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Request for Application

RFA Solicitation Number: M2009-001

Operations research to guide the combined and complementary use of indoor residual spraying (IRS) and long-lasting insecticidal nets (LLINs) for malaria vector control in President's Malaria Initiative countries

Date of Issue: 16 November, 2009

Closing Date for Applications: 31 December, 2009

Closing time for applications 12 midnight EST

Applications must be emailed to: bhossain@urc-chs.com

Questions by email ONLY to: bhossain@urc-chs.com

Deadline for Questions: 30 November 2009

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The purpose of this Request for Applications (RFA) is to solicit applications for funding from research institutions or organizations to carry out operations research to guide the combined and complementary use of indoor residual spraying (IRS) and long-lasting insecticidal nets (LLINs) for malaria vector control in President's Malaria Initiative countries. This research will be carried out through a sub-agreement from University Research Co., LLC (URC) under the Health Research Challenge for Delivery Project (HRCD). The funds for the research are provided by the United States Agency for International Development (USAID) under the President's Malaria Initiative (PMI). This RFA describes the objectives of the research and information and instructions for applicants.

I. Health Research Challenge for Delivery Project (HRCD)

The Health Research Challenge for Delivery (HRCD) project, funded by the US Agency for International Development (USAID), develops, tests and compares approaches to more effectively introduce and scale up proven interventions for priority health problems. The project is managed under a Leader with Associates Cooperative Agreement by University Research Co., LLC (URC) in collaboration with its partner, the Harvard University School of Public Health.

The project addresses the “know-do” gaps; which describe the delay between discovery of effective ways to combat the causes of poor health and the application of these proven interventions on a wide scale. Rigorous research demonstrates the effectiveness of numerous ways of reducing health disparities around the world. But national level decision-makers, donors, and program implementers in many settings often lack evidence about the best ways to introduce and implement these on a national scale. If each country's Millennium Development Health Goals are to be met in the targeted timeframes, these “know-do” gaps must be closed.

Current priority research and introduction areas include Maternal and Newborn Health, Child Health, Infectious Diseases and Reproductive Health & Family Planning.

II. Background and Rationale for the Research

Background

Malaria continues to affect about 500 million people a year and cause nearly 800,000 deaths. Since 2005, the U.S. **President's Malaria Initiative (PMI)** and, more recently, the Tom Lantos and Henry J. Hyde United States Global Leadership against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008, have committed resources to enhance delivery of proven malaria control interventions in select African countries. Among the proven tools for primary prevention of malaria are insecticide-treated nets (ITNs) and indoor spraying of residual insecticides (IRS). Both of these interventions have been proven to be highly effective at reducing malaria morbidity and mortality (Molineux and Gramiccia 1980; Lengeler 2004), but each has its advantages and disadvantages.

Insecticide-treated bed nets: Mosquito nets provide a physical barrier between the people sleeping under them and adult mosquitoes. This barrier is particularly effective against vectors that bite indoors and at night, when most individuals are asleep. Insecticide-treated nets combine this barrier with an insecticide that can kill or repel mosquitoes seeking a human blood meal. To date, only one class of insecticide, the synthetic pyrethroids, is practical for wide-scale use on netting material. The current generation of WHO Pesticide Evaluation Scheme (WHOPES)-approved nets, or long-lasting ITNs (LLINs) maintain their insecticidal properties for up to 20 washings under laboratory conditions, and are thought to last for up to 36 months of recommended use under field conditions (World Health Organization 2005). These nets can be delivered through a variety of public health strategies and programmed for universal coverage—aiming to protect all sleeping spaces—or targeted to vulnerable populations, such as children and pregnant women. To be effective, however, LLINs must be hung and used, and several studies have shown that even after net ownership is increased to high levels, usage may lag behind (Thwing, Hochberg et al. 2008). A mathematical model suggests that under the typical transmission conditions that prevail in rural Africa, when 35-65% of the entire population is covered by an LLIN, even those individuals and households that do not own or use a net are protected (Killeen, Smith et al. 2007). While there has been much debate over the most efficient and sustainable strategies for delivering LLINs, most PMI countries have made considerable progress in improving LLIN ownership through a combination of “catch up” and “keep up” strategies (Lengeler, Grabowsky et al. 2007). In addition, many national and global authorities are now adopting strategies to achieve universal coverage with LLINs (Roll Back Malaria Partnership 2008).

