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Short Communication

Can non-monetary incentives increase health facility deliveries? The experience in Thyolo District, Malawi

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ABSTRACT

Attendance for intrapartum care in Thyolo District, Malawi, was studied following implementation of a locally valued, non-monetary incentive. The number of facility-based deliveries per month was compared between the fourth quarter of 2007 and the third quarter of 2009, before and after introducing the incentive that included soap, a baby blanket and a traditional baby wrap. The number of deliveries in health facilities increased by 78% over the 2-year period. The increase was larger in peripheral rural facilities compared with the district hospital (94% vs. 38%). Locally developed incentives may lead to more women receiving professional maternity care in Malawi, particularly in rural areas.

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1. Introduction

Most obstetric complications occur around the time of delivery and cannot be predicted. Therefore, the WHO recommends that women deliver at health facilities with professional birth attendants.¹ Provided that the quality of care at the facility is according to standard, an increase in professional intrapartum care may prevent maternal and perinatal mortality as well as vertical HIV transmission.^{1,2}

However, in rural areas of Malawi approximately one-half of all women still delivered at home in 2004, without the assistance of a health professional.³ Despite the availability of free obstetric care in the public health system and the efforts of the Malawian government to motivate women to deliver at health facilities,⁴ several barriers

discourage women from doing so, including sociocultural factors, a low perceived need–benefit ratio and physical inaccessibility.^{3,5}

Another barrier recognised by the Ministry of Health (MoH) and many health workers within the Malawian health system was that women were requested to bring a cloth wrap for the newborn after delivery. Although bringing this cloth was not a formal obligation and the MoH condemned health workers for insisting on it, some women expressed that they were afraid to come without a cloth owing to shame or fear.

It was hypothesised that providing women with a postpartum enhancement package, including a baby blanket and a traditional wrap, could encourage them to attend a health facility for delivery. PubMed was searched for the terms ‘obstetric delivery’, ‘health facility’ and ‘incentive’, but no descriptions of a similar initiative were found. The objective of this paper was to describe the change in attendance for intrapartum obstetric care following implementation of the package.

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2. Materials and methods

2.1. Design and setting

This descriptive pre- and post-intervention study took place in Thyolo District, a very poor, predominantly rural area in southern Malawi with approximately 600 000 inhabitants and with an adult HIV prevalence of 21%. The 2004 Demographic Health Survey showed that one-half of pregnant women in the district delivered at a health facility.³ The other half delivered at home, with assistance from a traditional birth attendant (TBA) (36%), a relative or friend (11%) or without any assistance (2%). Thyolo had an estimated perinatal mortality rate of 33 per 1000 live births and the maternal mortality ratio (MMR) was estimated to be comparable with the national MMR of 984 per 100 000 live births.³

2.2. Intervention

Médecins Sans Frontières (MSF) and the Thyolo District Health Office (DHO) jointly implemented an incentive programme to encourage women to deliver at a health facility. From March 2008, MSF-funded 'post-delivery packages' were offered to pregnant women if they delivered at a government, mission or private (tea estate) health facility. The packages were advertised by the nurses/midwives during antenatal clinics and health promotion talks.

The post-delivery pack age consisted of one piece of soap, a baby blanket and a traditional wrap, costing 1052 Malawian Kwacha (approximately US\$7). The choice of these items was made after key informant interviews with several health workers and a number of women attending antenatal clinics.

2.3. Outcome measures

The outcome was the number of deliveries in any health facility. The 3-month period from October to December 2007, shortly before the introduction of the post-delivery pack age, was defined as the baseline period. The post-intervention period was defined as the 3-month period starting 1 year after implementation of the package in the last health facility in the district (July–September 2009).

2.4. Data collection and analysis

Data on the number of deliveries were extracted from the records of all 28 health facilities in the district (15 government, 8 mission and 5 private facilities) by a dedicated staff member and were verified by senior staff. The mean number of deliveries per month during baseline and outcome periods was compared for the peripheral sites, mission centres, government health centres, the district hospital and all health facilities combined using Epi Info v.3.5.1 (CDC, Atlanta, GA, USA).

