



Impact of provider incentive
payments on reproductive
health services in Egypt

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Introduction

By the middle of the 1990s, the Government of Egypt had begun to grapple with the pressing problems that the previous piecemeal approach to reform had failed to resolve. There were significant problems in equity of access to services, by both income and geographical grouping, and public spending on health was diminishing. The health sector's organization and its management were burdened by a cumbersome mix of centralized and decentralized functions; financing was fragmented and uncoordinated, prohibiting effective pooling of risk and encouraging predatory behaviour by providers. The delivery system had excess capacity, and facilities of substandard quality were underused. Medical personnel were both in excess and imbalanced, with an over-supply of specialists, an under-supply of primary care physicians and a severe shortage of nurses.

In response, a strategy for health sector reform published in 1997 included a long-term plan for universal coverage with basic health services. The focus of the pilot phase of the Egyptian health sector reform programme (1998–2004) was primary health care. The reform programme was implemented through a Family Health Project that was based on several reform principles, such as creating a Family Health Fund (a social insurance scheme) to reduce out-of-pocket expenditure for a basic benefit package that included reproductive health services like family planning and maternal and newborn care.

By the end of the reform programme's pilot phase, several initiatives had been introduced and others were being tested in pilot trials. The latter included reforms with regard to payment to health-care providers, in which incentives and contracting-in and contracting-out for services were proposed as alternatives to simple salary increases.

Incentive payment scheme

The Family Health Fund works through newly created District Provider Organizations, which contract public and private services to provide the basic benefit package to the populations covered. Initially, the fund was intended to use a per-capita payment system; however, this was soon put on hold, as it would have required substantial modification of existing procedures and policy which could not be achieved during the pilot phase. The payments therefore shifted to salary supplements, which were intended to encourage facilities to maintain certain operating standards and performance targets. Under this scheme, incentive payments can represent up to 275% times the total base salaries of personnel working in a primary health care unit. The payments are metered according to performance, which is measured against standardized indicators and rating criteria. The indicators include curative and preventive services and indicators related to quality of care, such as completeness of medical records, patient satisfaction and waiting time. Minimum target levels are set on the basis of national and governorate programme goals.

The performance indicators are weighted differentially to encourage providers to pay more attention to priority programmes, such as family planning and immunization. A numerical score forms the basis for calculating the actual incentive to be disbursed to each provider according to a weighting system that differentiates three categories of staff in a facility: health-care providers (physicians and nurses), administrative staff and clerks.

The incentive payment scheme was being phased in certain District Provider Organizations and primary health care units at the close of the health sector reform programme's pilot phase. Where the incentive payment scheme was not being introduced, all the Ministry of Health providers were also receiving the salary supplement as a top-off of their regular salary, but not on the basis of a performance assessment. This phased approach to implementing the incentive payment scheme created a natural experiment for the present study.

Hypothesis

The hypothesis on which this study was based is that providers who receive the incentive payment will provide better quality services and be more responsive to their clients' health care needs than providers who receive a salary supplement that is not linked to performance.

Study design and sampling

The study utilized a quasi-experimental post-test only comparison group study design. Results on indicators related to provider performance and patient outcomes in primary health care units where providers received incentive payments were compared with results from units where providers did not receive incentive payments but did receive an equivalent amount as salary top off.

Two of the five governorates in which the incentive payment scheme was tested (Menoufia and Suhag) were selected for this study on the basis of considerations of location (lower and upper Egypt) and the length of time that the payment scheme had been in place (more than two years). Within each governorate, the district recognized as the most active in implementing the health sector reform programme was selected for the study. These were El-Maragha health district in Suhag and Quesna health district in Menoufia.

Within each district, all the primary health-care units offered the same basic package of services and had participated similarly in all other aspects of the health sector reform programme; for example, all the units were fully accredited with comparable materials and medical equipment. Only some, however, had been using the incentive payment scheme. Thus, the only difference between the primary health care units in the study sample was the incentive payment scheme. The four in which the scheme was being used were the intervention units, while the four that were not served as the comparison group.