While LLINs are ideal in many ways for malaria prevention in rural Africa, they do have some limitations. First, they require a change in human behavior to hang them and make use of them nightly. Second, because they are more bulky than many public health commodities, they have special requirements for storage and transportation. Third, while there are global standards for certifying LLIN products, the longevity—both physical and entomological—of LLINs under routine household conditions is poorly understood and probably highly variable (depending on household conditions, washing practices, composition and denier of the netting material, type of insecticide, and whether it is extruded in the fiber or applied afterwards). Finally, because only one class of insecticide is practical for LLIN treatment, this control measure is particularly vulnerable to factors that promote the development and spread of pyrethroid resistance.

Indoor residual spraying: Unlike LLINs, IRS does not provide a barrier effect, but instead relies on the insecticide to kill and repel adult mosquitoes that rest on vertical surfaces of the indoor walls in homes before or after feeding. Many African IRS programs employ synthetic pyrethroid insecticides, but WHO has approved 12 different insecticides for IRS within four insecticide classes, pyrethroids, carbamates, organochlorines, and organophosphates (World Health Organization 2006). Thus, it is possible to rotate insecticides used for IRS to combat the development and spread of insecticide resistance. Also unlike LLINs, IRS does not require householders to alter their behavior on a daily basis and it can protect all individuals inside a household without targeting particular age or demographic groups, or identifying sleeping spaces

which might vary throughout the year. Correctly applied, IRS can be effective for periods of 6 to 12 months depending on the seasonality of malaria transmission, the class of insecticide, its vehicle of delivery, and the initial concentration applied. The duration of insecticidal activity is also affected by the composition of the sprayed surfaces and may be affected by washing, painting and plastering following application.

For maximum effectiveness, IRS must be performed expertly, by well-trained technicians with relatively specialized equipment and personal protective gear. IRS requires an infrastructure that includes trained sprayers and supervisors, geographic reconnaissance or detailed knowledge of the structures in a given area, transportation, and a high level of community acceptability. IRS is much less well suited for many urban areas where people live in multistory dwellings or flats above shops and businesses. Although generally well accepted, IRS teams may encounter public reluctance related to concerns about the safety of the insecticide for children and domestic livestock, the odor of the residual insecticide, or simply the nuisance of having to move household contents outdoors to accommodate the spray teams and waiting for the insecticide to dry completely before re-entering the houses. Community education and sensitization is important to ensure acceptance of spraying and reduce the loss of insecticidal effect through plastering, painting or washing.

Although both LLINs and IRS are known to be highly effective in reducing malaria morbidity and mortality, the evidence base for these two interventions comes entirely from controlled studies where one or the other control measure was compared alongside a control area without either intervention. Very little is known about how IRS and LLINs can be deployed together or in sequence to optimize malaria control.

Rationale for Proposed Research

With the advent of the PMI, the Global Fund to fight HIV/ AIDS, Tuberculosis and Malaria (GFATM), and the World Bank Booster Program, endemic countries now have access to unprecedented resources for malaria prevention and control. Many countries are using these resources to rapidly expand distribution of LLINs through large-scale campaigns, especially in high transmission zones. In addition, a renewed emphasis on IRS in sub-Saharan Africa has been accompanied in many countries by efforts to expand their spray programs beyond low-transmission and epidemic-prone districts, to areas with stable malaria transmission. As a result, in a number of settings, wide-scale LLIN interventions and IRS programs have begun to converge geographically and evidence is accumulating of an additive effect of the use of both LLINs and IRS.

In Zanzibar, for example, LLINs were distributed to all children under five and pregnant women in late 2005 and early 2006. This was associated with a sizable reduction in malaria prevalence and illness (Bhattarai, Ali, et al. 2007). Through PMI, the Zanzibar Malaria Control Program introduced IRS outside urban areas beginning in 2006, resulting in a further reduction in parasitemia prevalence (A.S. Ali, personal communication). Further evidence of a potential synergistic effect of IRS and LLINs has come from an ecological observational study on Bioko Island in Equatorial Guinea (Kleinschmidt,

Schwabe, et al. 2009). Finally, recent data from a direct comparison in high-transmission communities in western Kenya has suggested that the addition of IRS to already high net ownership and use may be associated with an additional protective efficacy after just a single round of spraying (M. J. Hamel, personal communication).

Given these findings and the likelihood that LLIN coverage and IRS use in sub-Saharan Africa will continue to increase over the coming years, more information is needed about how National Malaria Control Programs (NMCPs) can best use these two powerful vector control measures to sustain reductions in the level of malaria transmission.

