



**Alliance for Health Policy and Systems Research and the  
Human Resources for Health Department, World Health  
Organization**

**Call for Research Proposals:**

**Incentives to attract and retain qualified health workers to  
under-served areas within low and middle income countries**

7 July 2008

**Deadline for submission of proposals: September 12<sup>th</sup> 2008**

## **Incentives to attract and retain qualified health workers to under-served areas within low and middle income countries**

This call for proposals is jointly issued by the Alliance for Health Policy and Systems Research and the Human Resources for Health Department, WHO:-

- The *Alliance for Health Policy and Systems Research (HPSR)* is an international collaboration, based in WHO Geneva, that aims to promote the generation and use of health policy and systems research as a means to improve the health systems of developing countries. For more information please visit: [www.who.int/alliance-hspr](http://www.who.int/alliance-hspr)
- The *Human Resources for Health Department, at WHO* helps build and strengthen stewardship capacity to develop and implement health workforce policies, strengthens institutional capacity to develop and ensure quality and adequate quantity of health workforce production and manages knowledge regarding health workforce development.

### **1. Introduction**

The question of the effectiveness of incentives -- financial and non-financial -- to attract and retain health workers to under-served areas within low and middle income countries (LIC/MIC) emerged as the highest priority research question in the field of human resources for health (HRH) as identified by LIC/MIC country policy makers and ranked by researchers and academics<sup>1</sup>. The Alliance, together with the HRH department at WHO, is launching a new call for research proposals with a focus on this question.

### **2. Previous Research**

The global health workforce shortage is characterized by a lack of health care personnel, and an uneven distribution of existing workers. An increasing body of evidence suggests that the availability of health workers is a critical factor affecting service coverage<sup>2</sup>. Consequently, some geographic groups don't receive adequate, or in some cases any, appropriate care. Worldwide, far fewer health professionals choose to practice in rural areas<sup>3</sup>. Other geographical areas may also be under-served; for example, health workers are often unwilling to work in insecure regions, or regions where the population is of a different ethnic origin. Workers migrate domestically for much the same reasons as they do internationally: they are in search of better living conditions including safety and security; pay and career opportunities; income-earning opportunities

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<sup>1</sup> Alliance for Health Policy and Systems Research, 2008. Identifying Human Resources for Health Research Priorities in Low and Middle-Income Countries. Background document prepared for workshop of 6 April, 2008, Berkeley, California. Available on request from ransonm@who.int

<sup>2</sup> Anand S. and Barnighausen T. Health workers and vaccination coverage in developing countries: an econometric analysis *The Lancet* 369(9569):1277-85 2007

<sup>3</sup> World Health Organization. World Health Report 2006 - working together for health. Geneva; 2006.

(including private sector practice); and access to a range of public services including educational opportunities for their children.

**Definition: 'under-served areas'**

"Under-served areas" can be interpreted in the broadest sense. It refers to geographic areas where relatively poorer populations reside -- areas that have relatively limited access to qualified health care providers and health services of adequate quality. It may include, for example: remote rural areas; small or remote islands; urban slum areas; areas that are in conflict or post-conflict; refugee camps; and areas inhabited by ethnic minorities or indigenous groups.

Much of the research done to increase the numbers of rural health workers has been done in high income countries, particularly Canada, Australia, and the United States. Studies typically fall into two groups -- one examines why health care professionals choose, or don't choose, to practice in rural or other under-served settings, the other proposes, implements and evaluates interventions designed to recruit or retain health care professionals in under-served settings.

The factors that determine a physician's choice of practice location have been studied with some depth in high income countries. There is some consensus that medical students of rural origin are more likely to choose rural practice. For instance, a study by Rabinowitz *et al.* found that an intention to pursue family practice as a career, or to practice in a rural location, correlated with eventual choice to practice in a rural area<sup>4</sup>. Studies on determinants in low and middle income countries are fewer, and draw more attention to reasons why physicians do not choose rural practice. A review focusing on these countries noted that push and pull factors could be more complex in developing country contexts, and recommended a mix of incentives be used to attract health care workers to rural areas<sup>5</sup>. Structural factors (such as well-equipped facilities and proper sanitation), social and professional factors (opportunities for career development, educational opportunities for children, good management), and political factors (including violence or regional instability)<sup>2,6</sup> are all likely to affect health worker preferences over their location.

A number of interventions have been used to attempt to recruit and retain rural health care workers. A systematic review of financial incentives found that incentives targeting medical student debt were somewhat successful in drawing physicians to rural areas, but this was less effective when unenforced or a 'buy out' option was available<sup>7</sup>. Creating medical schools in rural areas is another strategy tried in high income countries, and some low and middle income countries. Strategies to address the determinants of practice, such as increasing medical school

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<sup>4</sup> Rabinowitz HK, Diamond JJ, Markham FW, Paynter NP. Critical factors for designing programs to increase the supply and retention of rural primary care physicians. *JAMA*. 2001 Sep 5;286(9):1041-8.

