half of the departments collaborate with WHO collaborating centres, government organs (mainly Ministries of Health) of Member States, national and international research institutes as well as non-government organisations. Within WHO, the Family and Community Health (FCH) and HIV/AIDS, TB & Malaria (HTM) clusters are the most often cited in-house research partners by the departments.
- *Funding pattern:* The total budget for currently ongoing research activities at WHO departments range from USD 150 thousand to nearly USD 29 million. For the majority of departments the main sources of research funding at the various departments at WHO are voluntary unspecified and project (specified) funding of which project specified funding is the dominant source for most. WHO core support for research is a very small component of the funding for most departments.
- *Research mechanism:* Most of the research projects at WHO, although initiated by the organisation, are executed (including data analysis) externally. The main role of WHO personnel is in coordinating research and providing professional support/expertise to other research groups and organisations. The estimated current and projected magnitude of a problem and the direct implications of projected research findings for policy development drive the identification of research priorities at most WHO departments. In addition, in review of research proposals, the scientific merits and the capacity building component are ranked high. Capacity building by WHO departments most often takes the form of short term training, institutional strengthening, and capacity in building monitoring & evaluation.
- *Internally perceived gaps in research at WHO:* A number of clearly identified 'felt needs' emerged that were commonly recognised by the departments. These include the need to:
 1. Recognise research, at all levels, as an integral part of the mandate and activities in all departments.
 2. Better coordinate research activities at WHO.
 3. Develop research management skills at WHO and engage in research management.

4. Develop a database of all research projects at WHO as a mechanism to improve information regarding the existing research activities and coordination of these activities.

The internally perceived gaps in research were expressed more specifically as below:

- *Lack of priority for research as a core function of WHO:* A key role of WHO is to advise Member States on effectiveness of health related interventions and to provide technical support. Such advice and support should be evidence based, i.e. guided by research. Yet, research is not central at WHO and the organization is, with exception of a few programs, not set up for either initiating or undertaking research or for monitoring and assessment of research findings. Especially, the technical weakness and lack of resources in many departments for assessment of research findings are recognized both internally and outside WHO as negatively affecting the ability to provide evidence based policy advice and support in many areas.
- *Lack of infrastructure to support research:* Lack of a standardised management system for research projects and of a database of existing research projects is a major problem. WHO also has no uniform guidelines for research in terms of external review, scientific assessment, review of finances, research terminologies, etc.
- *Lack of coordination:* Despite a high level of collaboration between departments at WHO, lack of coordination of research activities within the organisation featured as the most commonly stated gap by the respondents, both in the survey and during the in-depth interviews. Further, lack of direct communication (not specific to research but in general) among departments at HQ, and between HQ and regional offices and national programmes is highlighted.
- There is *lack of formal mechanisms for identifying research priorities*, although such mechanisms are in place in some individual departments. Research seems ad hoc, guided principally by individual and group interests rather than by well defined priorities.
- Skilled expertise in *managing research projects* is largely lacking at WHO (although with notable individual exceptions).
- There is a dearth of opportunity to promote and support *multi-disciplinary research* on cross-cutting health issues.
- Access to *synthesized information* is lacking.

Recommendations: The following recommendations to improve WHO's role and activities in research are provided, largely based on suggestions from its own departments:

1. WHO should recognise throughout its own organisation and in communication with its Member States that research is an important and integral part of the organisation's activity to maintain and strengthen WHO's ability and credibility to define global policies and advising individual member states based on best scientific evidence. Research should be assigned an appropriate, generally increased level of recognition within WHO policy, administrative and management procedures and be accompanied by appropriate core funding. This should be the case both for the special research programmes/organisations and for the regular WHO departments.

2. WHO should make better use of its comparative advantage to promote research in health.
3. WHO should increase and systematize the use of research as the main basis upon which it formulates global policies and advises individual Member States. To ensure the quality and the credibility of policies and advice, WHO needs to both increase its in-house capacity to evaluate research findings, and to interact more extensively and in a more systematic way with the scientific community in the assessment of research findings and their use as a basis for global policies and country-specific advice.
4. WHO should invest in defining a strategy on how it, in close consultation with the scientific community, can best identify the key knowledge gaps and research needs in different areas. Based on this, the Organization should define both global research priorities and its own research agenda, and monitor and evaluate research findings. Such a research policy strategy should also address how WHO can effectively disseminate research findings and in a high-quality and unbiased way use research findings for formulating, supporting or modifying WHO's policies, strategies and advice, especially at country levels. In each of these tasks, it is strongly recommended that WHO increase its consultation and overall interaction with external scientific expertise, both globally and at the regional level.
5. To accomplish this, research needs to be assigned a much increased role in WHO's policy, administrative and management procedures and be given a commensurate proportion of core funding.

Linked to these main recommendations, a number of additional more specific recommendations are also made below:

6. A systematic framework should be devised to share information about ongoing research, research results and outcomes. A mechanism should be developed to identify opportunities for collaboration between units and other departments at WHO. Delineation of responsibility is necessary. Interface and interaction between departments need to be formalised to promote sharing of information. Large meetings within the departments at the organization generally focus on financial and administrative issues. Some of these large meetings can be used to focus on research activities.
7. There is a need for improved overview and coordination of research priorities and activities. A strongly recommended step should be the creation of a *high-level position at WHO* (Assistant Director-General level) with responsibility and mandate to coordinate WHO research at HQ and with the regions. A *reformed ACHR* should also get an expanded and more important role in overseeing all research rather than as now serving as an exclusively advisory group on special topics.
8. Better infra-structure to support research is required. Identified needs include establishing a core database of all research projects conducted by the organization, providing greater electronic access to key health publications and journals, standardising research guidelines, providing a mechanism for producing synthesized information on health topics, collate registry on potential consultants for research etc.
9. Research activities can be delegated at regional and Member States levels through better collaborative arrangements between WHO HQ, regional offices and Member States.

10. Active engagement between the WHO secretariat and national programmes is proposed to renew the research agenda and to update information regarding utility of interventions.
11. Expertise at HQ should be linked with expertise at Member States.
12. Multi-disciplinary and multi-sectoral research on health should be promoted at WHO.
13. It is appropriate for WHO to engage in research management and to see how research is translated into action.
14. Each cluster should have a staff member primarily responsible for research contacts and collaboration.

1. Preamble

The possibility to discuss a WHO corporate research policy led Sida to suggest the undertaking of an external descriptive study to obtain an overview of WHO's research functions. Such a study would serve to elucidate and understand WHO's roles and activities in health research. The support from WHO for performing an overview study of research has been formalised through the resolution 4.1 of the World Health Assembly (WHA 58.34) in May 2005.¹ This resolution on health research requests the Director General to undertake an assessment of internal resources, expertise and activities, and to develop a position paper which shall be reported back to next World Health Assembly in 2006 through the Executive Board. Such an overview study would provide input in developing the position paper on WHO's roles and responsibilities in health research.

¹ http://www.who.int/gb/ebwha/pdf_files/WHA58/WHA58_34-en.pdf
(Accessed: October 13, 2005)

2. Background

According to its constitution², WHO shall “promote and conduct research in the field of health” in order to extend to ‘all peoples of the benefits of medical, psychological and related knowledge essential to the fullest attainment of health’. The constitution also states promoting and conducting research in the field of health as one of the organization’s function (Article 2). An illustration of WHO’s commitment to research is the formation of the Advisory Committee on Medical Research (renamed Advisory Committee on Health Research in 1986) as far back as in 1959. In the 1970s, two special research programmes, the Special Programme for Research and Training in Tropical Diseases (TDR) and the Special Programme of Research, Development and Research Training in Human Reproduction (HRP), were established. This was followed by the creation of so-called research-cum-action programmes in the areas of diarrhoeal and acute respiratory infections in the 1980s which in the 1990s were expanded to encompass broader issues in the management of childhood illnesses. During this period, research activities in the field of vaccine development were also initiated. During the past decade, research has been increasingly incorporated in other programmes and clusters at WHO.