III. Research Scope, Objectives and Geographic Focus

This RFA is soliciting applications to conduct operational research to determine the efficacy of combined and/or complementary use of IRS and LLINs for malaria vector control in areas where malaria transmission has been reduced. Results from these studies will inform PMI on programming strategies for IRS and/or LLIN activities across the program's 15 focus countries.

Study Objectives: The research plan proposed must address the potential for using IRS and LLINs in a combined and/or complementary fashion to achieve and sustain the reductions in epidemiologic and entomologic indicators of malaria transmission in a given geographic area. The Applicant must address **one or more** of the following four specific research questions in one PMI focus country:

1. In areas with perennial malaria transmission, can high LLIN coverage and use reduce the need for two or more rounds of IRS per year (i.e. reduce to one round less per year)?
2. In areas where one or more rounds of IRS have been carried out and malaria transmission has been reduced, can LLINs be used to sustain the transmission reduction gains made by IRS following the withdrawal of IRS?
3. In areas where IRS is currently being conducted, how much transmission reduction can be expected with the addition of LLINs to cover at a minimum all pregnant women and children under five **or** the total population in the defined geographic area?
4. In an area with high LLIN ownership but only moderate (40-50%) usage of those nets, how much transmission reduction can be expected with the addition of IRS?

Primary outcome measures may include comparisons of the incidence/prevalence of malaria infections and severe and/or moderate anemia in addition to entomologic indicators of transmission.

It is recognized that the delivery of life-saving malaria interventions must take precedence over the design of experimental and non-experimental studies, and Applicants should be prepared to propose an approach to monitor the use of other antimalarial prevention and treatment measures that could affect the levels of malaria transmission in the study areas and influence study outcomes.

Successful applicants will **propose a sound epidemiologic/entomologic design to test one or more of these questions in a single PMI focus country**. The proposed operational research must be conducted in conjunction with PMI-supported malaria prevention and control activities in that country. Upon initiation of the study, PMI will coordinate and conduct all IRS and/or LLIN distribution activities as stated in the approved study protocol in consultation with the awarded Applicant. Applicants should be able to demonstrate an ongoing/previous working relationship with the proposed country National Malarial Control Program (NMCP). For information on the PMI strategy and country malaria operational plans please visit www.pmi.gov.

Country and Geographic Focus:

- The proposed research must be carried out in one of the 15 PMI countries (Table 1). Ideally, the Applicant should have previous experience working in that country.
- Research questions #1, #2, and #3: To facilitate a more rapid start-up of studies in response to one or more of the first three research questions listed above, a province or district(s) within that country where large-scale, PMI-supported IRS activities are already underway should be selected. The following table shows the countries, and areas within those countries, where PMI is supporting large-scale IRS as well as the number of rounds of IRS **carried out in FY2009**. FY2010 PMI Malaria Operational Plans (MOPs) will be available at www.pmi.gov by mid November. The IRS sections of MOPs describe the IRS program within the given PMI country and current planned support by PMI.

Table 1:

FY2009 PMI-Supported IRS			
Country	Province/District	No. of IRS rounds	Estimated No. of Households
Angola	Huambo, Huila	1	120,000
Benin	Seme Kpodji, Akro Misserette, Adjohoun, Dangbo	1*	157,146
Ethiopia	East Shoa, Arsi, West Arsi, West Hararge	1	467,216
Ghana	Gushegu, Karaga, Savelugu-Nanton, Tolon Kumbungu, West Mamprusi, East Mamprusi	1	601,973
Kenya	Nandi North, Nandi South, Rachuonyo	1	450,000
Liberia	Monrovia	1	25,000
Madagascar	Anjozorobe, Ankazobe, Betafo, Ambohimahaso, Ambatofinandrahana, Ambositra	1	220,000
Malawi	All	1	186,000
Mali	Koulikoro Cercle, Bla Cercle	1	170,285
Mozambique	Quelimane, Nicoadala, Namacurra, Mocuba, Milange, Morrumbala	1	506,000
Rwanda	All	2	196,126
Senegal	Richard-Toll, Nioro, Velingara	1	155,000
Tanzania	Biharammulo, Bukoba rural, Bumbire, Chato, Goziba, Mazinga, Misenyi, Muleba, Karawe, Ngara	1 and 2	437,919
	Zanzibar - ALL	1	137,683

Uganda	Kitgum, Pader**	1*	785,000
Zambia	All	1	900,000

*FY2010 plans will support 2 rounds of IRS in all districts

**FY2010 plans include 6 total districts = Kitgum, Pader, Apac, Oyem, Gulu, and Amuru

Extensive PMI IRS programs have been conducted in southern Mozambique, Tanzania-Zanzibar and Zambia. Provinces/districts within these countries may have more ideal geographic areas within which research questions #1, #2 and #3 could be addressed.