<sup>5</sup> Lehmann U, Dieleman M, Martineau T. Staffing remote rural areas in middle- and low-income countries: a literature review of attraction and retention. *BMC Health Serv Res*. 2008;8:19.

<sup>6</sup> Denham, L. A., & Shaddock, A. J. (2004). Recruitment and retention of rural allied health professionals in developmental disability services in New South Wales. *Australian Journal of Rural Health*, 12(1), 28-29.

<sup>7</sup> Sempowski IP. Effectiveness of financial incentives in exchange for rural and underserved area return-of-service commitments: systematic review of the literature. *Can J Rural Med*. 2004;9(2):82-8.

enrolment from rural areas and incorporating rural experience into medical training, have been tried, with varying levels of success<sup>8</sup>.

Successful policies and interventions are likely to address multiple dimensions of the problem. For example, programmes need to focus on retention and motivation of health workers in under-served areas as well as recruitment. Financial incentives targeted at health workers may need to be packaged together with interventions that address some of the structural barriers to location in rural areas - such as adjusting resource allocation mechanisms to enhance the resources available within the health system in under-served areas, or policies that specifically address career development for health workers in under-served areas. Recent innovations mean that there are multiple avenues through which the problem can be addressed. For instance, the growing sophistication and capability of information technology holds some promise. Telemedicine programs in Australia have been used already in pediatrics to increase referrals to specialists<sup>9</sup>, but could also be used to enhance the supervision and support provided to health workers located in remote areas. Specialist outreach programs, which aim to increase coverage by bringing specialist care out of the hospital, also offer promise<sup>10</sup>.

Additional resources that applicants may wish to refer to include:-

- Dussault G. and Franceschini M.C. Not Enough There, Too Many Here: Understanding Geographical Imbalances in the Distribution of the Health Workforce, *Human Resources for Health* 2006, 4:12 available at: <http://www.human-resources-health.com/content/pdf/1478-4491-4-12.pdf>
- Lehmann U, Dieleman M, Martineau T. Staffing remote rural areas in middle- and low-income countries: a literature review of attraction and retention. *BMC Health Serv Res.* 2008;8:19 available at: <http://www.biomedcentral.com/content/pdf/1472-6963-8-19.pdf>
- Documents available at the website of the Global Health Workforce Alliance (<http://www.who.int/workforcealliance/en/>) including the International Council on Nurses et al Guidelines on incentives for health professionals available at: [http://www.who.int/workforcealliance/documents/Incentives\\_Guidelines%20EN.pdf](http://www.who.int/workforcealliance/documents/Incentives_Guidelines%20EN.pdf)

### 3. A call for research

The Alliance and WHO are eager to support research that both addresses the (many) gaps in the existing evidence base and is pragmatic and policy-oriented. In terms of gaps in the evidence base, it is noted that:-

- Literature on low and middle income countries is scarce, and existing interventions to promote practice in under-served areas are not well evaluated.

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<sup>8</sup> Lehmann U, Dieleman M, Martineau T. Staffing remote rural areas in middle- and low-income countries: a literature review of attraction and retention. *BMC Health Serv Res.* 2008;8:19.

<sup>9</sup> Smith, A. C., Bensink, M., Armfield, N., Stillman, J., & Caffery, L. (2005). Telemedicine and rural health care applications. *Journal of Postgraduate Medicine*, 51(4), 286-293.

<sup>10</sup> Gruen, R. L., Weeramanthri, T. S., Knight, S. E., & Bailie, R. S. (2004). Specialist outreach clinics in primary care and rural hospital settings. *Cochrane Database of Systematic Reviews*, (1), 003798.

- The issues of how to retain and motivate health workers in under-served areas are perhaps less well addressed than the issue of recruitment to under-served areas.
- A great majority of the literature focuses on physicians – more studies on nurses and other health workers are needed, as they may have a different set of determinants. The gender dimension of this issue needs greater exploration.
- Interventions are often launched with evaluation as an afterthought -- baseline data are not collected. Careful studies are needed that are longitudinal, that are controlled before/after studies or randomized controlled trials or that examine how or why interventions work.

This Call is open both to studies that aim to understand better the factors behind health workers choice of practice location as well as studies that aim to assess the feasibility and effectiveness of interventions to encourage health workers to work in under-served areas. Evaluations that assess the impact of interventions addressing health worker location could examine outcomes in terms of health worker density, but also quality and service coverage.

