

FORM 1: Background and screening data sheet of each considered "Intervention"

Thematic area: Community-Based Newborn Care

Section A: Background

Sl.	Topic	Description
1	Intervention Name	An Intervention Involving Traditional Birth Attendants and Perinatal and Maternal Mortality in Pakistan (TBA Intervention, Pakistan)
2	Location (urban/rural, block, district, state) & time period	Seven sub-districts (<i>talukas</i>) in rural Larkana district of Pakistan. March 1998-October 1998
3	Objectives	To find evidence for integrating trained traditional birth attendants in the maternal health care system in rural Pakistan
4	Lead Agencies	Liaquat University of Medical and Health Sciences, Jamshoro, Sindh, Pakistan Department of Public Health and Epidemiology, University of Birmingham, U.K.
5	Scale/Coverage	Seven sub-districts (<i>talukas</i>) in a rural district (Larkana) of Pakistan. Three <i>talukas</i> were assigned to intervention group and four <i>talukas</i> were assigned to control group
6	Key Strategies	<u>Training of traditional birth attendants in the intervention <i>talukas</i> and provision of disposable delivery kits to them</u> <u>Training of Lady Health Workers to support the trained TBAs and collect data .</u> LHW are part of Pakistan's Ministry of Health's Lady Health Worker Program. This cadre of Lady Health Workers based at primary health centers has a mission of delivering primary health care, including maternal-health and child health services. <u>Obstetrical consultation by two teams at outreach clinics for antenatal care.</u>
7	Key Contacts/Champions:	Dr. Jokhio. Liaquat University of Medical and Health Sciences, Jamshoro, Sindh, Pakistan
Information collected from: Internet. Downloaded from www.nejm.org By: Dr D. S Panwar ,Knowledge to Practice Advisor, Vistaar Project in: July 2007		

Section B: Screening information		
1	Is evaluation data available, indicating the "intervention" impact, outcomes or outputs?	Yes. Both primary outcome (impact) and secondary outcome data is available for intervention and control groups.
2	Are there standardized process? Are the key processes documented (with agreed upon guidelines and approaches)?	Information to comment on this is not available.
3	Has it been implemented in at least two different setting (districts, states or neighboring countries)?	No. The intervention has been implemented in three sub-districts (<i>taluka</i>) of one district
4	Does the intervention focus on family, household (HH) & community level improvements?	Yes. Traditional birth attendants visited pregnant women at least three times during the to check for dangerous signs. Lady Health Workers enrolled and followed up all pregnant women in their catchment area in the course of their normal monthly home visits to women and children
5	Is it implemented at block level or above?	Yes. Intervention area is three sub-districts of Pakistan corresponding to above block level
6	Are there indications that the intervention could be adapted and implemented in different socio-cultural settings?	The intervention was implemented in a rural district of Pakistan. More information required to comment on this aspect. However, since this was a RCT with purpose of integrating TBA in the maternal health system, it is assumed the intervention area would have been representative of rural areas of Pakistan
7	Are there indications that the intervention is not extremely expensive (in terms of time, funding, personnel) or is competitive in relation to the cost to the current dominant approaches and models?	Costing information not available.
Comments on the parameters that are not addressed above:		

Form2: Evidence Review for Community-Based Newborn Care			
Name of Intervention: An Intervention Involving Traditional Birth Attendants and Perinatal and Maternal Mortality in Pakistan (TBA Intervention)			
Date of Review: July 2007			
1. Location and scale			
Number of villages by block, district and state names	Population covered	Comments	Time period
Seven sub-districts (<i>talukas</i>) in rural Larkana district of Pakistan	Not specified		March 1998-October 1998
2. Agencies			
Agencies(ies)	Implementing agencies		Sponsor/Donor
Lead Liaquat University of Medical and Health Sciences, Jamshoro, Sindh, Pakistan Partner Department of Public Health and Epidemiology, University of Birmingham, U.K	Government	NGO/Private	Health department of the Sindh Government (capital costs) University of Birmingham (for data entry)
	1. Health Department, Ministry of Health, Pakistan	none	
3. Intervention Description			

