

## Supplement I

Table S1 Services at hospitals for incentive payments and their unit prices

Indicator number	Indicator	Current price (after Sep. 2013)	Price before Sep. 2013
1	Normal deliveries*	\$12.50/\$25	\$25
2	Deliveries with complications	\$50	\$80
3	Caesarean sections	\$140	\$140
4	Family planning tubal ligations	\$30	\$30
5	High risk perinatal referrals	\$3	\$3
6	Acute malnutrition cured & discharged children <5 years	\$3	NA

\*, Normal deliveries are not supposed to be done at a hospital except for referred complicated deliveries. For Hybrid hospitals, normal deliveries are paid \$12.50 for walk in and \$25.00 for referred cases. Source: Washington DC: World Bank, 2016. Rewarding provider performance to improve quality and coverage of MCH outcome. MCH, maternal and child health.

## Supplement II

Delphi questionnaire for quantifying the relative importance of generic *vs.* service-specific quality indicators

Factors contributing to quality of care and health outcomes potentially include not only service specific factors but also other factors in the facility, such as autonomy, leadership and management, infrastructure, and supportive supervision and technical support from higher levels.

Question: please assign a value between 0 and 100 for disease specific versus general factors that reflect the importance in overall quality of care for that specific disease. The sum of the two should be 100%.

Curative care	Weight (sum =100%)
Service specific (clinical processes, drugs and supplies, equipment, staff)	
General (autonomy, technical support & supervision, HRH, infrastructure)	

Family planning	Weight (sum =100%)
Service specific (clinical processes, drugs and supplies, equipment, staff)	
General (autonomy, technical support & supervision, HRH, infrastructure)	

Vaccination	Weight (sum =100%)
Service specific (clinical processes, drugs and supplies, equipment, staff)	
General (autonomy, technical support & supervision, HRH, infrastructure)	

Institutional delivery	Weight (sum =100%)
Service specific (clinical processes, drugs and supplies, equipment, staff)	
General (autonomy, technical support & supervision, HRH, infrastructure)	

Prenatal care	Weight (sum =100%)
Service specific (clinical processes, drugs and supplies, equipment, staff)	
General (autonomy, technical support & supervision, HRH, infrastructure)	

Post-natal care	Weight (sum =100%)
Service specific (clinical processes, drugs and supplies, equipment, staff)	
General (autonomy, technical support & supervision, HRH, infrastructure)	

HIV VCT and PMTCT	Weight (sum =100%)
Service specific (clinical processes, drugs and supplies, equipment, staff)	
General (autonomy, technical support & supervision, HRH, infrastructure)	

Malaria treatment	Weight (sum =100%)
Service specific (clinical processes, drugs and supplies, equipment, staff)	
General (autonomy, technical support & supervision, HRH, infrastructure)	

Individual background:	
Organization:	
Position:	
Expertise:	
Years of experience:	
Having clinical or epidemiological background:	Yes No

Note: HRH denotes human resources for health.

## Supplement III

Delphi questionnaire for quantifying the relative importance of components within a service-specific quality indicator (14 November 2014)

### *Purpose*

RBF has been implemented for more than 2 years. The design of the RBF program aims to enhance both quantity and quality of health care for targeted services, particularly for MCH services, including prenatal care, postnatal care, institutional delivery, vaccination, family planning, and curative care in health facilities.

The quality of care is measured with general quality and service-specific quality. As shown in *Table S2*, the potential dimensions of each type of the quality include:

Table S2 Components of general and service-specific quality indicators

General quality indicators	Service-specific quality indicators
Infrastructure	Clinical processes
Administration and management	Drugs and supplies
Human resource for health	Equipment
HMIS	Staff with training
Leadership and autonomy	
General equipment	

HMIS, health management information systems.

Within the service-specific quality indicators, the relative importance of each component varies, depending on which service is evaluated. As an illustration, vaccination does not need high technical skills, and the supply of vaccine is an important factor for a successful vaccination program. In this case, a higher weight would be given to the component of “drugs and supplies” while “clinical processes” would receive a smaller weight. We would like the experts help estimate the relative weight among the components on the service-specific quality for eight services. We will provide components and their measures within each service. Please use your best judgment to determine the relative importance of each component. Thank you!

Individual background:		
Organization:		
Position:		
Expertise:		
Years of experience:		
Having clinical or epidemiological background:	Yes	No

Questions: Please assign a value between 0 to 100 to each component in the tables below. Please note the sum of the total value of the all the components should be 100.