- **Research question #4:** To facilitate more rapid start of studies intended to answer research question #4 as described in the research scope and objectives, Applicants should select provinces and districts within a PMI country where a household survey within the last 12 - 24 months has demonstrated high LLIN ownership but no more than 40-50% usage. PMI, in consultation with the awarded Applicant, will conduct negotiations with the NMCP to add IRS to that area as described in the approved study protocol. This will not be feasible where the programmatic and/or epidemiologic context in that area prevents use of IRS [for example IRS is currently not recommended in epidemic-prone or urban areas].

For research questions #1, #2, #3 and/or #4 as outlined in the study objectives, PMI will be responsible for coordinating and conducting all IRS and/or LLIN distribution activities as stated in the approved study protocol in consultation with the Applicant. Applicants should utilize the IRS/ITN program data outlined in the PMI country malaria operational plan to inform their proposed plans. **(See also budgetary considerations in Section IV).**

IV. General Information about Applications for this RFA

A. Eligibility

Both U.S. and non-U.S. research organizations are invited to apply. U.S., European and other non-host country institutions/organizations submitting applications for this RFA are expected to partner with a host country research organization/institution. Applications should be developed jointly by both groups. Applicants (institutions and identified principal investigators) may submit only one application in response to this RFA to conduct research activities that address one or more of the stated research questions within one country. If more than one institution is participating in the study and receiving funds, one organization must be identified as the prime recipient. This prime recipient will receive funds and be responsible for technical and financial oversight of any sub-recipients, and for the disbursement and accounting of funds to such sub-recipients.

Eligible Applicants: U.S., Host Country or Foreign organizations of the following types:
 Public and State controlled institutions of higher education
 Private institutions of higher education
 Nonprofits with 501(c)(3) IRS Status (Other than institutions of higher education)
 For profit research organizations other than small businesses
 Parastatal research institutions

B. Budgetary Considerations

URC/HRCDC expects to make at least two awards for this research. Each award and study may be for a period of not more than two years. There will be no profit/fee allowed for this award.

PMI will be responsible for IRS and LLIN program costs, specifically:

- PMI will continue to cover all direct and operational costs related to IRS in those areas selected for the study for as long as required by the study protocol;
- All costs for LLIN procurement, distribution, and associated health education efforts to promote high net usage in the study areas will be borne by PMI separately from this award;
- PMI will be responsible for the dissemination and uptake of the results of the funded studies to NMCPs within the African region;

Therefore, Applicants should not include any IRS or LLIN program costs in their budget.

The Applicants will be responsible for all research activities as described in their application including:

- Costs related to monitoring ownership and usage of LLINs, unless monitoring of the required quality and periodicity is already being carried out by the LLIN program organization. If not, the applicant must be responsible for this monitoring activity and its costs.
- Costs for implementing environmental compliance activities that are specific to operational study activities other than IRS and LLIN delivery. For the purposes of this solicitation, applicants should reflect illustrative costs for environmental compliance implementation and monitoring in their cost application, other than those borne by the IRS and/or LLIN program implementing organization.

What will not be funded:

- Non-experimental before and after study designs without contemporaneous comparisons and purely observational designs based on case-control analysis of intervention coverage and malaria transmission outcomes;
- Studies with an endpoint of malaria-related mortality in children under five; or
- Costs for IRS or procurement/distribution of LLINs.

C. Study Time Frame

It is expected that the studies should be completed in 2 years or less.

D. Application Submission Instructions

Applicants must submit separate Technical and Cost Applications. These should be submitted at the same time by email only to:

Belayet Hossain, HRCDC Grants Manager

Email: bhossain@urc-chs.com

Applications deadline: 12 mid-night on 31 December 2009 EST.

Acknowledgement: URC/HRCDC will acknowledge receipt of applications within 2 business days of receipt. All applications received by the deadline will be reviewed for responsiveness to the research requirements and compliance with the instructions provided below. Applications that are received after the deadline or are non-responsive will not be considered for further review.