3. Results

During the baseline period, the average monthly number of facility deliveries in the district was 1030. Following

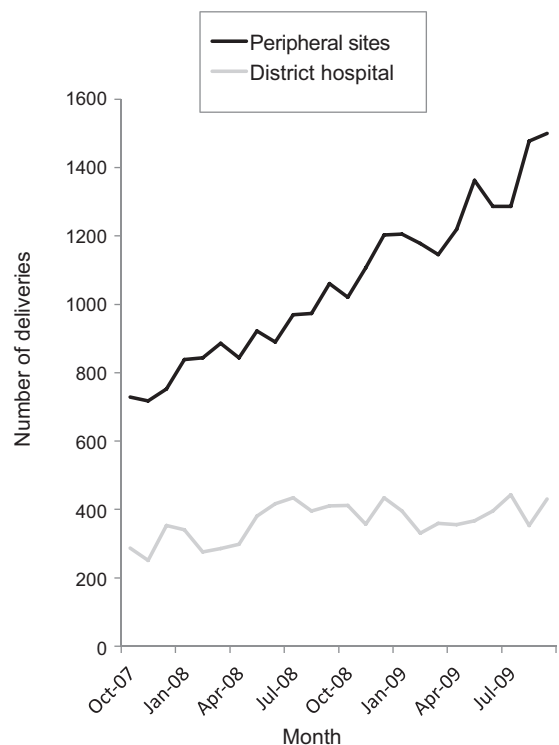


Figure 1. Number of facility deliveries per month in peripheral sites and the district hospital, Thyolo District, Malawi, October 2007–September 2009. Note the steady increase of deliveries in peripheral sites.

implementation of the post-delivery pack age, this number gradually increased to an average of 1830 per month in the third quarter of 2009, a statistically significant increase of 78% ($P < 0.001$). The largest increase (94%; $P < 0.001$) occurred in the rural peripheral centres, compared with 38% ($P < 0.001$) in the semi-urban district hospital (Figure 1). The increase was 93% in mission health centres ($P < 0.001$) and 109% ($P < 0.001$) in government health centres.

4. Discussion

Although limited in scale, this is the first known study of non-monetary incentives to encourage facility delivery. The findings support the concept that a simple, culturally sensitive incentive encourages women to deliver at a health facility.

Moreover, the results indicate that the incentive may be more effective in peripheral health centres compared with a semi-urban district hospital setting. One explanation is that the incentive may be perceived as having more value in rural areas, which generally have a poorer population.³ Another explanation is that more women were already delivering at a health facility in the semi-urban catchment area of the district hospital.

We believe that an important feature of the incentive is that it was developed based on cultural knowledge of the study setting. Similar initiatives could be developed in other settings based on knowledge of local culture and customs.

We feel that US\$7 per woman is a reasonable investment for enhanced facility delivery. In Thyolo District, with 30 000 deliveries per year, the maximum cost if every woman accessed the package would be US\$210 000 per year. This would increase the cost of the essential health package by approximately US\$0.3 per head per year.

It is important to note that an increased uptake of professional care will only lead to improved health outcomes if the quality of care at facility level is up to standard. Therefore, simultaneously with the described incentive, efforts were undertaken to enhance the quality of obstetric care in the district since late 2007. These efforts included: (i) systematic audit and feedback;⁶ (ii) increased supervision of maternity care throughout the district by senior staff; and (iii) on-the-job coaching as well as formal classroom training in obstetric procedures and emergency drills for maternity staff in the health centres and hospital.

This was an observational study using routine data in a programme setting without a control group. The study design is a limitation as the number of deliveries may have been influenced by other factors during the study period, including: (i) a perceived increase in quality of care following the efforts described;⁶ (ii) efforts by the government to discourage women from delivering with TBAs;⁴ (iii) a community-based maternal and newborn care initiative that was launched in a number of areas in the district throughout late 2008 and 2009;⁷ (iv) the completion of four maternity waiting homes in 2009; and (v) signing of service level agreements between the DHO and mission facilities at different points in time throughout the study period, abolishing user fees for intrapartum care in these sites. However, initiatives (iii) and (iv) started later in the study period, after much of the observed increase had already occurred, and the increase of deliveries in mission facilities was not larger than in public health centres. In our opinion, these five factors may have had some influence on attendance but would not have resulted in such a marked change over such a short time.

Therefore, despite the limitations, this study supports the use of a non-monetary incentive to encourage women to attend a health facility for delivery. More deliveries attended by professionals may reduce morbidity and mortality. The use of similar incentives, determined with local cultural knowledge, should be tried in other contexts to determine their suitability and effectiveness on a broader scale.

Authors' contributions: Tvda conceptualised the study and wrote the first draft of the paper; GR and AM helped with data collection; BM and MB authorised the study activity and were ultimately responsible for its implementation. All authors were involved in data analysis and interpretation, contributed significantly to the intellectual content and helped to edit the drafts of the paper. Tvda, MB and TR finalised the paper. Tvda is guarantor of the paper.

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Conflicts of interest: None declared.

Ethical approval: This was an analysis of routinely collected data from the MSF-Operational Centre Brussels programme and was performed in conjunction with the Thyolo District Health Office. Data were collected anonymously and all women received the same post-intervention package. Formal ethical approval was not required.

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