Types of health research at WHO: Four categories of research are specified in the current typology of health research applicable to WHO.³ These are:

- i) Situation analyses which aims to identify distribution and determinants of health and disease, and risk factors as well as policy analysis;
- ii) Health policy and systems research that seeks to improve delivery, efficiency, effectiveness, equity of health systems, guide health policy development and optimise implementation of health programmes;
- iii) Product development and intervention research which aims to develop new and improved tools for health promotion and disease control, and to promote implementation research; and
- iv) Basic research that aims to advance knowledge of basic biology with particular reference to potential application in tackling human

² http://policy.who.int/cgi-bin/om_isapi.dll?hitsperheading=on&infobase=basicdoc&jump=Constitution&softpage=Document42#JUMPDEST_Constitutionhttp://policy.who.int/cgi-bin/om_isapi.dll?hitsperheading=on&infobase=basicdoc&jump=Constitution&softpage=Document42#JUMPDEST_Constitution (Accessed: October 13, 2005)

³ The Role of the World Health Organization in Health Research: Summary outcome of an informal discussion group. February, 2005.

disorders, and to expand human behaviour, poverty, dynamics of social organisation.

Although, WHO is engaged in research activities by itself and through engagement with other partners in health research, the organization has not yet developed any specific position paper on research or any cooperative research policy for health. However, such a document is now in progress within the organisation which will describe ongoing research programmes and activities and seek to clarify WHO's future role and responsibilities in health research. Therefore, in the present report, rather than repeating this descriptive overview we refer to the WHO policy document the executive summary of which is attached to this report (Appendix 1).

3. Purpose

The purpose of the study is to get an overview of WHO research functions and based on this provide some comments and recommendations that may be of relevance for both WHO and for Sida and other donor agencies interested in WHO's health research. The study will aim to provide a descriptive analysis and mapping of current WHO research functions with attention to mechanisms, practices and funding patterns based on the answers to a questionnaire to different WHO departments and programmes and follow-up in-depth interviews. It will also form a basis for some conclusions and recommendations largely reflecting views expressed by the interviewed WHO departments but also (and we will explicitly state when this is the case) a few additional conclusions and recommendations of our own, based on the study material.

4. Methods

4.1 Data collection and sample

A survey was conducted for data collection. A structured questionnaire was sent out to departments at WHO in June 2005. Quantitative data obtained through the survey were complemented by in-depth interviews conducted with representatives of departments across the clusters at WHO. Data were collected on projects and funding patterns; mechanisms and organization of research; mechanisms of identifying the research agenda; processes of proposal invitation, review and decision making, and follow-up of research activities; as well as on perceived gaps in research at WHO (see questionnaire in Appendix 2).

The in-depth interviews broadly focused on the internally perceived gaps in research at WHO and ways of addressing these gaps.

The sample (N=35) consisted of all departments other than administrative departments located at WHO headquarters. Appendix 3 lists the clusters and departments the questionnaires were sent out to and in-depth interviews conducted. Seventeen out of the 35 departments responded to the survey resulting in a non-response rate of 51%. In-depth interviews were conducted with representatives of seven departments. These seven departments were selected to represent respondents and non-respondents to the survey, and departments with varying degrees of research activities. The initially non-responding units were reminded by e-mail on two occasions.

4.2 Limitations of the study

The study has several obvious limitations. To fully describe and assess the multitude and complexity of research activities conducted at WHO and to explore their merits, limitations and further potentials, it would have required and would indeed merit a much longer and in-depth study. Due to the short length (8 weeks) of the present task, it could only get a “surface snap-shot” rather than “X-ray picture” of a very complex research scenario at WHO.

Taking into consideration that several departments did not provide any information, even this snap-shot may not cover the whole picture, even though there is reason to believe that responding departments probably constitute mainly those which are conducting or supporting a significant amount of research activities at WHO headquarter level.

Another limitation is, of course, that the data are solely based on answers to a questionnaire and follow-up questions. Due to shortage of

time, no effort has been made to independently validate the information provided.

Different departments may have understood some of the questions slightly differently thus complicating the comparability of the accumulated information achieved and compiled. A self-administered questionnaire used for the survey (vis-à-vis using an interviewer) remains open to the possibility that questions may be perceived and hence answered differently. Some follow-ups have been done to clarify interpretation of the questions used in the survey.

Further, evaluating research activities only at the WHO headquarter obviously fails to get an overview of research activities conducted by WHO at the regional level. A broader or separate study would have been needed to describe and analyse the regional activities.

5. Findings

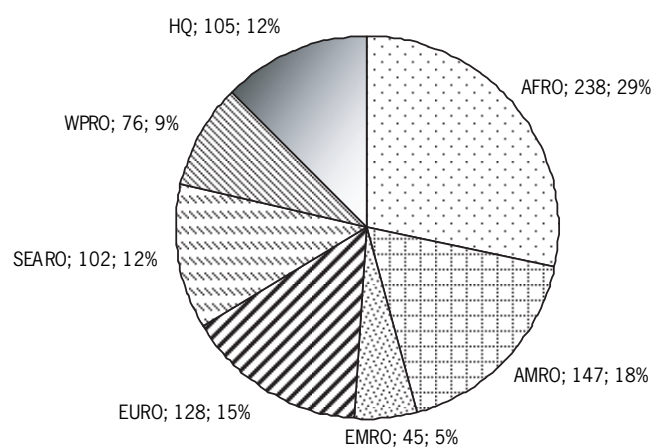
The results are presented using a dual approach. Given that TDR, RHR (specifically HRP within RHR) and IVR are exclusively committed to research, data from these departments are presented individually when relevant. Otherwise, results reflect the collective data obtained from all the departments.

Of the 17 departments that responded to the survey, research projects are currently ongoing in 15 (88%) departments. However, although OMB reported having currently ongoing research, survey information provided by them was limited to questions related to user of research (section B in questionnaire). Unless stated otherwise, results below report data from the 14 departments providing comprehensive information.

5.1 Map of WHO research

Figure 1 shows the localisation of currently ongoing WHO headquarter-sponsored research projects by WHO regions. Of the 841 total ongoing research projects reported by the departments, nearly one-third (238 projects) are conducted in the AFRO region. Fewest research projects are reported for EMRO (5%) and WPRO (9%) regions.

Figure 1: Currently ongoing research projects by region



5.2 Types of research at WHO

Laboratory based experimental studies (114) and product R&D (93) are the types of research that account for the majority of the studies conducted by departments at WHO. These are almost exclusively reported by those departments where research is an explicitly stated component. Surveillance is the largest type of research activity reported by the departments where research is not the primary activity. Most (50%) of the secondary research is carried out at WHO headquarters (Appendix 4). Other types of research mentioned by the departments include policy research, social science formative research, capacity mapping, tool development, etc.

Table 1: Types of research at WHO.

Type of research	TDR	RHR	IVR	Other	Total
				Departments	
Cross-sectional epidemiologic studies	14	11	12	12	49
Longitudinal epidemiologic studies	0	2	0	7	9
Community based intervention studies	41	4	0	24	69
Laboratory based experimental studies	77	5	28	4	114
Product R&D	81	5	1	6	93
Field trials	15	2	0	15	32
Clinical trials	39	12	10	23	84
Surveillance	2	0	7	75	84
Health Systems Research	23	19	0	15	57
Economic studies	5	0	5	21	31
Secondary research	18	1	2	46	67
Bioinformatics research	4	0	0	3	7
Other (Training)	53				53
Other types of research	55	16	0	21	92
Total	427	77	65	272	841

The majority (53%) of research projects range between 13–36 months in length (specific information on length of research projects are not known for TDR). One third of the projects are of shorter duration (1–12 months) (Appendix 5.1).