Deadlines for questions about the RFA: 30 November 2009

Submit all questions by email only to Belayet Hossain - Email: bhossain@urc-chs.com

NB: We recommend that applicants view the Mandatory Standard Provisions for Non-U.S., Nongovernmental Recipients which contain information that is pertinent for budgeting. These clauses as well as flow down provisions from URC's Prime Agreement will be included in the sub-agreement with the successful applicant after the award process is completed. At that time URC will also provide the successful applicant with the appropriate certifications to complete from ADS 303.3.8, depending on whether they are US or non-US. The link to the Mandatory Standard Provisions is <http://www.usaid.gov/policy/ads/300/303mab.pdf> The authorized geographic code for procurement of goods and services under this award is Code 935. Local cost financing shall be authorized in accordance with the standard provision "Local Procurement (1998)".

V. Technical Application Instructions

A. Technical Application Format

HRCDC-PMI requests that applications be kept as concise as possible. Detailed information should be presented only when required by specific RFA instructions. Technical Applications **are limited to 30 pages** not including the cover page, table of contents, executive summary (2 pages maximum) and the Annex.

A HRCDC Technical Review Panel will evaluate the technical applications in accordance with the evaluation criteria indicated in this RFA:

1. Technical Application Format Requirements:

- Written in English
- Typed in a Microsoft Word compatible program, single-spaced with a 12 point font and one inch margins
- Saved and submitted as one document in pdf or Word format, with all sections and appendices put together
- Labeled with page numbers, the RFA number (RFA M2009-001) and the name of the applicant organization on every page
- Technical Application must not exceed 30 pages not including cover page, table of contents, executive summary and Annex

2. Content Requirements:

- Cover Page (include: project title; organization name and contact information including address, telephone, fax, and email address)
- Table of Contents
- Executive summary (Not to exceed 2 pages)
- Technical Application Sections (see special instructions below)
- Annex to include CV's (maximum 3 pages each for Principal Investigators and key senior research staff, three past performance references)

B. Instructions for Technical Application Sections

Applicants must include the following technical sections in their application and provide the information required to evaluate their proposed research design and activities and the capability of the organization and its staff. See also Award and Selection Criteria in Section VII.

The following technical guidelines should be used to prepare an application in response to this RFA.

1. Research Plan:

This section should clearly state the research question(s) the application is addressing (#1, #2, #3 and/or #4 as outlined in the study objectives) and include descriptions of the proposed research design and methodology. The research plan should include:

- The type of study proposed (e.g. “quasi-experimental efficacy study with control districts”) and the hypothesis being tested
- The country and geographic zones or districts in which the study will be carried out, including prior history of IRS and LLIN use, results to date and a description of the rationale for site selection and how proposed geographic sites address the study question(s).
- The key indicators and outcome measures to be used to answer the research questions and test any hypotheses, including clear definitions of numerators and denominators
- Any statistical tests to be employed, a preliminary data analysis plan and plans for data-sharing
- A clear monitoring and evaluation plan to assess LLIN ownership and usage [PMI will conduct all LLIN delivery and IRS activities. PMI will confirm and verify the population and timing of IRS activities] and to monitor the use of other antimalarial prevention and treatment measures that could affect the levels of malaria transmission in the study areas and influence study outcomes.
- How baseline, interim and final data collection will be carried out, by whom and the data quality control methods to be used. Assurance of the feasibility of the

data collection proposed or a plan to test feasibility at the start of the research study

- How the study will control for potential confounders
- An implementation plan to achieve the stated study objectives across the study period.
- Applications should describe all measures that will be taken to ensure environmental compliance standards with respect to activities conducted specifically by the operational research study.
- Applicants should include a **Performance Monitoring Plan (PMP)** that clearly outlines timelines with expected outcomes and/or indicators for all study activities, including protocol development; development of standard operating procedures; goals for collection and analysis of data and, where applicable, field samples; approval of an amendment to the existing PMI country environmental mitigation and monitoring plans where applicable; obtaining clearances from institutional and in-country human subject review boards; study completion, analysis of final study data, data-sharing activities interim and final reports.
- Any other information the Applicant feels is important to explain the research plan

2. Staffing and Management Plan:

- This section should clearly describe the staffing and management plan for the research study. The application should list all staff and their planned specific positions.
- Corresponding position descriptions and CVs no longer than 3 pages in length for Principal Investigators and senior research staff should be included in the Annex to the application.
- Key personnel for this project include at minimum principal investigator(s) and other key prime and collaborating partner(s) senior staff of participating research organizations/institutions. Detailed summaries of these key personnel should be described in the text of the application. Summaries should highlight relevant experience and capacity as it relates to the proposed position.
- Lines of authority and delegation of authority among key personnel and proposed collaborating/implementation partners should be clearly described.
- The management functions necessary for study implementation and how the organizations involved will carry them out. These functions include budgeting, financial control, personnel management, adherence to USAID and USG regulations, travel, telecommunications, procurement of equipment and supplies and logistics.