Curative care	Weight(total 100)
Clinical processes	
Vignette for child diarrhea, fever, cough,	
Measure weight, height, and temperature	
Prescribe medication, counselling	
Drugs and supplies	
Tetracycline ophthalmic ointment	
Paracetamol (Panadol) tabs	
Amoxicillin (tabs or capsule)	
Amoxicillin (syrup)	
Oral rehydration solution (ORS) packets	
Cotrimoxazole	
Equipment	
Microscope	
Centrifuge	
Hemoglobinometer	
Refrigerator for storing reagents	
STAFF	
Staff received recent training	

Family planning	Weight(total 100)
Drugs and supplies	
Condoms (male and female)	
Oral contraceptive tablets	
Depo-medroxyprogesterone acetate (DMPA)	
Implantjadelle	
Intrauterine device (IUD)	
Staff	
Staff received recent training	

Vaccination	Weight(total 100)
Drugs and supplies	
Bacille Calmette-Guérin (BCG)	

Oral polio vaccine (OPV)	
Tetanus toxoid (TT)	
Diphtheria tetanus pertussis (DTP)	
Hepatitis B vaccine (HBV) tetravalent	
Measles vaccine	
HiB vaccine	
Pentavalent (DPT, hepatitis B, Hemophilus influenzae B)	
Equipment	
Main vaccine thermometer	
Cold box/vaccine carrier	
Ice packs	
Refrigerator	
Staff	
Staff received recent training	

Institutional delivery	Weight (total 100)
Clinical processes	
Vignette for prolonged labor	
Drugs and supplies	
Magnesium sulfate	
Diazepam injection	
Misoprostol	
Oxytocin	
Equipment	
Delivery table/bed	
Delivery light	
Resuscitation bag, newborn	
Eye drops or ointment for newborn	
Intravenous fluids	
Vacuum extractor	
Vaginal retractor	
Bag valve mask (Ambu bag)	
Guedel airways-neonatal, child, and adult	
Uterine dilator	
Needles	

Staff	
Staff received recent training	

Prenatal care and postnatal care	Weight (total 100)
Clinical processes	
Vignette for ANC	
Iron or folate routinely prescribed for ANC mothers	
Reported having ITP for malaria	
Measuring weight, height, blood pressure, pulse	
Check for anemia, check fetal heart	
Counseling about warning sign, HIV, FP, etc.	
Time of first ANC	
Procedure done during an ANC visit	
Time of PNC	
Received iron supplement, vitamin A	
Drugs and supplies	
Pregnancy testing kit	
Rapid plasma reagent (RPR) test for syphilis	
Urine testing kit	
Folic acid tabs	
Vitamin A	
Pregnancy testing	
Iron tabs (with or without folic acid)	
Staff	
Staff received recent training	

Postnatal care	Weight (total 100)
Clinical processes	
Vignette for PNC	
Iron or folate routinely prescribed for ANC mothers	
Reported having ITP for malaria	
Measuring weight, height, blood pressure, pulse	
Check for anemia, check fetal heart	
Counseling about warning sign, HIV, FP, etc.	
Time of first ANC	

Procedure done during an ANC visit	
Time of PNC	
Received iron supplement, vitamin A	
Drugs and supplies	
Pregnancy testing kit	
Rapid plasma reagent (RPR) test for syphilis	
Urine testing kit	
Folic acid tabs	
Vitamin A	
Pregnancy testing	
Iron tabs (with or without folic acid)	
Staff	
Staff received recent training	

HIV counseling and testing and treatment of HIV+ pregnant women	Weight (total 100)
Drugs and supplies	
HIV test kit	
Staff	
Staff received recent training	

Malaria treatment	Weight (total 100)
Clinical processes	
Vignette for child diarrhea, fever, cough	
Drugs and supplies	
Chloroquine	
Quinine	
Fansidar/sulphadoxine-pyrimethamine (SP)	
Artemisinin-based combination therapy ACT (fansidar + artesunate)/coartem	
Malaria rapid diagnostic kits	
Staff	
Staff received recent training	

# Supplement IV

Delphi questionnaire for evaluating the impact of quality of care

Purpose

RBF has been implemented for more than 2 years. The design of the RBF program aims to enhance both quantity and quality of health care for targeted services, particularly for MCH services, including prenatal care, postnatal care, institutional delivery, vaccination, family planning, and curative care in health facilities. However, the quality of care on health outcomes (impact) is challenging to quantify. We would like to have your opinions to help quantify the relationship between quality of care and health impact. Potential relationships between quality and impact could be represented below, such as 50% of quality achieves only 25% of the impact on health outcome. For each service, use your best judgment to estimate the potential impact of a compromised quality. (Note that *Figure S1*, part of this questionnaire, is identical to *Figure 1* in the main text.)