Goal and objectives	Key strategies	Key components/activities	Primary target group	Secondary target group
To find evidence for integrating trained traditional birth attendants in the maternal health care system in rural Pakistan	<p><u>1. Visits to pregnant women by trained Traditional Birth Attendants (TBAs).</u> Trained TBAs visited each woman at least three times during the pregnancy (at three, six, and nine months) to check for danger signs and to encourage women to seek emergency obstetrical care</p> <p><u>2. Enrollment and follow-up of all pregnant women by lady health workers.</u> Lady Health Workers (LHWs) registered pregnancies and asked the women, their families, and traditional birth attendants for details of the progress and outcome of each pregnancy that was registered. In cases of maternal death, the cause was ascertained by Lady Health Workers on the basis of oral reports from relatives, neighbors, or traditional birth attendants</p> <p><u>3. Obstetrical consultation by two teams at outreach clinics for antenatal care</u></p>	<p>1. Training of TBAs by a team of obstetricians and paramedics. The three-day training involved the use of picture cards containing advice on antepartum, intrapartum, and postpartum care; how to conduct a clean delivery; use of the disposable delivery kit; when to refer women for emergency obstetrical care and care of the newborn. Disposable delivery kits were provided to TBAs in the intervention group</p> <p>2. Training of LHWs to support the trained TBAs and collect data. (LHW are part of Pakistan's Ministry of Health's LHW Program. This cadre of LHW-based at primary health centers has a mission of delivering primary health care, including maternal-health and child health services)</p>	Pregnant women	
4. Information sources				
Publication names	Websites/on-line	Unpublished project documents	Comments	
1. An Intervention Involving TBAs and Perinatal and Maternal Mortality (PNMM) in Pakistan. New England Journal of Medicine 352; 2005:2091-9	http://www.nejm.org			

5. Monitoring and Evaluation

Methodology/design	Key measures/indicators	Key lessons learnt
<p>The study is a randomized, controlled trial with cluster randomization. The sub district (<i>taluka</i>) is the unit for randomization. With a simple cluster-randomization sampling scheme, and with a computer-generated procedure, Larkana's seven <i>talukas</i> were allocated to intervention or control groups. Three <i>talukas</i> were assigned to the intervention group and four <i>talukas</i> were assigned in the control group. All pregnant women were eligible for inclusion. The city and its immediate environs were excluded</p> <p>With seven clusters (average size, 4000 pregnant women each) and an intraclass correlation coefficient of 0.001, the study was estimated to have 80 percent power (two-sided $P < 0.05$) to detect a 23 percent difference in perinatal mortality (estimated at 95 per 1000 live births and stillbirths in the control group) between the study groups</p> <p>Multi-level modeling to adjust for cluster randomization was performed with the use of MLwiN software, version 1.1</p> <p>A total of 19,557 women were recruited in the six months from May to October 1998. 10,114 women in the intervention group and the 9443 women in the control group</p>	<p>Primary outcomes:</p> <ol style="list-style-type: none"> 1. Perinatal mortality* 2. Maternal mortality** <p>Secondary outcomes:</p> <ol style="list-style-type: none"> 1. Receipt of antenatal care by trained TBAs 2. At least one check-up by an obstetrician 3. Home deliveries 4. Delivery by trained TBAs 5. Delivery by untrained TBAs 6. Complications of pregnancy 7. Referral to emergency obstetrical care <p>* perinatal mortality was defined as stillbirths and live-born babies who died within 28 days after birth</p> <p>**maternal mortality (deaths during pregnancy and up to six weeks post partum, excluding those known to have been due to injury or accident) from any cause, including deaths after spontaneous abortion (loss of a fetus before six months of gestation)</p>	<p>The training of TBAs that included teaching them to recognize serious complications of pregnancy and delivery was effective. Obstructed labor was more frequently recorded for women in the intervention group. The frequency of a diagnosis of obstructed labor was significantly greater in the intervention group.</p> <p>Similarly, training of TBAs on referral to public health services for emergency obstetric care appears to have been effective as a higher proportion of women in the intervention group than in the control group were referred to an emergency obstetrical care facility</p> <p>Despite increased referrals for emergency care there was no significant increase in the percentage of women who delivered at a health facility. Interventions did not involve changes in the availability of or access to existing emergency care</p> <p>The method of providing safe-delivery kits to TBAs improved their contact with primary care centers and with the LHWs. The standing and confidence of TBAs may also have been improved by their authority to refer women to outreach clinics for antenatal care</p> <p>The large decrease in puerperal sepsis consistent with the recorded high use of safe-delivery kits by traditional birth attendants is indicative of much of the reduction in perinatal mortality being mediated through reduced sepsis. However, the study did not assess this. Significantly lower rate of puerperal sepsis was observed in the intervention group in comparison with control group</p> <p>The study tried to capitalize on an infrastructure that already existed and the results show that it was possible to achieve substantial improvement in outcomes within the existing infrastructure</p>

6. Program Cost			
Total per year	Estimated cost per component	Estimated cost per beneficiary/unit	Comments
Information on cost not available			

FORM 3 - Data sheet for Effectiveness- Community-Based Newborn Care

Name of Intervention: An Intervention Involving Traditional Birth Attendants and Perinatal and Maternal Mortality in Pakistan (TBA Intervention)