3. Organizational Capability:

- This section of the application should describe the applicant organization and that of any collaborating/implementation partners providing evidence that the applicant and partners have the ability to carry out the research study.

- The application should demonstrate that the applicant and any collaborating/implementing partners have a depth and breadth of experience in the research and technical areas described in the application's research scope and objectives.
- The application should demonstrate that the applicant has the management capability to carry out the needed management functions, including financial management and financial oversight of any partners.
- The applicant must demonstrate the ability to ensure compliance with ethical standards for human subjects' research through the use of an **accredited/registered institutional review board(s) (IRB) or the equivalent thereof. If the applicant has any questions about IRB requirements, please email your questions by Nov.30, 2009.**

4. Past Performance:

- This section of the application should clearly describe the applicant organization and any collaborating/implementation partner's previous relevant experience and proven track record of designing and managing effective research studies of similar type, scale and complexity.
- The applicant must demonstrate prior and/or existing experience in the country proposed for the study.
- In the Annex, the applicant should provide references for three prior activities which describe contracts, grants and/or cooperative agreements which the applicant organization, as well as any substantive collaborating/implementation partners has conducted. These should include current contact information for each reference (complete name, institution/affiliation, email addresses and telephone numbers) and should not exceed 2 pages each. Applicants may also provide up to 3 publications, manuscripts (*accepted* for publication), abstracts and/or other printed materials directly relevant to the proposed research study.

VI. Instructions for the Cost Applications

The Cost Application must be submitted by email as a separate Excel document at the same time as the technical application is submitted.

A. Required Budget Information

The required budget information must be submitted according to the instructions and template in **Appendix B** of this RFA.

B. Cost Share Requirements and Information

The cost-sharing goal/target for this RFA is a minimum of fifteen percent of the project-funded amount. For specific types of cost sharing or matching funds that can be considered as cost sharing, see 22 CFR 226.23 at the following link:

http://edocket.access.gpo.gov/cfr_2009/aprqtr/22cfr226.23.htm

If applicants have questions about cost sharing, please submit these questions to Belayet Hossain by email at bhossain@urc-chs.com by Nov. 30, 2009.

VII. Application Review and Selection Process

A. Award Criteria

Complete Technical applications will be reviewed by a Technical Review Panel (TPR) convened by HRCD-PMI and evaluated according to the following criteria:

1. Research Plan (50 Points): -

By providing evidence-based answers to the question(s) selected for study, the proposed study will make a significant contribution towards achieving the objective and expected results identified in the research scope and objectives and build upon existing evidence utilizing the latest scientific knowledge.

- The research plan identifies a clear and achievable type of study to answer **one or more** of the research questions [#1,2,3, and/or 4] as outlined in the RFA study objectives. **(12 points)**
- The implementation plan is clear, complete and feasible, demonstrating that the research study can achieve its stated objectives as designed and within the level of funding and time period proposed. **(12 points)**
- The study application has identified clear indicators with measurable outcomes that can be used to address **one or more** of the research questions [#1, #2, #3, and/or #4] as outlined in the RFA research and study objectives and the proposed performance monitoring plan demonstrates measures of success, with ambitious but realistic indicator targets. **(6 points)**
- The geographic area(s) proposed is a province/district(s) where large-scale, PMI-supported IRS activities are already underway [research questions #1, #2 and/or #3] or where a household survey within the last 12-24 months has demonstrated high LLIN ownership but no more than 40-50% usage and IRS may be conducted [research question #4] and builds synergies with other PMI activities. **(6 points)**
- The study application has anticipated and corrected for potential confounding factors that might limit analysis of the results. **(5 points)**
- The study application adequately provides provisions for the protection of human subjects from research risk that relate to their participation in the proposed research and the institutional review board (s) that will be involved. **(5 points)**
- The study application adequately addresses environmental issues specific to the operational study activities and presents a clear plan to maintain environmental compliance standards. **(4 points)**