5.3 WHO partners in research

Collaboration outside WHO: The majority (59%) of research activities at WHO are conducted in collaboration with partners. Thirteen of the fourteen departments (93%) have partnership with academic institutions across the world. Nearly half of the departments collaborate with WHO collaborating centres, government organs (mainly Ministries of Health) of Member States, national and international research institutes as well as non-government organisations. Three departments (21%) mentioned collaboration with WHO regional offices. Around 40% of the departments mentioned identifying partners through their own network of researchers.

Collaboration within WHO: All 14 departments mentioned collaboration with Family and Community Health (FCH) and HIV/AIDS, TB

& Malaria (HTM) clusters (see Appendix 3 for department distribution within clusters) and partnership with CDS was mentioned by 10 departments (Appendix 5.2). Other clusters and regional offices are mentioned as partners by a few departments (1–2). At the department level, partnership with HIV/AIDS is mentioned most frequently (5 out of 14 departments). It is notable that, although TDR specified collaborating with seven departments within WHO, only three mentioned their collaboration with TDR. This may be due to the fact that not all of the departments collaborating with TDR responded to the survey.

Collaboration between departments takes place at varying levels and forms. It takes place in the form of consultation, engagement in meetings, funding, capacity building, joint research activities etc.

5.4 Funding pattern

Figure 2 depicts the total budget for *currently ongoing* research projects. TDR reports the largest (app. USD 28.7 million) budget for currently ongoing research followed by CAH (USD 16.3 million), RHR (USD 15.7 million) and PHE (USD 10.5 million). Three large projects, two on zinc supplementation in India and Zanzibar, and a multi-centre study, account for most of the budget reported by CAH. A large part of PHE research budget includes extra-budgetary support for research in its radiation programme.

Figure 2: Total research budget (in thousand USD)



The main sources of research funding at the various departments at WHO are voluntary unspecified and project (specified) funding (Table 2). For the majority of departments the principal source of their resource derives from specified funding. Among the departments other than the three with explicitly stated research components, CAH reports 95% of its research activities being supported through project (specified) funding and 5% by WHO regular budget. Ten percent of PHE's research budget

comes from WHO while the rest comes from voluntary unspecified funding (30%) and project (specified) funding (60%). Forty-seven percent of TFI's budget is met through the WHO regular budget (For specific information on source of research funding for each department, see Appendix 5.3).

Table 2: Source of research funding (Total N=13; data missing for one department).

	WHO regular budget	Voluntary unspecified funding	Project (specified) funding
TDR	3%	33%	64%
RHR	4%	81%	14%
IVR	7%	42%	51%
<i>Other departments</i>	<i>Number of departments</i>		
None	3	1	0
1–5%	3	0	0
6–25%	3	2	1
26–50%	1	5	4
51–75%	0	1	4
>75%	0	1	1

5.5 Research mechanisms at WHO

Most of the research projects at WHO, although initiated by the organisation, are executed externally. At RHR, the majority of its externally executed research are investigator initiated while those conducted by WHO are designed by its own researchers.

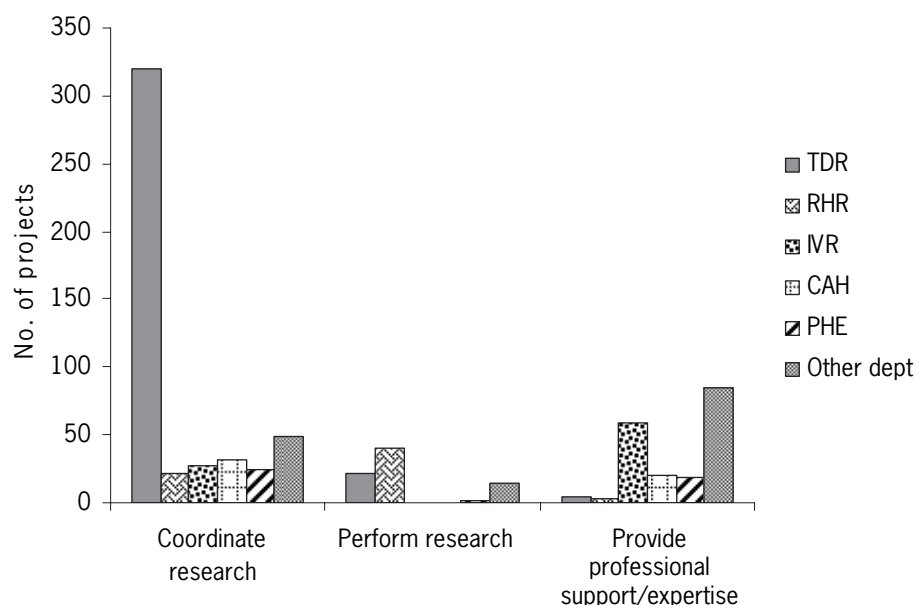
Table 3: Initiation and execution of research (number of projects by departments).

	TDR	RHR	IVR	Other Departments
<i>Externally executed research</i>				
Investigator-initiated	307	52	37	34
WHO initiated	120	3	27	76
<i>WHO-executed research</i>				
Research designed by others	0	0	0	14
Research designed by WHO	0	22	0	69
<i>Other types of research</i>	0	0	0	5

5.5.1 WHO's role in research

Data analysis is mostly done externally for the majority of research projects (Appendix 5.4). The main role of WHO personnel is in coordinating research and providing professional support/expertise to other research groups and organisations as shown in figure 3.

Figure 3: Role in research



5.5.2 Identification of research priorities

Research areas are generally identified in combined consultation with staff at WHO (HQ, regional and national levels), national and international agencies, and external experts (Appendix 5.5). Direct implication of research for policy development and current magnitude of a problem drives identification of research priorities at WHO (Table 4). The projected magnitude of a problem too ranks high among most departments. This is also apparent in responses regarding proposal reviews where relevance of research topics is ranked high by most departments. As noted by TDR, prioritizing depends on the stage of research. For example, cost-effectiveness becomes more significant as one moves downstream into product, intervention and strategy development.

Table 4: Identification of research priorities (Total N=14).

	Very low	Low	High	Very high
Current magnitude of problem			4	10
Projected magnitude of problem		2	6	5
Availability of funding		4	8	2
Lack of knowledge regarding the problem		1	7	6
Projected cost-effectiveness of interventions & expected results		2	4	7
Scientific opportunity	2	4	4	3
Direct implication for policy development			3	10
Part of a defined research agenda		2	5	6
WHO's comparative advantage		1	7	5
Impact on reproductive rights and gender issues				1
Avoiding duplication				1
Disparity of knowledge across countries				1
Capacity strengthening			1	1
Involved partnership				1

5.5.3 Review of research proposals

The scientific review process of research proposals varies between departments at WHO (Appendix 5.6). At the departments with explicit focus on research, nearly all research proposals are reviewed by external scientific advisory committee only. At IVR, a minor proportion of the proposals undergo a first level evaluation by WHO secretariat, followed by review by independent external experts. At other departments, the review process is more varied reflecting a mix of internal and external scientific advisory members. As stated by IVB, different projects have different mechanisms. Hundred percent of the decisions are made by an external committee in cases where scientific advisory boards exist relevant to a proposed project. Some smaller projects are commissioned following consultation with HQ or regional office staff and external experts.

In reviewing research proposals, scientific merit and relevance of research topic are given high rating by most of the departments (Table 5). Capacity building component in research proposals and relevance to policy are also given high ranking. Gender consideration and interdisciplinary component in research proposals are ranked low by many departments. Contribution to international targets, building future routine surveillance structure, cost implication for the study area are other issues ranked high in assessing proposals.

Table 5: Assessment of research proposal (Total N=13).

	Very low	Low	High	Very high
Scientific merit			2	9
Relevance of research topic			2	9
Interdisciplinary	1	7	2	
Capacity strengthening		1	8	2
Gender consideration	4	2	2	1
Policy implications		1	2	7
Ethical consideration		1	2	6
Equity consideration		3	3	4
Others			2	4

All departments obtain ethical approval of research proposals from WHO Ethics Review Committee (Appendix 5.7). In addition, most seek ethical approval from local ethical committees and external advisory committees. HIV department specified that only those research projects involving human subjects undergo ethical review process.