List of "impact" indicators with achievements	List of "outcome" indicators with achievements	List of "output" indicators with achievements	Quality of data
<p>A significant reduction in perinatal mortality of about 30 per cent in the intervention group</p> <p>The crude perinatal rate of death among the intervention group was 85 per 1000 (823 deaths per 9710 live births and still births) as compared to 120 per 1000 in the control group (1077 deaths per 8989 live births and stillbirths)</p> <p>The odds ratio for perinatal death in the intervention group, as compared to the control group, was 0.70 (95 percent confidence</p>	<ol style="list-style-type: none"> Receipt of antenatal care by trained traditional birth attendants in the intervention group: 91 per cent (corresponding figure for control group not mentioned) At least one check-up by an obstetrician :16 per cent in the intervention group (corresponding figure for control group not mentioned) Home deliveries : 85 per cent in intervention group and 84 per cent in the control group Delivery by trained traditional birth attendant : 74 per cent in the intervention group Delivery by untrained traditional birth attendants: Six per cent in intervention group and 76 per cent in the control group 		<p>The cluster randomized design is one of the main strengths of the study</p> <p>The authors mention that although the TBAs and LHWs could not be blinded to the intervention, observer bias is unlikely to have affected the reporting of the primary outcomes of perinatal and maternal mortality as LHWs, who collected data on the primary outcomes in both groups were not aware of the purpose or comparative nature of the study. However, the authors mention they have no data to ascertain the accuracy of the reports of death or of the reported causes of maternal death</p>

<p>interval,0.59 to 0.82) (Random-effects multilevel modeling was used)</p> <p>There were 27 maternal deaths in the intervention group and 34 in the control group. The cluster adjusted odds ratio for maternal deaths was in the intervention group ,as compared with the control group , was 0.74 (95 per cent confidence interval, 0.45 to 1.23)</p>	<p>6. Complications of pregnancy:</p> <p>a. <u>Puerperal sepsis</u>: 0.77 per cent in intervention group and 4.24 per cent in the control group (Odds Ratio 0.17 (0.13-0.23) p<0.001)</p> <p>b. <u>Hemorrhage</u>: 1.72 per cent in intervention group and 2.75 per cent in the control group. (Odds Ratio 0.61 (0.47-0.79) , p<0.001)</p> <p>7. Referral to emergency obstetrical care : 9.99 per cent in intervention group and 6.93 in the control group (Odds ratio 1.50 (1.19-1.91),p<0.001</p>		<p>Authors mention that the study was not adequately powered to detect a meaningful change in maternal mortality. The sample size permitted a relative reduction in maternal mortality only as large as 90 per cent. However, given the importance of the outcome, and the hypothesis that the outcome would be influenced by the intervention, maternal mortality was included as a primary outcome measure</p>
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Form 5 - Expandability Data			
Thematic Area: Community-Based Newborn Care			
Name of the Intervention: TBA Intervention			
Sl. No.	Broad issues	Available information	Expert's comments
1	Simplicity and clarity (is the intervention clear and simple, are the components clear and simple? could it possibly be simplified and still have results? does it take long to get results?)	<p>a) Project notes: The purpose of the intervention was to generate evidence for integrating trained traditional birth attendants in the maternal health care system in rural Pakistan. The intervention components are clear and simple involving training of Traditional Birth Attendants (TBAs) and linking them with the Lady Health Workers (LHWs) who are part of Pakistan's Ministry of Health's LHW Program. This cadre of Lady Health Workers based at primary health centers were supported by the TBAs in the community</p> <p>The three-day training for TBAs is also simple involving use of picture cards containing advice on antepartum, intrapartum, and postpartum care; how to conduct a clean delivery; use of the disposable delivery kit; when to refer women for emergency obstetrical care and care of the newborn. Disposable delivery kits were provided to TBAs</p> <p>The intervention duration was about eight months. The results show that it was possible to achieve substantial improvement in outcomes within the infrastructure and with a relatively short period of intervention</p> <p>b) Originator's comments: Awaited</p>	
2	Key processes documented (are the key processes well documented?)	<p>a) Project notes: Available information not adequate to comment on this aspect.</p> <p>b) Originator's comments: Awaited</p>	

3	<p>Feasibility for Govt. system to implement (could the Govt. system assimilate this intervention relatively easily, does it match well with current Govt. systems and capacities, does it require a minimum of new learning, new inputs, and change)</p>	<p>a) Project notes: The study tried to capitalize on an infrastructure that already existed and the results show that was possible to achieve substantial improvement in outcomes within the infrastructure. The intervention integrated trained traditional birth attendants in the maternal health care system in rural Pakistan linking them with the Lady Health Workers who are part of Pakistan's Ministry of Health's LHW program. Two teams of obstetricians from the public-sector provided antenatal care at outreach areas which is feasible within the government system</p> <p>b) Originator's comments: Awaited</p>	
4	<p>"Dependencies" (what does the intervention's success depend on? For eg. strong PRI, strong supervision system, lots of dedicated NGOs in the area, a charismatic leader. Does the intervention have a minimum and practical no. of dependencies?)</p>	<p>a) Project notes: The intervention's basic requirement is integration with the existing Govt. program (LHW) therefore Govt. buy-in for scale-up and funding of the TBA training are essential components. The LHW in this intervention provided follow-up and supervision to the TBAs and that would need to be built-in a program of similar nature. Provision of antenatal care at outreach areas is feasible within the Govt. system</p> <p>b) Originator's comments:</p>	