2. Staffing and Management Plan [including partnership arrangements where applicable] (20 point)

- Study investigators are appropriately trained and well suited to conduct the proposed research study and the overall research team has the demonstrated

- capacity to ensure rapid start-up and implementation of study activities. **(5 points)**
- There is a clear understanding of the management functions required and a clear, robust strategy to carrying them out by the organizations involved. **(5 points)**
 - The experience level of the principal investigator(s) and other researchers is appropriate to the proposed research study. The principal investigator(s) and/or study team has demonstrated experience leading a multidisciplinary team with the ability to establish and manage administrative functions across study sites. **(4 points)**
 - The proposed principal investigator(s) and staff, including collaborating/implementing partners, have clearly assigned roles and responsibilities that are relevant to the proposed research study. **(3 points)**
 - The level of staff effort listed is appropriate and realistic for the work proposed. **(3 points)**
3. **Organizational Capability (15 points)**
- The applicant and key collaborating/implementing partner organizations' administrative and organizational structure are appropriate and adequate to manage the proposed research study. **(4 points)**
 - Host country researchers are substantially and appropriately integrated into the research and organizational plan exhibiting a clear collaborative approach to addressing the stated research question(s). **(4 points)**
 - The application demonstrates a working relationship with the NMCP. **(4 points)**
 - The applicant demonstrates a leadership approach, communication and governance structure that is appropriate for the proposed research study. **(3 points)**
4. **Past performance (15 Points) –**
- References provided support the scientific and technical capacity of the applicant to conduct the proposed research activity. **(5 points)**
 - The applicant, and where applicable collaborating/implementing partners, demonstrates familiarity with the proposed geographic area. **(4 points)**
 - In the last three years the applicant has demonstrated a proven capacity to conduct activities similar to those in the proposed study. **(3 points)**
 - The principal investigator(s) and/or institutions/organization demonstrate an ongoing record of accomplishments leading to advancements within their field of expertise. **(3 points)**

B. Evaluation of Cost Application

After the Technical Applications are evaluated by the Technical Review Panel, HRCDC-PMI will review the Cost Applications. There will be no points given for the

Cost Application. However, final selections for awards by HRCD-PMI will take into consideration cost realism, cost sharing and best value for the PMI program.

VIII. Administration of the Sub grants

A. Reporting Requirements

Recipients of awards (sub-agreements) must provide to HRCD quarterly technical reports describing progress made and any problems encountered. In addition a Performance Monitoring Report following the Performance Monitoring Plan (PMP) submitted with the Technical Applications must be submitted indicating completion of activities or targets reached as per indicators in the PMI.

A Final Report must be provided to HRCD detailing the study methods used, the findings, discussion of the results and their significance and plans for any publications.

Financial vouchers must be submitted monthly to HRCD.

B. Fiscal Controls

Awards (sub-agreements) will be cost reimbursable agreements. Therefore, appropriate accounting for expenditures is required with adherence to USAID regulations about eligible costs. Recipients of awards (sub-agreements) will be responsible for disbursement of funds to any sub-awardees or sub-contractors and for their compliance with standard accounting procedures and with USAID regulations.

C. Substantial Involvement of USAID and PMI Group

In addition to HRCD/URC, the USAID Cognizant Agreements Officer and members of the PMI team will monitor closely the progress of these research studies and may at times consult HRCD or the Principal Investigators to request additional information or to suggest or require changes in the study plan or activities.

D. Other Sub-award Management Issues and Policies

1. Issuance of this RFA does not constitute an award commitment on the part of URC nor does it commit to pay for costs incurred in the submission of an application. Furthermore, URC reserves the right to reject any and all applications, or to award a grant without further discussion or negotiations if it is considered to be in the best interests of USAID and PMI.
2. If the applicant is selected for an award and after notification of the award and signing of the sub-agreement, the awardee will be required as its first activity to prepare within 30 days a detailed study protocol and workplan for URC and PMI review and approval.

3. Successful applicants must commit to initiate field implementation within **Thirty (30) days** of protocol and workplan approval by URC and PMI.
4. URC/HRCDC will exercise the following substantial involvement in the project:
 - Approval of the final study protocol and work plan(s).
 - Approval of any changes in key personnel
 - Approval of any changes in the implementation plan
 - Approval of any changes in the performance evaluation plan
 - Approval of sub-agreements from the prime awardee to sub-awardees
 - Approval of a USAID branding strategy and marking plan (guidance to be provided post-award).