5.5.4 Capacity building

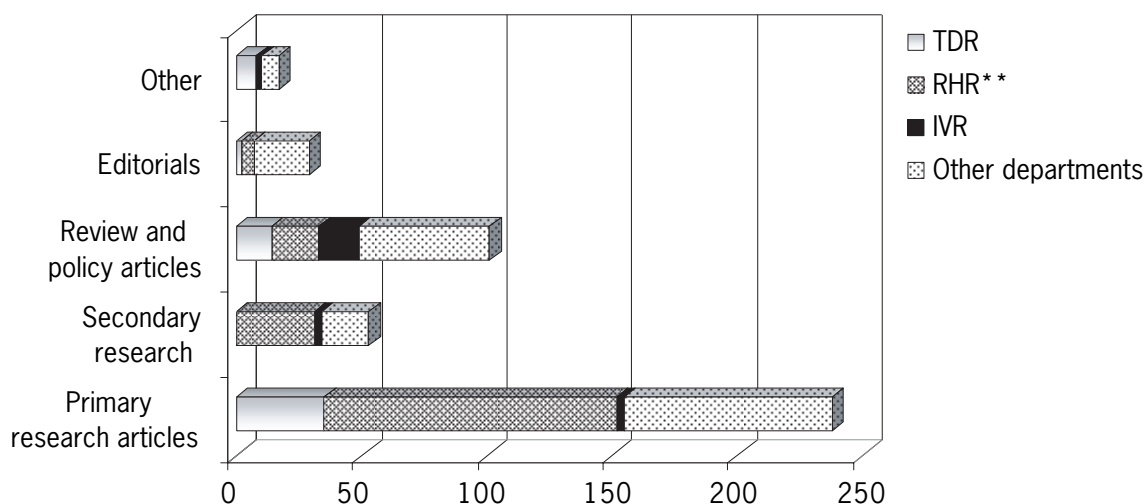
Capacity building is mentioned as a significant component of the currently ongoing research projects by most departments. Most often, it takes the form of short term training, institutional (including infrastructure and research environment) strengthening, and capacity building in monitoring & evaluation (see Appendix 5.8). Long term training such as educational training at Masters and PhD levels do not feature high among most of the departments.

5.6 Dissemination and utilisation of research results

Figure 4 reports publications in peer-reviewed scientific journals that are authored by staff of the WHO departments in 2004. However, it is important to note that the number of publications is greater if publica-

tions of research that are financially supported by the departments are taken into account. RHR, for example, mentioned that it is its policy to encourage corporate authorship in the case of large multi-centre trials with multiple actors, or to have the principal investigator as the author in the case of single centre studies. In both cases, RHR staff may only be listed under ‘acknowledgements’, even if staff input may have been very substantial in terms of protocol and study instruments design, or data management and analysis. TDR and RHR account for most publication of primary research articles (Figure 4). Among the other departments, CAH produced the major share (49) of primary articles. Review and policy articles feature high among ‘other departments’ where research is not the central focus. In some cases, as best exemplified for IVR’s Annual Global Forum for Vaccine Research and Development, WHO meetings have had a very major impact as being the leading state-of-the-art meeting in the field. Conclusions and recommendations from different WHO meetings on research issues are usually well respected and have significant impact as they are usually perceived as representing balanced opinions of leading scientists in the field.

Figure 4: Number of publications in peer-reviewed scientific journal in 2004.

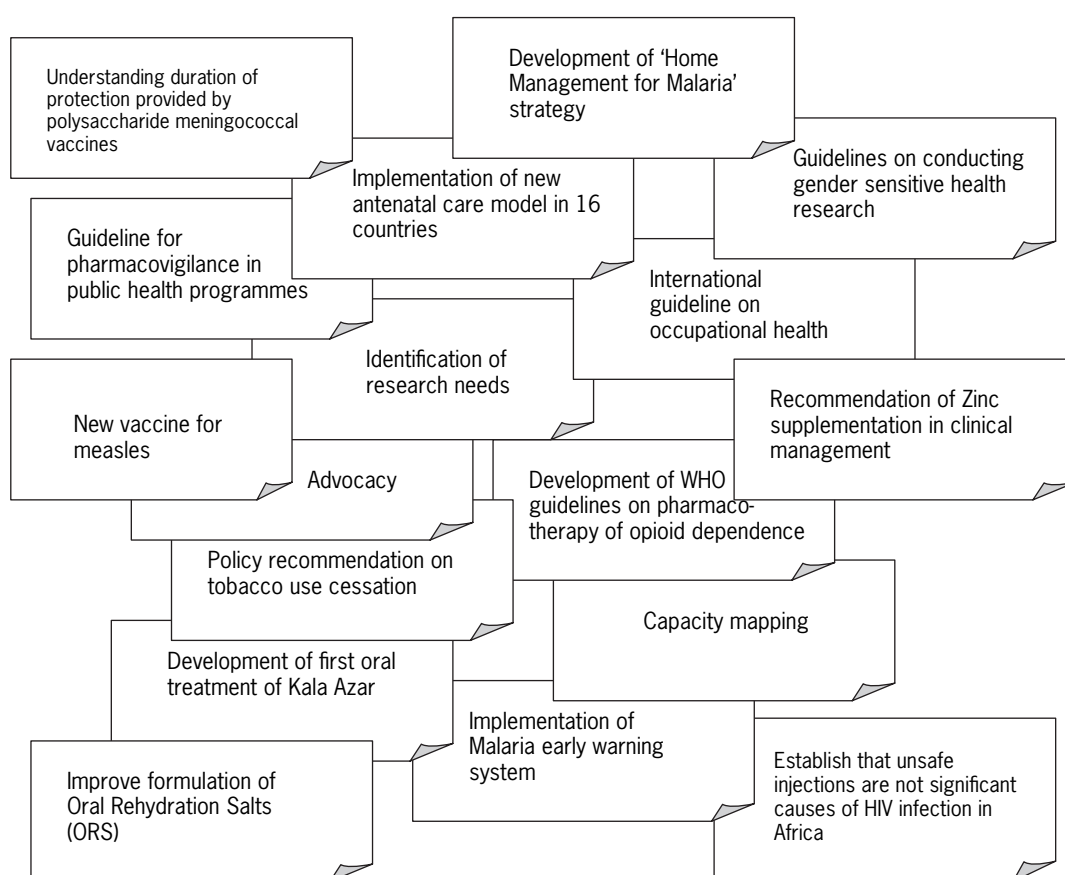


*** Publication from RHR includes both authored by its staff and from research financially supported by the department. Publications from the rest of the departments include those only authored by staff members.*

Other dissemination strategies include publication of global reports and monographs, presentation at conference/workshop, policy briefs, publication on website, CD-ROM, media information etc (Appendix 5.9). Some of these reports are widely disseminated. For example, monthly download of a research report from PHE on WHO/IPCS Global Assessment of the State-of-the-Science of Endocrine Disruptors is 480 per month over two years since its publication.

The spectrum of utilisation of research results emanating from WHO is wide ranging as depicted from the examples in figure 5. It has had significant contribution in better understanding causes of diseases, health behaviour, impact and discovery of drugs, developing guidelines for safe health practices, etc.

Figure 5: Examples of utilisation of WHO-led research.



Only three (TDR, PHE and RHR) out of 14 departments maintain a database of their research projects. Two (TDR and RHR) of these departments provide public access to these databases.

5.7 Internally perceived gaps in research at WHO

Data reported in this part derive from all 17 departments that responded to the survey. It is complemented by information obtained through in-depth interviews with selected respondents.