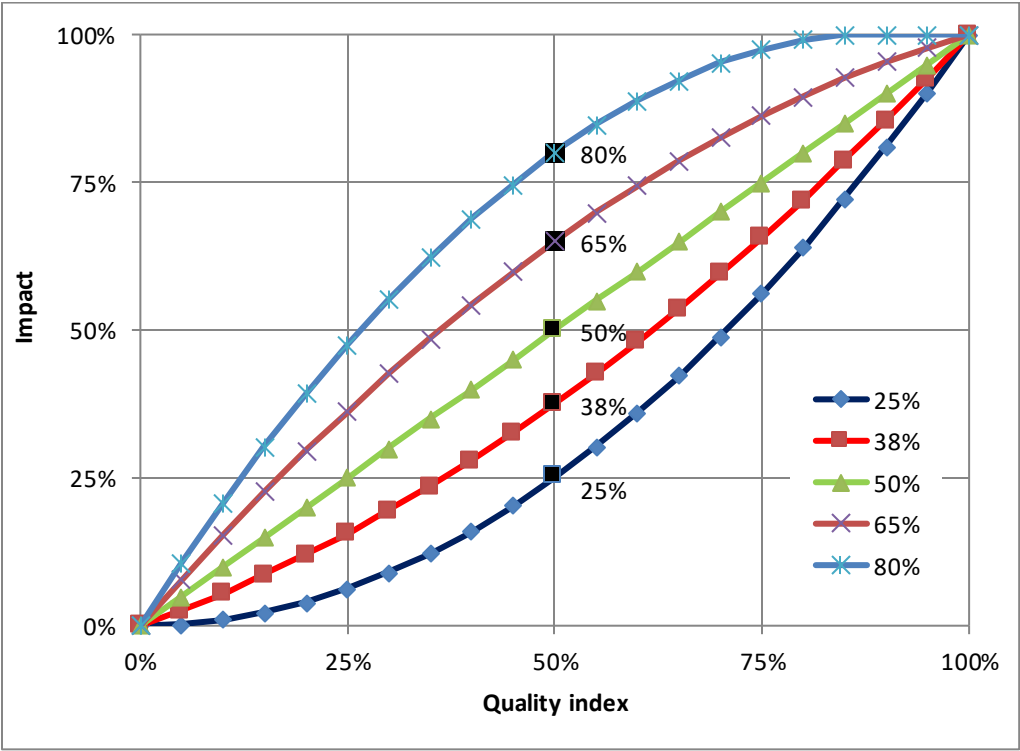


Figure S1 Quantify quality of care on health outcomes.

Individual background:		
Organization:		
Position:		
Expertise:		
Years of experience:		
Having clinical or epidemiological background:	Yes	No



Questions: Please estimate what share of the potential impact would be achieved for each intervention, if the quality score were 50%.

No.	Questions	Answer
1	For adult curative care (malaria, upper respiratory infection, and diarrhea), if the quality score is 50%, what is the share of the potential impact that the curative care treatment would be achieved? (Note that answer must be between 0% and 100%)	
2	For child curative care?	
3	For family planning?	
4	For vaccination?	
5	For institutional delivery?	
6	For prenatal care?	
7	For postnatal care?	
8	For treatment of HIV+ pregnant women?	
9	For pregnant women HIV/AIDS counseling?	

## Supplement V

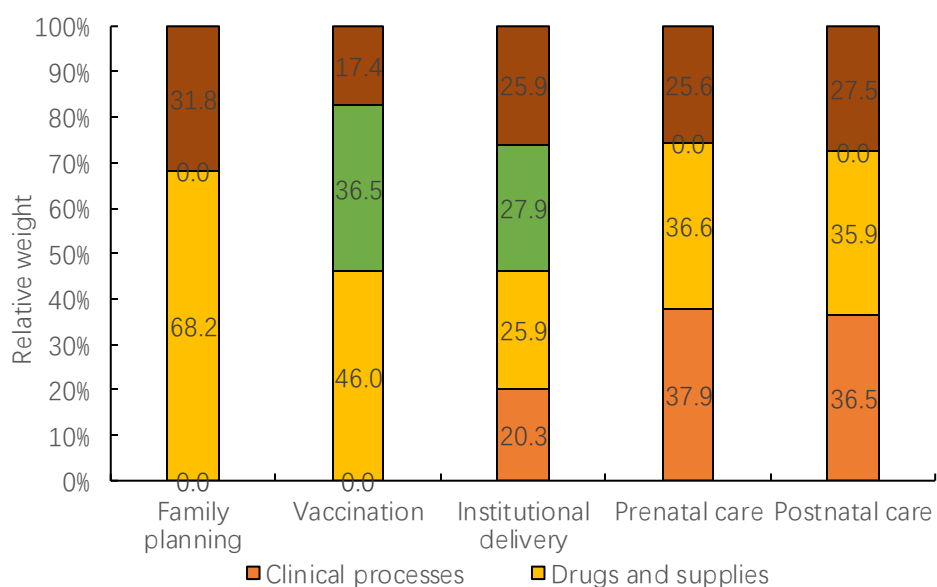


Figure S2 Relative importance of quality components for generating quality index.