All the physicians working at each primary health care unit in each district were interviewed, as were all consenting women of reproductive age (15–49 years).

Sample characteristics

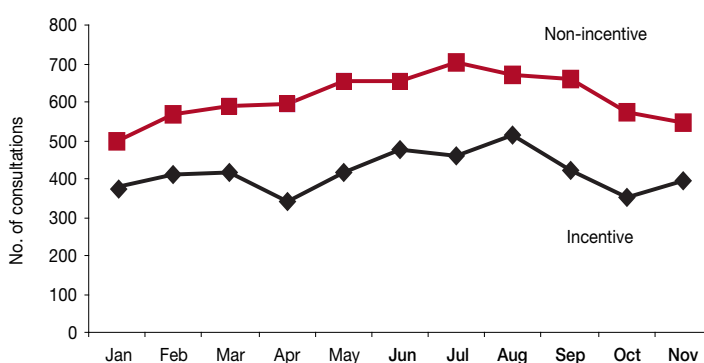
A total of 81 health-care providers were interviewed: 52 in Menoufia Governorate and 29 in Suhag Governorate. Of these, 46 were male and 35 were female. The professional and personal charac-

teristics of the physicians in the incentive payment scheme and the comparison group were not significantly different, and there was no significant difference in the training of the providers in each group.

A total of 2414 women were interviewed, with approximately the same number (600) of cases and comparison women in each governorate. The two study groups did not differ significantly by age, educational level or working status or their husband's education or working status. The two groups did differ significantly by age at first pregnancy, number of living children, numbers of living sons and daughters, numbers of miscarriages or wealth quintile. For example, women treated by physicians who received an incentive payment were more likely to have had their first pregnancy at a later age, have fewer children, have had fewer children who died and have a slightly higher economic status than women in the comparison group.

The volume of services in the study clinics during the 11 months before data collection (January–November 2006) was reviewed to identify any difference in case load. Figure 1 shows that the average number of consultations for reproductive health per month per primary health centre unit was higher in the units with no incentive payment scheme than in those with such a scheme. However, as the number of consultations for reasons other than reproductive health was higher in the incentive payment sites there was no significant difference between the two groups in the total number of consultations.

Figure 1. Number of reproductive health patients by study group



Anecdotal information collected during the study suggested that the lower case load for reproductive health in the incentive scheme clinics was due to the presence of a general hospital near the primary health care unit in one governorate. The consultation fee at the hospital was one third the cost of care at the unit with an incentive payment scheme, no fees were charged for medicine or laboratory analyses and clients were seen by a specialist. In the units with an incentive scheme, clients were seen by a general practitioner and the fee covered only 50% of the cost of prescribed medicines. The case loads for child care and other types of services did not differ significantly between the study groups.

Child care was the most frequently used service in both the incentive and non-incentive scheme units, representing about one half of the services used. Antenatal care accounted for 27.7% and family planning for 21.5% of services. The units with an incentive payment scheme were somewhat more likely to provide family planning and antenatal care services than those without such schemes, although the difference was not significant.

Main findings

The main effect of the incentive scheme was on child health. Not only was better advice given on taking fluids and attending follow-up visits but the standard was significantly improved, so that fewer children received poor-quality care (Table 1).

The results also suggest an effect of the incentive scheme on antenatal care (Table 2), as women who attended clinics in which the scheme was used were significantly more likely to have a more complete history, examinations and laboratory investigations than those in clinics without the scheme. The exception was administration of tetanus toxoid, which was less frequent in clinics in Menoufia with an incentive payment scheme than in the comparison units. A possible explanation is that providers in units with no incentive payment scheme were significantly less likely to check patients' medical records than providers in the incentive payment sites. As such it is plausible that they simply failed to check whether tetanus immunization was needed before administering it.