- *Lack of priority for research as a core function of WHO:* A key role of WHO is to advise Member States on effectiveness of health related interventions and to provide technical support. Such advise and support should be evidence based, i.e. guided by research. Yet, research is not central at WHO and the organization is, with exception for a few programs, not set up for either initiating or undertaking research or for monitoring and assessment of research findings. Especially, the technical weakness and lack of resources in many departments for assessment of research findings are recognized both internally and outside WHO as negatively affecting the ability to provide evidence based policy advice and support in many areas.
- *Lack of infrastructure to support research:* Lack of a standardised management system for research projects and of a database of existing research projects is a major problem. WHO also has no uniform guide-

lines for research in terms of external review, scientific assessment, review of finances, research terminologies, etc.

- *Lack of coordination*: Despite a high level of collaboration between departments at WHO, lack of coordination of research activities within the organisation featured as the most commonly stated gap by the respondents, both in the survey and during the in-depth interviews. Further, lack of direct communication (not specific to research but in general) among departments at HQ, and between HQ and regional offices and national programmes is highlighted.
- There is *lack of formal mechanisms for identifying research priorities*, although such mechanisms are in place in some individual departments. Research seems ad hoc, guided principally by individual and group interests rather than by well defined priorities.
- Skilled expertise in *managing research projects* is largely lacking at WHO (although with notable individual exceptions).
- There is a dearth of opportunity to promote and support *multi-disciplinary research* on cross-cutting health issues.
- Access to *synthesized information* is lacking.

6. Conclusions and Recommendations

It is important to note that the results presented in this report are based on 49% of the departments (other than administrative) at WHO. Eighteen out of the 35 departments to which the questionnaires were sent out did not respond to the survey. It is likely that most of the non-responding departments did not provide any answers because they do not undertake or feel affected by research. If so, then this is notable in its own right. Yet, this may not be the whole picture and the research activities at WHO may therefore be underestimated in this report.

A number of clearly identified ‘felt needs’ emerged that were commonly recognised by the departments. These include the need to:

1. Recognise research, at all levels, as an integral part of the mandate and activities in all departments.
2. Better coordinate research activities at WHO.
3. Develop research management skills at WHO and engage in research management.
4. Develop a database of all research projects at WHO as a mechanism of achieving a better in-house knowledge and coordination of research activities.

On stating gaps in research at WHO, respondents were encouraged to suggest mechanisms to address these gaps. The comparative advantage of WHO with its mandate from all the Member States is unique in terms of neutrality, overview of global health problems, working with government organs such as ministries of health, taking on areas deemed controversial, undertaking research in neglected diseases etc. It is important that the organisation makes use of its comparative advantages to lead research in health. Many thoughtful mechanisms to improve WHO’s role in research were suggested by its departments. To a large extent, it is these suggestions that form the basis of the recommendations provided below, although it should be clearly stated that the authors of this report take the full responsibility for these recommendations.

6.1 Main recommendations

1. WHO should recognise throughout its organisation and in communication with its Member States that funding, management and promotion of research is an integral part of the organisation’s activity to maintain and strengthen WHO’s ability and credibility to define

global policies and advising individual member states based on best scientific evidence. Research should be assigned an appropriate, generally increased level of recognition within WHO policy, administrative and management procedures and be accompanied by appropriate core funding. This should be the case both for the special research programmes/organisations and for the regular WHO departments.

2. WHO should make better use of its comparative advantages to promote research in health. This requires a critical assessment of what these advantages are and their relative importance and priority.
3. WHO should increase and systematize the use of research, whether undertaken by WHO or elsewhere, as the main basis upon which it formulates global policies and advises individual Member States. To ensure the quality and the credibility of policies and advice, WHO needs to increase its in-house capacity to objectively evaluate research findings, and it also needs to interact to a greater extent and in a more systematic way with the scientific community when it comes to the assessment of research findings and their use as a basis for global policies and country-specific advice.
4. WHO should invest in defining a strategy how it, in closer and more systematic consultation with the scientific community, can effectively identify key knowledge gaps and research needs, define its research agenda, and monitor and evaluate research findings. Such a research policy strategy should also address how to effectively disseminate research findings and in a high-quality and unbiased way use research findings for formulating, supporting or modifying WHO's policies, strategies and advice, especially at country levels. In each of these tasks, it is recommended that WHO increase its consultation and overall interaction with outside scientific expertise, both globally and at the regional level.
5. To accomplish this, research needs to be assigned a much increased role in WHO's policy, administrative and management procedures and be given a commensurate proportion of core funding.

Linked to these main recommendations the following additional recommendations are made:

6. A systematic framework should be devised to share information about ongoing research, research results and outcomes. A mechanism should be developed to identify opportunities for collaboration between units and other departments at WHO. Delineation of responsibility is necessary. Interface and interaction between departments need to be formalised to promote sharing of information. Large meetings at the organization generally focus on financial and administrative issues. Some of these large meetings can be used to focus on research activities, even within the departments.
7. There is a need for improved overview and coordination of research priorities and activities. An important step should be the creation of a *high-level position at WHO* (Assistant Director-General level) with responsibility and mandate to coordinate WHO research at HQ and with the regions. A *reformed ACHR* should also get an expanded and more important role in overseeing all research rather than as now serving as an exclusively advisory group on special topics. Such an expanded responsibility should be accompanied by a modified, fully transparent process for selecting the ACHR members based on initial

nominations from member states and subsequent selection and recommendation of membership to the Director-General by an appropriately composed advisory committee with international, high-level expertise in health research.

8. Research activities can be delegated at regional levels and Member States through better collaborative arrangements between WHO HQ, regional offices and Member States. Expertise at HQ should be linked with expertise at Member States. A similar study as the present one, mapping of research activities, can be conducted at regional levels to inform better coordination between national, regional and global levels as well as between departments at WHO.
9. Closer contact and cooperation between WHO HQ secretariat and the national programmes are proposed to renew research agenda and update information regarding utility of interventions. HQ can coordinate the identification of research priorities for the various departments and obtain independent opinion, both from ACHR and the external scientific community. WHO has a good convening position to bring together the external research community to help identify research priorities and this capacity should be used more often than currently practised.
10. Better infra-structure to support research is required by developing a core database of all research projects conducted by the organization, providing greater electronic access to key health publications and journals, standardising research guidelines, providing a mechanism for producing synthesized information on health topics, collate registry on potential consultants for research etc.
11. Multi-disciplinary and multi-sectoral research on health should be promoted at WHO.
12. It is appropriate for WHO to engage in research management and to see how research is translated into action. This is done by TDR, for example, as it not only finances but also manages research, and this role should be adopted throughout the organisation.
13. Each cluster should have one research officer primarily responsible for the cluster's research contacts and collaboration within WHO and with external institutions and individuals.

6.2 Some further reflections

For WHO's important normative function to formulate policies and guidelines as well as for its responsibility to advise member states on various upcoming health issues, WHO needs strengths and competencies across the entire spectrum of health knowledge. Another important function for WHO in research is to encourage and participate in building research capacity in developing countries. These responsibilities require the build-up of effective processes – both electronic means and through expert meetings – for collecting, interpreting and translating research findings into policies and actions and for developing and supporting research infrastructure. To the largest extent the actual research will and should be generated by the external scientific community. Only in very selected areas, where key information is lacking and where WHO has a unique comparative advantage, WHO should itself undertake research.

Whilst WHO undoubtedly has impressive knowledge and expertise on many health-related technical issues, its expertise is much more heterogeneous when it comes to research matters: excellent in some places

and practically non-existent in others. This is in itself not surprising. WHO is not primarily a research organisation, and research skills are often highly specialised and in many fields also geographically limited. This situation places special demands on the organisation. There is a need for user-friendly systems to allow all departments and units, also those with limited own research knowledge or experience, how to collect research information and where needed also get help to interpret and translate the relevant information. This will not only need concentrated efforts to build up appropriate technical resources for science information and net-working but will also require specific educational efforts within the organisation.