**We do not encourage proposals that simply seek to quantify the scale of the health worker imbalance between different geographical areas - the Call is strongly focused on analyzing the causes of the problem and establishing effective policies and strategies to address it.**

We encourage applicants to consider a broad range of relevant methodologies. Many ideas can be found in the references provided in this Call, as well as in sectors other than health. For example possible research approaches might include (but are not limited to):

- **Impact evaluations of new or existing programs designed to attract or retain health workers in under-served areas.** In particular evaluations of programmes that used innovative strategies or packages of strategies would be welcome.
- **Discrete choice experiments** that assess the relative importance of different factors that affect willingness to practice in under-served areas and how these factors vary by type of health worker<sup>11</sup>. Such experiments may practically assist in the design of incentive packages to promote health worker location in under-served areas.
- **Ethnographic studies** that seek to explore, for example, how health workers make decisions between different jobs, the role that location plays, the links between career and personal life trajectories, and the other types of factors and issues that health workers take into account.
- **Policy analysis** that seeks to assess the relative power and influence of different stakeholder groups (politicians, medical associations, communities) over government policy regarding incentives for location in under-served areas, and how this power has been exercised to influence policy.

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<sup>11</sup> See for example Mangham L. (2007) Addressing the Human Resource Crisis in Malawi's Health Sector: Employment Preferences of Public Sector Registered Nurses ESAU working paper no. 18, ODI London available at: [http://www.odi.org.uk/spiru/publications/working\\_papers/ESAU%20WP18%20Mangham%20Paper.pdf](http://www.odi.org.uk/spiru/publications/working_papers/ESAU%20WP18%20Mangham%20Paper.pdf)

#### 4. Eligibility and funding available

Researchers in low and middle income countries are eligible to apply to this call for proposals. Organizations in high income countries are not eligible to apply. Researchers in low and middle income countries may collaborate with an institution or individual in a high income country; however, no more than 20% of the total grant value can go to institutions or individuals in high income countries.

A total of US\$500,000 is available to support this Call. The maximum funding available per research project is US\$200,000.

We envisage supporting between three to six proposals for up to two years in duration.

Successful proposals involving human subjects will need ethical clearance from WHO's ethics review committee as well as from the relevant institution in the country where the research will take place.

#### 5. Selection and adjudication

Please direct all questions concerning this call for proposals, by email, to the Alliance for Health Policy and Systems Research ([alliance-HPSR@who.int](mailto:alliance-HPSR@who.int)). All such questions should be submitted by Wednesday 13 August, 2008. The Alliance HPSR will post responses to these questions on its website for all potential bidders to read. Responses will be posted as questions are received, but all responses will be posted by Friday 15 August, 2008.

All applications must be submitted to the Alliance for Health Policy and Systems Research, by email ([alliancehpsr@who.int](mailto:alliancehpsr@who.int)), and must be received by Friday 12 September, 2008. The header of the e-mail should read "**Proposal: Incentives to attract and retain qualified health workers in under-served areas**". The Alliance will notify all applicants of receipt of their application.

All proposals will be technically reviewed by two independent technical specialists. Final decisions regarding funding will be made by a selection committee, comprised of members of the Alliance for Health Policy and Systems Research, Scientific and Technical Advisory Committee.

The final selection of proposals to be funded will be made largely upon the scores awarded to the proposals but may also take account of geographical distribution, country income status and where technical proposals are of equal merit, preference will be given to proposals that originate from countries that face a severe problem of maldistribution of the health workforce.

The Alliance expects to have identified and informed successful applicants by the end of October 2008 with contracts and implementation of the research to follow shortly thereafter.

## 6. On-going involvement of and support from the Alliance HPSR and WHO

The Alliance HPSR is an "engaged funder" and is particularly concerned about ensuring the technical quality of work conducted through its grants programmes. The Alliance therefore will work closely with grantees to support their work, promote opportunities for South-to-South learning through workshops and online fora, and if appropriate, identify technical support to assist grantees in their efforts.

Depending upon the nature of the work supported, the Alliance and WHO may seek to develop synthesis products based upon the research conducted, or support joint publications across multiple grantees.

## 7. Structure of the proposal and evaluation criteria

Interested organisations should apply using the structured template provided in Annex 1.

Careful attention should be paid to the instructions and page limit of each section of the proposal.

