The Cost of Delivering a Package of Peri-natal Care to Mothers and Children in Upper Egypt, 2010

By

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<table>
<thead>
<tr>
<th>Service Type</th>
<th>Cost Type</th>
<th>Cost Description</th>
<th>Cost (in EGP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental</td>
<td>Direct</td>
<td>Medical Services</td>
<td>5000</td>
</tr>
<tr>
<td>Baby</td>
<td>Indirect</td>
<td>Food</td>
<td>1000</td>
</tr>
<tr>
<td>Baby</td>
<td>Indirect</td>
<td>Housing</td>
<td>2000</td>
</tr>
<tr>
<td>Parental</td>
<td>Direct</td>
<td>Transportation</td>
<td>500</td>
</tr>
</tbody>
</table>
List of Acronyms

1. ANC Ante-natal care services.
2. CHW Community Health Worker
3. CHW48 Community health worker visit within 48 hours
4. CS Cesarean section surgical procedure
5. Dental Routine dental care services
6. EXCEL The windows spreadsheet programme
7. FFHUs Family health units, an Egyptian health center.
8. GoOE Government of Egypt
9. HH household
10. IMCI Integrated Management of Childhood Illness
11. IMR infant mortality rate
12. Incub Incubator care for infants in the peri-natal period
13. IT Information technology
14. LE Egyptian Pound, a unit of currency
15. LY Last year
16. MCH Maternal and child health
17. MDGs Millennium Development Goals
18. MIS management information system
19. MMR maternal mortality rate
20. MoHP Ministry of Health and Population
21. ND Normal delivery
22. NS nutritional supplementation, a service in the basic peri-natal health care package.
23. OB/GYN obstetrics and gynaecology, a specialty of medicine
24. PCPE a UNICEF funded peri-natal care programme of excellence
25. PNC post natal care services
26. SC Save the Children, an international NGO.
27. SES socio-economic status
28. TT Tetanus-Toxoid immunization
29. Ultra Ultrasound test
30. UNICEF United Nations Children’s Fund
Executive Summary

Background—UNICEF, with financial support from the Japanese government and leadership from MoOHP, developed a peri-natal care programme of excellence (PCPE) to sustain the progress Egypt has made towards achieving infant and maternal MDGs 4 and 5 (reduce child mortality and improving maternal health). The programme was implemented in the southern Upper Egypt governorates of Assuit, Sohag, and Qena, where infant and maternal mortality rates were not yet at the levels already seen in more developed areas of the country.

Along with developing and testing the applicability of a model of peri-natal health care, the programme aims to ensure long term financial sustainability. UNICEF therefore conducted this study to determine the cost of delivering a package of peri-natal health care services in Family Health Units (FHU) in the aforementioned governorates. The study was designed to inform policy makers about the resources required to implement an improved set of services to achieve and maintain MDG targets. This “costing” study was launched in June 2010. This report seeks to inform stakeholders about the main findings and provide guidance to policy makers regarding the cost implications of seeking to sustain the programme objectives.

Methodology

The approach follows basic cost accounting guidelines. The study has developed a set of data gathering instruments that can be employed to cost other health programmes as well. These instruments were field-tested in July 2010, and after reviewing the results, they were used again in September of the same year to obtain the data required to conduct the current cost analysis. This study examines in detail the cost of ten peri-natal services at FHUs and three services provided at the hospital level. The FHU services that were costed are comprised of six antenatal services:

a) Routine antenatal care (ANC)

b) Nutritional supplementation (NS)

c) Tetanus toxoid immunization for pregnant women (TT)

d) Lab tests for abnormality detection (Lab Tests)

e) Ultrasound tests of the fetus (Ultra), and

f) Routine dental care (Dental)
Four post natal care services were also costed and they are: a) the routine post natal care service package (PNC), b) CHW visits within 48 hours (CHW48), and c) the basic package of integrated care for the main childhood illnesses encountered by perinatal aged children (IMCI), and d) normal delivery (ND). In addition, normal delivery (ND) services, caesarean section surgical delivery (CS) for emergencies and Three hospital level services were also costed: a) normal delivery (ND), b) caesarean section surgical delivery (CS) for emergencies, and c) incubator are for the premature birth (Incub) were also costed.

For each of these services data was obtained on the direct operational cost elements such as personnel, medicines, medical supplies and equipment used specifically for that service and they (these were depreciated over their working life). Other cost elements included: MCH training of various types, supervision from all levels stakeholders and donors, IT development and systems costs, and other indirect operating costs like electricity, water and transport, etc. Finally, estimates were made of the annual building costs required for service delivery and a—All of these cost items were summed to obtain total service cost estimates for each service at each FHU and hospitals in the sample.