Also when it comes to the processes for defining research priorities and for initiating, supporting and conducting research one is struck by the heterogeneity within the organisation. Some programs, especially the specific research programs TDR and HRP and the vaccine research initiative IVR, have scientifically qualified staff and well developed mechanisms, while these resources are lacking in some other programs. This raises the question of the relative merits of research-only programs, research-cum-action programs and action-oriented departments and programs. The special research programs have a clear advantage in being allowed to more freely than other parts of WHO recruit its staff based exclusively on relevant competence. They can also be made more directly accountable to external governing bodies including donor agencies with important influence over their financial survival. On the other hand such programs risk to have limited exposure to the other still predominant needs of the organisation, and may also have problems to move the research findings towards concrete action in the organisation. On balance, it is probably preferable to have integrated as now appears to be the case the research devoted programs within the organisation, provided that one can maintain the strengths of the special programs which is largely linked to allowing these programs to recruit their staff on a competence-only basis. It is also a challenge how to make use of the experience of these programs when it comes to developing the research agenda in other parts of WHO.

It is with these perspectives in mind that we have given some specific recommendations on the organisation of research in WHO. We strongly believe that there is a need for a significant strengthening of the research culture throughout the organisation to ensure that research is the fundament for guiding WHO's technical activities. To this end we recommend the creation of a high-level position (Assistant Director-General level) with responsibility and mandate to coordinate WHO research at HQ and with the regions. This would be an important signal of a strengthened role for research in WHO and should serve as a key position around which the many needed steps to implement such a strengthened role can be built. We also recommend an expanded and stronger role of the ACHR, which then however would also need some restructuring to allow it to handle the proposed broader mandate.

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8. Addendum

After the completion of this study, we note with satisfaction that the document “Research for Health. A position paper on WHO’s role and responsibilities in Health research” produced by the organisation is now completed and available on request (Document ACHR45/05.16), and further that from its recent session on January 26, 2006 the Executive board of WHO recommends to the World Health Assembly the adoption of a resolution on health research (EB117/SR/8) which operationally requests the Director-General:

- (1) to strengthen the culture of research in the Organization and to ensure that research informs its technical activities;*
- (2) to develop a reporting system on WHO’s activities in health research;*
- (3) to improve coordination of research activities, including integration of research into disease control and prevention;*
- (4) to review the use of research evidence for major policy decisions and recommendations within WHO;*
- (5) to establish standard procedures and mechanisms for the conduct of research and use of findings by the Organization, including registration of research proposals in a publicly accessible database, peer review of proposals, and dissemination of findings;*
- (6) to promote better access to research findings;*
- (7) to provide support to Member States to develop capacities for health systems research.*

Appendix 1

Research for Health

A Position Paper on WHO's Roles and Responsibilities in Health Research, December 5, 2005 ACHR45/13.1.3

Executive summary

This paper seeks to clarify WHO's current and future roles and responsibilities in health research both within the Organization itself and among the multiple constituencies and partners with which it interacts.

WHO has a long tradition of being engaged in research strongly related to health issues of the poor and disadvantaged. As a result WHO has often been able to identify and then attempt to fill some of the gaps left by academia, the private sector, and other actors in health research. Its direct participation in research has led to essential health interventions such as new or improved drugs, diagnostics, and vaccines, and to knowledge about how best to use them.

The Organization has an equally long tradition in helping to build research capacity in low- and middle-income countries. WHO's research capacity strengthening activities have been instrumental in creating wide networks of research centres and scientists who can engage in global research, as well as serve the needs of their countries. This includes assisting Member States in developing capacity to identify research priorities, evaluate research results, and translate knowledge to solve health-related problems by using evidence to inform policy. Few organizations devote so much of their resources to strengthening research capacity.

In its roles as advocate, consensus builder, setter of norms and standards, steward, catalyst, disseminator, and lead technical agency, WHO contributes to global health research in several other ways.

Leading the way

Given its position as the world's leading health agency, WHO's primary responsibility is to lead by example. This means ensuring that the research principles it promotes are reflected within the Organization itself; that evidence informs its policies, programmes, and other activities at all levels; that research is an integral part of all technical departments; and that research is always carried out ethically.

WHO's role and responsibilities in health research are underpinned by the following principles:

1. WHO endorses and supports activities across the entire health research spectrum that help to promote health, prevent and control diseases, strengthen health systems, accelerate the achievement of the health-related Millennium Development Goals (MDGs), improve health equity, and strengthen the research process itself.
2. WHO is committed to using knowledge gained from the appropriate review of existing knowledge of research (including systematic review) that has implications for health improvement, to participating in the generation of essential tools, and to evaluating the quality and usefulness of interventions, methodologies, and programmes.
3. WHO is convinced of the importance of research in all its technical programme areas as a means of taking forward its 11th General Programme of Work (GPW) (2006–2015) and will allocate appropriate resources for such activities.
4. WHO is dedicated to strengthening the role and functioning of its associated research programmes (e.g. in reproductive health, tropical diseases, vaccines, and health systems research) in their areas of comparative advantage – for research that is of particular significance to developing countries and for which coordinated global action is required.
5. WHO is committed to ensuring that all research pursued within the Organization is relevant to the needs of people planning, working in, and using health services (especially those populations that are otherwise neglected), informed by appropriate review of existing evidence (including systematic review), conducted in accord with established ethical guidelines, and accompanied by an active dissemination strategy.
6. WHO is committed to working closely with its Member States and the international scientific community to develop innovative, equitable, and sustainable partnerships and networks with key stakeholders, including research funders, industry, and civil society.
7. WHO is committed to seeking advice and guidance from its Advisory Committee on Health Research (ACHR) at the global and regional level, as well as from its other scientific and expert committees and special programmes, about how to best guide international health research. This is especially true in terms of setting health research priorities and promoting better linkages between its technical programmes.
8. WHO is dedicated to working with its Member States to build long-term and sustainable capacity for health research and its utilization in order to respond to contemporary and emerging health threats.

...but there is room for improvement

In spite of very significant achievements in health research, some areas of WHO's involvement in this area, especially in the way research is managed and used within the Organization, can be further strengthened. The actions that have been proposed in this paper will be invaluable for WHO's own work, its support to Member States, and its interactions with partners, as well as for achieving the objectives of the General Programme of Work (2006–2015).

Appendix 2

Survey of WHO Activities in Health Research and Research Capacity Building

Cluster:
Department:
Name of respondent:
Position of respondent:
Contact address:
Telephone:
Fax:
E. Mail:

A. Are there any research projects currently on-going in your department?

☐ No (Please answer questions in Section B only)

☐ Yes (Please answer the questions in sections B-G)

Please Note!! If the information requested in the questionnaire already exists for your programme in any other form (e.g. database, report etc.), please feel free to skip the related questions in this form. Instead, please provide the information in its existing format.

B. Users of Research-The Demand Side

B1. What type of research does your department depend on and use? For which specific areas of your work? (Please summarize in max. 100–125 words)

B2. What are your main sources and partners for securing the kind of research findings/products you need for your work? (Please summarize in max. 100–125 words)

B3. Do you occasionally commission research? How is this normally done with respect to funding, institutional and technical perspectives?
(Please summarize in max. 100–125 words)

B4. What do you perceive are the gaps from your perspective of a user of research within WHO? What kind of support or role would you like to see WHO assume in the area of research to back up its own work?
(Please summarize in max. 100–125 words)

C. Mechanism and organisation of research projects

C1. Please list ALL currently on-going research projects in your department and provide related information in table below (Please use additional page if necessary)

Name/Title of research project	Length of research project in months	Research location/s (Specify – global or WHO region)	Project type*		Total budget
			Independent	Collaborative	
			☐	☐	
			☐	☐	

** Independent: performed by a single institution; collaborative: involving several institutions in a collaborative network.*

C2. Specify types and number of currently on-going research projects in your department and their locations. (Specify number for each location)

Type of research project	AFRO	AMRO	EMRO	EURO	SEARO	WPRO	HQ
a. Cross-sectional epidemiological studies							
b. Longitudinal epidemiological studies							
c. Community-based intervention studies							
d. Laboratory-based experimental studies							
e. Product R&D							
f. Field trials							

g. Clinical trials

h. Surveillance

i. Health systems
research (incl. opera-
tional research, valida-
tion of tools, etc)

j. Economic studies, e.g
cost-effectiveness and
cost-benefit analysis

k. Forms of secondary
research, e.g. systematic
reviews, research synthe-
ses, secondary analysis,
scenario building &
modelling, etc.

l. Bioinformatics re-
search, e.g. promoting
better access & utiliza-
tion of knowledge

m. Other: Specify

n. Other: Specify

C3. Is capacity building an important/significant component of currently on-going research projects in your department? In what form does this take?