IX. APPENDIXES

- A. Application Checklist
- B. Budget Template and Instructions
- C. Statement of Legal Authority

Appendix A: Application Checklist

1. Technical Application

Format Requirements

- Written in English
- Typed in a Microsoft Word compatible program, single-spaced with a 12 point font and one inch margins
- Maximum of 30 pages not including cover page, table of contents, executive summary and annex
- Saved and submitted as one document in pdf format
- Received electronically
- Labeled with page numbers, the RFA number (M2009-001) and the name of the applicant organization on every page

Content Requirements:

- Cover Page
- Table of Contents
- Executive summary (Maximum 2 pages)
- Research Plan
- Staffing and Management Plan
- Organizational Capability
- Past Performance

2. Cost Application

- Summary Budget
- Detailed Budget
- Budget Notes/narrative
- NICRA

3. Appendices (to include the following):

- CVs of key personnel (no more than two)
- References for at least three donors and projects

Appendix B: Budget Instructions

1. Provide a Summary Budget with the following categories:

- 1. Personnel**
- 2. Fringe Benefits**
- 3. International Travel and Per Diem**
- 4. Local in-country Costs**
- 5. Equipment**
- 6. Other Direct Costs**
- 7. Sub-awards or sub-contracts**
- 8. Indirect Costs**
- 9. Total Costs**

2. Provide a Detailed Line Item Budget as follows:

Personnel

Please list each person separately, including their title/position. The personnel line item must clearly indicate that person's salary and their anticipated Level of Effort (LOE). LOE is the number of work days or percentage of overall work time that will be dedicated and charged to the sub-grant.

Fringe Benefits

Fringe benefits are additional personnel costs that are either required by local law or are provided according to common practice and your organization's written policies applicable to all staff. Examples include mandatory contributions to the national health and social insurance fund; severance pay accruals; private health and accident insurance; expatriate staff allowances.

International Travel

Please include all costs for international travel to be charged to the grant as well as any lodging/per diem to be provided to staff while traveling. Travel and per diem rates must be consistent with your organizations' policies applicable to all projects and may not exceed USAID maximum rates.

Equipment and Supplies

URC/HRCDC defines equipment as having a useful life of more than one year and a unit price of US\$500 or more. Supplies are those items valued at less than US \$500 and consumed directly for the operation of the program, e.g., furniture, stationery, etc.

Sub-awards

Please list each sub-grant separately. The name of the sub-awardee must be included.

Subcontracts

Please list each sub-contract separately. This should include sub-contracts relevant to implementation only. Sub-contracts for services (e.g., translation, printing) should be budgeted under “Other Direct Charges”. Individual consultant should also be budgeted under “Other Direct Charges”.

Other Direct Charges

Other direct costs of the program include local consultants, banking fees, printing costs, postage, and a reasonable proportion of office costs (rent, utilities, security, email access) to be charged to the project. For the proportion of office costs, applicants must specify the method they used to determine how much was allocable to the project (e.g., a percentage based on the proportion the budget represents of the organization’s total budget; or on staff time devoted to project as a proportion of the organization’s total staff time on all projects). Local in-country travel and per diem should also be included in this section.

Indirect costs

Please include any indirect charges (e.g. overhead or G&A) showing the rate(s) and the base to which the rates are applied. Please include how the indirect rates were determined (e.g. USG approved NIVRA rates). If you have approved NICRA rates, these must be used and please submit your NICRA in your Cost Application.

NB: In addition to the summary budget and the detailed budget, provide a **BUDGET NARRATIVE** describing how the line item costs were determined or calculated.

NB: Please be sure to review and confirm that all amounts and **formulae are correct and in US dollars.**

Appendix C: Legal Authority for the Administration of Grants

1. Authority

The authority for these awards is found in the Foreign Assistance Act of 1961, as amended, and re-delegated to University Research Co., LLC under Cooperative Agreement No. GHS-A-00-09-00015-00 with the U.S. Agency for International Development.

2. Policies and provisions

Awards will be administered in accordance with the USAID policies and procedures.

Awards organizations will be administered in accordance with the cost principles contained in OMB Circular A-122 and USAID Standard Provisions for Non-U.S. and Non-governmental Organizations. These documents are available at the below websites.

OMB Circular A-122 – <http://www.whitehouse.gov/omb/circulars/a122/a122.html>

Standard Provisions - <http://www.usaid.gov/policy/ads/300/303mab.pdf>