These cost elements were obtained from a total of 18 FHUs and 6 district hospitals: 9 FHUs and 3 hospitals from were located in the pilot project areas (3 from each governorate incorporated in the programme) and 9 FHU and 3 hospitals from the control areas that were not previously included in the pilot programme. The pilot programme sites were are locations where inputs from UNICEF and/or Save the Children (SC) were provided, while the control sites were selected on the basis of their demographic and social similarities with the pilot sites included in the study.

Main Findings

Four main findings emerged from this exercise. First, the estimated total cost of all services was 80% higher in the pilot sites compared to the control sites. This finding varied by type of service with the costs at the pilot facilities for the 6 ante-natal care services was 100% higher than in the control sites, but for the post natal care services, the cost was only about 40% higher.

Second, this finding was primarily driven by the fact that the indirect costs of the 6 ante-natal care services were much higher than for the post natal care services. The indirect cost elements that were higher included training and supervision costs, both of which were viewed as essential elements of to the UNICEF supported PCPE programme. Virtually no personnel training regarding the delivery of perinatal services occurred within the control group facilities.

Third, while the economic cost of personnel is systematically higher than the financial cost of personnel to the FHU, by about 30 to 35% by taking into account the fact that most personnel can earn additional income privately outside the FHU during non-working hours,
the difference is not important between the pilot and control FHUs. This is because personnel only comprises between 12 to 15% of the total cost of each type of service delivered at the FHU.

Finally, supervision costs comprise a surprisingly large share of the total cost of peri-natal services costs in the pilot FHUs. MCH training costs of all types is a significant cost within the pilot facilities and it. It remains for the cost-effectiveness study to ascertain whether these two costs yield a large impact in terms of the additional demand for these services, which have been upgraded and presumably are of a higher quality than in the control facilities.

Limitations of the Study.

There are a number of limitations of the study, in part due to resource constraints which constrained the size of the sample (both pilot and control). UNICEF has intervened in only a small number of sites which may not be representative of a larger population. Even though care was taken to control for a number of the most obvious potential comparability issues, the PCPE intervention and control sites may not be fully comparable. Further there was some difficulty in gaining access to both service use and expenditure data from all of the sites, which may lead to biases in the data. In addition, the overhead apportionment method used may not be fully representative of the actual situation found in the sites on the ground; however, care was taken to use methods of apportionment that have met the test standards of international acceptance.

It is also important to be aware that the cost differences between the pilot and control sites may not be solely due to the new programme of treatment. This study does not attempt to explain the cost differences observed since the length of the comparison period was short so some cost elements may have been high due to the pilot sites being in the start-up phase of delivering the services in a new way. This is particularly true for both supervision and training costs.

Besides the above mentioned limitations, the service delivery data regarding visits to specific services in some settings was incomplete or totally lacking. A separate investigation is required to be able to link the findings of this study to peri-natal service delivery output indicators, and compute the unit cost of service delivery in pilot and control sites. As such, no cost-effectiveness has been undertaken in this study.

Policy Implications of the Main Findings

First, it is recommended that the Ministry of Health monitors expenditure and usage data on a regular basis for all levels of health facilities (FHUs, and district and general hospitals) to make evidence-based resource allocation decisions.
Second, as Egypt is moving to implement a national health insurance, it will be important to know the cost of delivering peri-natal care services for the insurance system to develop appropriate reimbursement levels. As the national health insurance scheme is gradually increasing coverage, an increasingly large share of these services will be regularly used by the population covered by the national scheme as the age cohorts of young adults become beneficiaries of the scheme.

Third, Furthermore, supervision costs need to be reduced now that the PCPE programme is being implemented more widely. Without reducing these costs, it will be difficult to demonstrate the cost-effectiveness of any new peri-natal service relative to the status quo.

Fourth, the findings regarding the community outreach component of the programme also suggest at this stage that their demand creation potential have not fully been realized, with the possible exception where-of some villages have-that have been able to craft their an informal network of oversight and can now document significant improvements in maternal and infant health. As of yet, this has not become widespread but the programme has was only been in-implemented ion mode-for a little over a year when before this study was conducted. Further improvements may be expected in the future.

Finally, the outstanding research agenda is to assess the impact, or additional programme outcomes, relative to the cost of delivering the care. By conducting this additional analysis it will be possible to more clearly estimate the social benefit of adding costs to the delivery of the basic package of services now provided at FHUs and district hospitals.