- | | |
|---|--------------------------|
| a. Short-term training | ☐ |
| b. Long-term training | ☐ |
| b.1 Masters level | ☐ |
| b.2 PhD level | ☐ |
| c. Group learning | ☐ |
| d. Institutional strengthening | ☐ |
| e. Infrastructure and research environment strengthening | ☐ |
| f. Monitoring & evaluation capacities
(including research management skills) | ☐ |

D. Funding patterns

D1. What is the total budget (including all activities and staff costs) of your department and what proportion of it goes into research?

- a. Total budget: \$
- b. Proportion of total budget for research: %

D2. Of the total budget for research, please describe the proportion which comes from the funding source categories mentioned below:

- a. WHO regular budget..... %
- b. Voluntary unspecified funding %
- c. Project (specified) funding %

D3. Do the research projects in your department receive leveraged funding or matching contributions from various sources not reflected in Q D2 above? If so, please indicate amount

Total amount of leveraged/matching funds \$

D4. Please specify any existing research partnerships which your department has with entities within WHO

E. Mechanisms for research

E1. Types of research currently on-going in your department

a. Externally executed research

a.1 Investigator-initiated ☐ How many?

a.2 WHO initiated (commissioned) ☐ How many?

b. WHO-executed research

b.1 Research designed by others ☐ How many?

b.2 Research designed by WHO ☐ How many?

c. Other (Please specify type and number below):

c.1 Type..... How many?

c.2 Type..... How many?

c.3 Type..... How many?

E2. Where is principal data analysis conducted for the on-going research in your department? (please indicate proportions)

a. Internally..... %

b. Externally..... %

E3. What role do members of your department play in research activities?

a. Coordinate research Yes ☐ No ☐

a.1 How many projects are currently coordinated?

b. Perform research themselves Yes ☐ No ☐

b.1 How many projects are currently performed by these staff?

c. Provide professional support/expertise to other research groups/ organisations

c.1 How many projects are currently professionally supported?

d. Other: (Specify role and number of projects for each specified role)

Role	Number of projects

E4. On what basis are research priorities identified? Check appropriate box to rank. (Priority rank: 1=very low, 2=low, 3=high, 4=very high)

	1	2	3	4
a. Current magnitude of problem	☐	☐	☐	☐
b. Projected magnitude of problem	☐	☐	☐	☐
c. Availability of funding	☐	☐	☐	☐

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| d. Lack of knowledge regarding the problem | ☐ | ☐ | ☐ | ☐ |
| e. Projected cost-effectiveness of interventions and expected results | ☐ | ☐ | ☐ | ☐ |
| f. Scientific opportunity | ☐ | ☐ | ☐ | ☐ |
| g. Direct implication for policy development | ☐ | ☐ | ☐ | ☐ |
| h. Part of a defined research agenda | ☐ | ☐ | ☐ | ☐ |
| i. WHO's comparative advantage | ☐ | ☐ | ☐ | ☐ |
| j. Other (Specify) | ☐ | ☐ | ☐ | ☐ |
| k. Other (Specify) | ☐ | ☐ | ☐ | ☐ |
| l. Other (Specify) | ☐ | ☐ | ☐ | ☐ |

E5. How many of the current on-going research areas have been identified in consultation with the following levels? (Specify numbers)

- a. At WHO HQ only
- b. At regional level only
- c. At national level only
- d. Combination of WHO HQ and regional levels
- e. Combination of regional and national levels
- f. Combination of WHO HQ and national levels
- g. Combination of WHO HQ, regional and national levels
- h. In consultation with external experts
- i. In consultation with other agencies and groupings

F. Proposal Review and Decision-making process

F1. What proportion of research proposals are assessed by the following processes? (Multiple responses are possible)

- a. Only external scientific advisory committee
0 ☐ 1–25% ☐ 26–50% ☐ 51–75% ☐ 76–99% ☐ 100% ☐
- b. Only internal scientific committee
0 ☐ 1–25% ☐ 26–50% ☐ 51–75% ☐ 76–99% ☐ 100% ☐
- c. Scientific advisory committee consisting of external and internal members
0 ☐ 1–25% ☐ 26–50% ☐ 51–75% ☐ 76–99% ☐ 100% ☐
- d. Other (Specify):

F2. What are the bases for evaluating research proposals? Check appropriate box to rank. (Priority rank: 1=very low, 2=low, 3=high, 4=very high)

- | | 1 | 2 | 3 | 4 |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Scientific merit | ☐ | ☐ | ☐ | ☐ |
| b. Relevance of research topic | ☐ | ☐ | ☐ | ☐ |
| c. Interdisciplinary | ☐ | ☐ | ☐ | ☐ |
| d. Capacity strengthening | ☐ | ☐ | ☐ | ☐ |
| e. Gender consideration | ☐ | ☐ | ☐ | ☐ |
| f. Policy implications | ☐ | ☐ | ☐ | ☐ |
| g. Ethical consideration | ☐ | ☐ | ☐ | ☐ |
| h. Equity consideration | ☐ | ☐ | ☐ | ☐ |
| i. Other (please specify) | ☐ | ☐ | ☐ | ☐ |
| j. Other (Specify) | ☐ | ☐ | ☐ | ☐ |
| k. Other (Specify) | ☐ | ☐ | ☐ | ☐ |

F3. How are ethical aspects of research projects assessed?

- a. Approval of local ethical committee required ☐
- b. External advisory committee assesses ethical aspects ☐
(can be a scientific or an ethics committee)
- c. Approval of WHO Ethics Review Committee ☐
- d. Both a, b and c mentioned above are required ☐

G. Follow-up

G1. How are the currently on-going research projects in your department monitored? Describe for each project.

- a. Financial ☐
- b. Scientific ☐

Frequency of report such as weekly, monthly, bi-monthly, six-monthly, annually etc.

G2. How many publications in peer-reviewed scientific journals were produced by your department in 2004? (Specify number)

- a. Primary research articles
- b. Secondary research.....
(e.g. meta-analysis, systematic reviews, etc)
- c. Review and policy articles
- d. Editorials.....
- e. Other (please specify)

G3. What other modes of dissemination of research results were utilised by your department in 2004? (e.g. reports, conference presentations, etc)

G4. Using 3–5 selected examples, describe how results of research projects completed in the last 5 years, including during 2004, have been utilised. (Please use additional page if necessary)

Research project	Description of utilization (e.g. patents, products, guidelines, tools, etc)

G5. Does your department maintain a database of research projects? If so, is it openly accessible?

