

Terms of Reference

Results-Based Financing for Health Impact Evaluation
[Country] Evaluation Team

Power Calculation Expert

January 2011

PURPOSE OF THIS CONSULTANCY

The purpose of this consultancy is to provide direct technical support to the [Country] RBF Impact Evaluation team on power calculations and sampling for the design and implementation of a prospective, rigorous impact evaluation of a Results-Based Financing for Health program in [Country].

HEALTH RESULTS INNOVATION TRUST FUND (HRITF) BACKGROUND

The objective of the HRITF is to design and implement sustainable Results-Based Financing (RBF) pilot programs that cost-effectively improve maternal and child health outcomes (i.e MDGs 4 & 5). The hypothesis is that RBF can be used to increase access to appropriate medical care, improve the quality of medical care, and encourage individuals to adopt health-improving behaviors.

The HRITF is financing RBF pilot interventions - both supply-side (provider payment schemes, contracting out) and demand-side (conditional cash transfers). A central element of the HRITF is to learn about and document the extent to which RBF policies are effective, are operationally feasible, and in what circumstances. As such, rigorous evaluation of all HRBF programs is essential for generating new knowledge that can inform governments and partners to effectively design and use RBF mechanisms. The eventual learning objective is not only to assess the impact of the RBF intervention(s) in [Country], but also to compare these impacts across the other countries with similar interventions, and to be able to provide externally valid advice on the feasibility and effectiveness of these approaches to other countries.

The [Country] RBF team is seeking a Power Calculations-Sampling Expert to provide direct technical support on defining the appropriate power, sample size(s) and sample allocations over time and space for data collected for the [Country] RBF impact evaluation. The results of the power calculations must ensure that the proposed sample sizes are sufficiently powered in order to produce analysis set to internationally peer-reviewed scientific standards.

SCOPE OF WORK

The assignment includes the following tasks:

Technical Support on Power Calculations

The Power Calculations-Sampling expert will obtain the required data available from the project team in order to address the core questions:

- How many health facilities per study arm are required in order to have a minimum power of test of 90% with 0.05 significance level?
- How many households per study arm are required in order to have a minimum power of test of 90% with 0.05 significance level?

The Expert will produce a report which includes:

- Level at which benefits are assigned (cluster), i.e. province, district, health facility and number and implications for power calculations
- Selected outcome(s) of interest and their pre-baseline means, standard deviations and intra-cluster correlations
- Number of health facilities and/or households required for minimum power of test of 90% with 0.05 significance level, given varying anticipated (and reasonable) treatment effects

The Power Calculations expert should also review the sampling plan in order to assess if the sampling plan meets requirements to produce a random sample according to the results of the power calculations.

ESTIMATED LEVEL OF EFFORT

All activities include the provision of direct support to the [Country] RBF Impact Evaluation Principal Investigator. The level of effort for the Power Calculations Expert required for these responsibilities is currently estimated at **XX** working days.

Deliverables	Expected Delivery Date	Days
1.1 Technical support on power calculations <ul style="list-style-type: none">• Final report as described above		
2.1 Technical support on sampling <ul style="list-style-type: none">• Comments on the sampling plan		
Total Days		

REQUIRED SKILLS/ EXPERIENCE

- Doctorate level degree(s) in relevant field, such as epidemiology, social sciences, public health or economics
- 5-10 years of applied research experience;
- Proven experience with power calculations and sampling for internationally peer-reviewed studies
- Excellent written, technical English communication skills

- Ability to communicate well with various levels of management, and work independently in order to meet deadlines

Estimated Schedule

This consultancy will run from [Date] to [Date]

Management and Logistical Support

The consultant will report directly to the [Country] Task Team leader.

Payment

The assignment will be remunerated upon delivery of the agreed outputs, at the agreed fee rate and the agreed number of days of professional fess chargeable, as per the normal procedures of the World Bank.