Table 1. Quality of child health care services by study site and health centre

Indicator	Menoufia		Suhag	
	Incentive scheme %	No incentive scheme %	Incentive scheme %	No incentive scheme %
Child received medicine	12	6	30	16
Doctor explained medicine	96	89	95	78
Doctor advised follow-up visit	52	24	58	42
Doctor talked about fluids	31	15	34	15

All differences are statistically significant at $p < 0.05$.

Table 2. Quality of antenatal care services by study site and health centre

Indicator	Menoufia		Suhag	
	Incentive scheme %	No incentive scheme %	Incentive scheme %	No incentive scheme %
Doctor asked about parity	93	81	92	81
History of last illness taken	90	58	84	81
Fetal heart rate measured	12	4	61	41
Urine analysed	72	29	97	92
Tetanus toxoid administered	60	81	46	46
Counselling given on:				
Nutrition	65	23	53	60
Antenatal visits	74	29	86	71
Medicine use	28	14	53	33

All differences are statistically significant at $p < 0.05$.

The incentive payment scheme had a clear effect on the performance of family planning providers, including better history taking, fewer laboratory investigations, more follow-up visits and more information about available family planning methods. In addition, the family planning clients in the units with an incentive payment scheme were significantly more likely to report having participated in the choice of contraceptive method than those in the comparison sites. This is an important indicator of quality of care, which

has been associated with sustained use of family planning in other studies.

The incentive scheme also affected the behaviour of doctors, who were significantly less likely than their colleagues in clinics with no incentive scheme to prescribe unnecessary medicines, more likely to take a full history and to record it and more likely to ask patients if they had any questions and to encourage them to return for a follow-up visit.

Doctors and managers were supportive of the incentive payment scheme, but they complained that they had not been fully consulted in its design. Consequently, they considered that the scheme was too complicated and that the weight given to different indicators was changed too often.

Implications for policy

Incentives affect performance

Providers respond to payment incentives, and, on the whole, they respond in the way policy-makers would like. Changes that are straightforward, easy to implement and easily measured tend to be the most influenced by incentive payments.

Incentive schemes take time to set up, however, time to test and adapt and then more time to evaluate properly. The concerns of providers about the scheme were noted by policy-makers, who intend to act on them accordingly.

There is probably a limit to what incentive schemes can achieve in the presence of other competing factors

As the managers wished to increase their case loads (underutilization is a common problem in many health systems), 60% of the points for incentive schemes were associated with this factor. However, the study did not show a change in case load from that of the year before the study largely because of a nearby hospital's effects in one of the study sites.

There is often a lag between a change in provider behaviour and a change in client numbers. Nevertheless, it is likely that more fundamental aspects, such as price and the availability of alternative providers also influence a woman's decision to visit a Government clinic. Qualitative research among current and prospective clients and non-clients would help to clarify this point.

Routine evaluation is important in payment for performance

Although in the Egyptian provider incentive scheme, routinely collected data were used as the basis for payments, other factors that influence provider behaviour are not captured in the monitoring system. Programmes for implementation of incentive payment schemes should ensure that reliable sources of routine monitoring data, including feedback from clients and providers, in addition to case-load statistics, are available in a timely manner. Such monitoring should include the sort of regular surveys of patients and clients, as was done in this study.

References

This brief was written by Dale Huntington, Hassan H.M. Zaky, Sherine Shawky, Fatan Abdel Fattah, and draws from the final report "Evaluation of the Impact of Provider Incentive Payments on Reproductive Health Services: Egypt's Health Sector Reform Programme", available from the Social Research Center of the American University in Cairo, Egypt.

Institutional References

Department of Reproductive Health and Research
World Health Organization
Avenue Appia 20, CH-1211 Geneva 27
Switzerland

www.who.int/reproductive-health

Social Research Center
The American University in Cairo
AUC Avenue
P.O. Box 74
New Cairo 11835
Egypt

<http://www.aucegypt.edu/src>

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