- a. Database of research projects Yes ☐ No ☐
- b. Public access to database Yes ☐ No ☐

Thank you for your time and cooperation

Appendix 3

List of clusters and departments where questionnaires were distributed, responses received and in-depth interviews conducted

Cluster (N=9)	Department (N=35)	Response received (n=17)	Indepth interview (n=7)
Director-General's Office (DGO)	Internal Oversight Services Media and Communications (OMB)	√	
Communicable diseases (CDS)	CD Surveillance and Response		
	CD Control, Prevention and Eradication		
	Special Programme for Research and Training in Tropical Diseases (TDR)	√	√
External Relations and Governing Bodies (EGB)	Governance (GOV)		
	Government, Civil Society and Private Sector Relations (GPR)		
Evidence and Information for Policy (EIP)	Human Resources for Health (HRH)		
	Health System Financing, Expenditure and Resource Allocation (HSF)		
	Knowledge Management and Sharing (KMS)	√	
	Measurement and Health Information Systems (MHI)		
	Research Policy and Cooperation (RPC)		√
	Health System Policy and Operations (SPO)		
Family and Community Health (FCH)	Child and Adolescent Health and Development (CAH)	√	√
	Gender, Women and Health (GWH)	√	
	Immunization, Vaccines and Biological (IVB)	√	
	Initiative for Vaccine Research (IVR)	√	√
	Making Pregnancy Safer (MPS)		
	Reproductive Health and Research (RHR)	√	

HIV/AIDS, TB and Ma- laria (HTM)	HIV/ AIDS (HIV)	√	
	Roll Back Malaria (RBM)	√	√
	Strategic Planning and Innovation (SPI)	√	
	STOP TB (STB)		
Health Tech- nology and Pharmaceuti- cals (HTP)	Essential Health Technologies (EHT)		
	Medicines, Policy and Standards (PSM)	√	√
	Technical Cooperation for Essential Drugs and Traditional Medicine (TCM)		
Non-communi- cable Diseases and Mental Health (NMH)	Health Promotion, Surveillance Prevention and Manage- ment of Non-communicable Diseases (CHP)	√	
	Mental Health and Substance Abuse (MSD)	√	
	Nutrition for Health and Development (NHD)		
	Tobacco Free Initiative (TFI)	√	
	Injuries and Violence Prevention (VIP)	√	
Sustainable Development and Healthy Environments (SDE)	Country Focus (CCO)		
	Ethics, Trade, Human Rights and Law (ETH)		
	Food Safety (FOS)		
	MDGs, Health and Development policy (HDP)		
	Protection of the Human Environment (PHE)	√	√

Appendix 4

Type of research projects by region

	AFRO	AMRO	EMRO	EURO	SEARO	WPRO	HQ	Total
Cross-sectional epi studies	16	2	5	5	6	5	10	49
Longitudinal epi studies	3	1	1	2			2	9
Community based intervention studies	41	3	5	3	13	3	1	69
Laboratory based experimental studies	27	33	2	25	10	12	5	114
Product R&D	18	23	2	30	8	7	5	93
Field trials	13	7			5	3	4	32
Clinical trials	32	10	3	6	15	10	8	84
Surveillance	18	18	14	14	8	8	4	84
Health Systems Research	15	11	1	2	9	11	8	57
Economic studies	6	5	2	4	3	2	9	31
Secondary research	10	8	1	9	1	5	33	67
Bioinformatics research	1				3	1	2	7
Other types of research	38	26	9	28	21	9	14	145
Total	238	147	45	128	102	76	105	841

Appendix 5

Appendix 5.1

Length of currently on-going research projects reported by 13* WHO departments (in months).

Length of research projects	Number of projects (%)
1–4 months	6 (2.1)
5–12 months	91 (31.7)
13–36 months	153 (53.3)
> 36 months	37 (12.9)
Total	287

** Specific information from TDR is not available. On average, TDR projects last between 12–36 months.*

Appendix 5.2

Research partnerships specified by departments within WHO.

Name of the clusters/ other entities	Name of the departments	Total Number
Family and Community Health (FCH)		14
	Child and Adolescent Health and Development (CAH)	3
	Gender, Women and Health (GWH)	2
	Reproductive Health and Research (RHR)	3
	Initiative for Vaccine Research (IVR)	2
	Immunization, Vaccines and Biological (IVB)	1
	Quality Assurance and safety: Biological (QSB)	1
	Vaccine Assessment and Monitoring (VAM)	1
	WHO-UNAIDS HIV Vaccine Initiative (HVI)	1

Name of the clusters/ other entities	Name of the departments	Total Number
<i>HIV/AIDS, TB and Malaria (HTM)</i>		13
	STOP TB (STB)	4
	HIV/ AIDS (HIV)	5
	Roll Back Malaria (RBM)	4
<i>Communicable Diseases (CDS)</i>		10
	Special Programme for Research and Training in Tropical Diseases (TDR)	3
	Communicable Diseases Control, Prevention and Eradication (CPE)	3
	Strategy Development and Monitoring for Parasitic Diseases and Vector Control (PVC)	2
	Communicable Disease Surveillance and Response (CSR)	1
<i>Evidence and Information for Policy (EIP)</i>		3
<i>Non-communicable Diseases and Mental Health (NMH)</i>		2
	Injuries and Violence Prevention (VIP)	1
	Nutrition for Health and Development (NHD)	1
<i>Health Technology and pharmaceuticals (HTP)</i>		1
	Essential Drugs and Medicines Policy (EDM)	1
<i>Representatives of the Director-General (DGR)</i>		1
	Polio Eradication Initiative (POL)	1
<i>Sustainable Development and Healthy Environments (SDE)</i>		1
	Ethics, Trade, Human Rights and Health Law (ETH)	1
<i>Other entities</i>		
WHO		2
AFRO		3
SEARO		2
WPRO		2
EMRO		1
PAHO		1
HAC		1
IARC		1
RITC		1
NUT		1
WR- Iraq		1
SIP		1
Alliance for Health Policy and Systems Research		1
Commission of Macro-Economics and Health		1
<i>Total</i>		65

Source of research funding at WHO departments and proportion of total research budget received from each source.

[illegible]

Appendix 5.4

Principal data analysis conducted for the on-going research projects at WHO (Total N=14). (Indicated as proportions of total research projects)

	TDR	RHR	IVR
Internally	10%	25%	9%
Externally	90%	75%	91%
<i>Other departments</i>	<i>1–25%</i>	<i>26–50%</i>	<i>>50%</i>
Internally	4 (36.4)	4 (36.4)	3 (27.3)
Externally	2 (18.2)	2 (18.2)	7 (63.6)

Appendix 5.5

Level of consultation in identifying currently on-going research areas (number of projects)

	TDR	RHR	IVR	Other Departments
At WHO HQ only	0	0	0	33
At regional level only	0	0	0	2
At national level only	0	0	0	5
Combination of WHO HQ & regional levels	0	77	0	20
Combination of regional & national levels	0	0	0	6
Combination of WHO HQ & national levels	0	0	0	7
Combination of WHO HQ, regional & national levels	427	0	64	56
In consultation with external experts	427	77	64	79
In consultation with other agencies & groupings	427	77	64	45

Appendix 5.6

Review process of research proposals (N=14).

	TDR			RHR		IVR
Only external scientific advisory committee	76–99%			100%		76–99%
Only internal scientific committee	1–25%					
Scientific advisory committee consisting of external & internal members						
Other						1–25%
<i>Other departments</i>	0%	1–25%	26–50%	51–75%	76–99%	100%
Only external scientific advisory committee	1	3				1
Only internal scientific committee	2	2	1			
Scientific advisory committee consisting of external & internal members	2		1	1	2	3
Other		1				1

Appendix 5.7

Requirement at WHO departments for ethical approval of research proposals (N=14)

	Percent*
A. Approval of local ethical committee required	29
B. External advisory committee assesses ethical aspects	21
C. Approval of WHO Ethics Committee	36
D. Both A and C mentioned above are required	21
E. Both A, B and C mentioned above are required	50
F. Not applicable	7

* Total exceeds 100% as multiple response was possible.

Appendix 5.8

Capacity building strategies reported by WHO departments (N =14).

Forms of capacity building	Percent
Short-term training	19
Masters level	5
PhD level	7
Group learning	16
Institutional strengthening	19
Infrastructure and research environment strengthening	15
Monitoring and evaluation capacity	19
Total	100

Appendix 5.9

Dissemination modes (other than publication in peer-reviewed journals) of research results at WHO departments in 2004

Modes of dissemination of research results	No. of departments (%)
Publications	10 (20.8)
Conference/ workshops	11 (22.9)
Reports	8 (16.6)
CD ROMs	1 (2.1)
Meeting with policy makers, program manager, researchers	3 (6.3)
Media information	6 (12.5)
Website	6 (12.5)
Policy briefs/ pamphlets	2 (4.2)
WHO library	1 (2.1)
Total	48 (100)

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