The proposals will be evaluated according to the following criteria:

Understanding of current context, suitability of context to undertake the proposed research	10%
Clarity of objectives, rationale and strength of study design and methods	50%
Technical capacity of individuals and organization to implement the proposal	20%
Likely relevance to local policy processes	10%
Adequacy of the budget to the planned activities and value for money	10%

# Annex 1

## Alliance for Health Policy and Systems Research

### Human Resources for Health Department, WHO

#### ***Template for Applications to the Call for Proposals on " Incentives to attract and retain qualified health workers to under-served areas within low and middle income countries"***

THIS FORM SHOULD BE SUBMITTED BY E-MAIL TO: [alliancehpsr@who.int](mailto:alliancehpsr@who.int)

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#### **PART I. ADMINISTRATIVE INFORMATION**

<b>Selected information from this box (1.1-1.3) may be released to the general public if this proposal is selected for funding</b>		
<b>1. Name of team leader and institutional affiliation:</b>		
Title:!!!!	Surname:!!!!	First name: !!!!!
Name of Department and Institution (30 words maximum) !!!!!		
Full postal address of team leader to be used for correspondence (170 words maximum): !!!!!		
Telephone: !!!!!	Fax: !!!!!	
E-mail:!!!!	E-mail 2: !!!!!	
<b>2. Title of project:</b> (30 words maximum) ID Number: !!! [LEAVE BLANK] !!!!		
<b>3. Summary:</b> (300 words maximum) (please note that summaries may be used to publicize the work of successful applicants) !!!!		

**4. Has your institution ever received a grant from a funding body before? !!!**

If yes, please provide the grant making institution, project title, date and value of the grant, for the last three grants awarded.

a. !!!!!

b. !!!!!

c. !!!!!

**PART II - PROPOSAL**

*Proposals should be no more than 20 pages in length.*

**1. Background (2 page max)**

Provide a brief description of the health worker situation in the country where the research will be carried out. How acute a problem is the scarcity of health workers in under-served areas? How does the problem differ by cadre of health worker? What is currently understood to be the main factors driving this problem? Some description of the wages of health workers, for example, relative to workers in other sectors or relative to the cost of living. What types of interventions have already been implemented to address the scarcity of health workers in under-served areas, and what do you already know about their effectiveness or about how and why they work?

To what extent is there policy maker interest in this issue, and are policy makers actively considering proposals to address this problem; if so, how does your research link to this policy making process?

**2. Research question (2 page max)**

Specify the research question/s and why you have chosen to address these questions.

What theory (if any) is driving your research questions?

Please make sure that the proposal specifies which cadres of health worker the study will consider.

**3. Study Design, Methods and time frame (8 pages max)**

What is the overarching study design and what methods and instruments will be used to address the research questions?

Where will the study take place and what are the particular characteristics of this under-served area?

If the study aims to evaluate an intervention, describe carefully the nature of the intervention.

How will the analysis be conducted?

Make sure that the proposal takes account of relevant gender and poverty issues.

What will be the sequencing of the different steps of the study?

Construct a table describing each of the activities envisaged towards the implementation of the study. One column should indicate the expected date of completion for each activity.

**4. Dissemination and policy influence (2 pages max)**

How will policy and decision makers be involved in the research, or if this is not appropriate, explain why the research is relevant to policy and how research findings will be packaged and disseminated in order to influence policy.

**5. Research team (4 pages max)**

Who will be responsible for the research, and what role each individual or organization will play. Attach one page CVs of key staff.

Describe briefly the nature and capabilities of the organization making the proposal, and how this piece of work fits within its portfolio of work.

**6. Costs and Financing (2 pages)**

Please use the format below to present your Budget and please also provide a brief budget justification.

<b>Budget item</b>			<b>Cost</b>	<b>Other contributions</b>
1. Personnel	Name (if known) and position  a. b. c. d.	Estimated number of working days / weeks		
<b>Total Personnel</b>				
	Please enter details of items to be purchased and unit cost here			
2. Services & Supplies				
<b>Total Services &amp; supplies</b>				
3. Equipment				
<b>Total equipment</b>				
4. Local Travel				
<b>Total local travel</b>				

5. International travel			
	<b>Total international travel</b>		
6. Other expenditures			
	<b>Total other expenditures</b>		
<b>GRAND TOTAL</b>			

#### Notes on budget

1. For personnel, indicate for each individual staff person proposed as part of the team, the role they would have, and the percentage of time they would devote to the project. The budget requested should reflect salary multiplied by the amount of time spent on the project. Justify personnel salaries in relation to institutional remuneration policies.
2. For services and supplies, include telephone, fax, internet hook up, subscription to electronic databases, photocopying, office supplies. Itemize budget for each individual service or type of supplies.
3. For equipment, indicate needs for computers, printers etc.
4. For local travel, enter details for local air tickets, hotel costs, per diem within the country.
5. For international travel, enter details of international air tickets, hotel costs, per diems for international travel.
6. For other expenditures, include space rental, clerical and other administrative costs. Note that the Alliance HPSR **will support** institutional overheads of 15%. Grantees are strongly encouraged to make funded research available in an open access archive. For example, researchers may publish in journals that offer open access options, including deposit in UK PubMed Central (UKPMC), or obtain permission to self-deposit in UKPMC. Open access fees are a legitimate research cost and should be included under other expenditures.
7. In the column "other contributions" indicate any likely additional sources of funding that could complement that provided by the Alliance HPSR and WHO.