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Some Intrinsic Variables Affecting MCH Performance of Auxiliary Nurse-Midwives*

PRIMARY Health Centre (PHC) is a peripheral unit in the organisational hierachy of Health and Family Welfare Services. Therefore, it assumes a local point for providing integrated health service which radiates to the remotest village through its Sub-centres. These Sub-centres are usually staffed by an Auxiliary Nurse-Midwife (ANM) assisted by a female attendant. Under normal government pattern, each sub-centre is required to cover an approximate rural population of 10,000[1], The ANM/MW is solely responsible for providing primarily (a) Maternal and Child Health (MCH) Services, *(b)* education and motivation of women to adopt family welfare measures, and (c) follow-up services, to the rural mothers besides, maintaining a variety of related records and furnishing the details of her day-to-day's activities to the PHC every month[2]. The letter- part of her job responsibilities alone takes almost twenty to thirty percent of tier total working time[3] which she could have otherwise utilised by providing technical services to the rural community. Apart from this, other physical variables, such as remoteness of the sub-centres, the distance she has to travel to reach the interior villages (usually without any transport or com-

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munication facilities) and not the least, her personal safety etc., are the **points** worth taking note of while assessing the performance.

From time to time, emphasis has been laid by experts [4-7] on the integration of MCH services with that of family welfare planning so that the former can be used as a foundation for family welfare planning motivation. The varying stresses and strains under which the ANMs work and the various records they maintain at the cost of their technical services rendered by them, are the facts which affect their performance. While the latter is being taken care of by developing and monitoring the Management Information and Evaluation System (MIES) by the Population Centres, India Population Project, Bangalore[8] and Lucknow[9], the former is yet to receive the attention of the experts and administrators while assessing their performance.

The present paper attempts to investigate whether some of the variables which are inherent by nature such as distance, length of service and a few selected socio-demographic characteristics of the ANMs, have any bearing on their MCH performance.

Study **Area**

Two PHCs i.e., Honnali and Hosanagar of Shimoga district of Karnataka State consisting of 57 Sub-centres in all having distinct geographical and other characteristics, formed the basis of the study.

Honnali PHC consists of 28 Sub-centres having 151 villages with a population of around 1,53.000, while the Hosanagar PHC consists of 29 Sub-centres having 753 villages but with less than half the population covered by the Honnali PHC. This basic information was compiled as of 1976 from the records maintained at the Sub-centre level of the PHCs.

In Honnali PHC, 75 percent of the Sub-centres (21) covering 81 percent of the total population (around 1,24,000) and 77 percent of the villages (115), finally formed the sample. Likewise, in Hosanagar PHC, 93 percent of the Sub-centres (27) covering 87 percent of the population (around 61,000) and 83 percent of the villages (624) were included in the study.

Thus, the sample covered 75 percent and 93 percent of the Sub-centres of Honnali and Hosanagar PHC respectively. The rest of the Sub-centres were

excluded from the sample for a variety of reasons, such as—ANMs were partly working at peripheral institutions to render clinical services, non-availability of either the ANM or the data in time etc.

Some Specific Features of the Study Area

Both the PHCs are situated in the Shimoga district in the Malnad area (largely forested, hilly region with heavy rain fall). It is bestowed with abundant natural resources and rich cultural traditions. The district occupies the ninth and the twelfth place in terms of area (5.5%) and population (4.4%) respectively, among the districts of the state.

Honnali PHC is situated in the eastern part of the district, which is Maidan (an open region) with stony hills. On the contrary, Hosanagar PHC is situated in western part of the district consisting of mountainous terrain which is clothed with dense tropical forest. It is enclosed with hills on three sides. The rain fall in Hosanagar is about five times (2876 mms) that of Honnali (612 mms) [10].

Hosanagar and Honnali PHCs cover an area of 1423.3 and 856.7 square kms, respectively. Thus, the area covered by Hosanagar PHC is almost double that of the Honnali PHC. Out of the total area of Hosanagar and Honnali PHCs, 25,437 and 9,388 hectares are covered by forest, respectively. In other words, the area under forest in Hosanagar PHC is nearly thrice as large as that in Honnali. The total population covered by Hosanagar PHC is even less than fifty percent of that of Honnali. The density of population (based on the compiled population of the Sub-centres) in Hosanagar and Honnali PHCs is 43 and 145 persons per square kms, respectively. Often, the villages of Hosanagar PHC consist of only 3 to 4 households. Thus, the ANMs had to spend considerable amount of their time in travelling. Considering these distinct features of both the PHCs, it was decided to analyse and present the results separately rather than to give the results from the pooled data.

Source of Data

The data were collected individually from each of the Sub-centres of both the PHCs for the financial year 1976-77 on the number of cases registered for antenatal, delivery and post-natal cases conducted by ANMs and local *dais* separately, and the number of family welfare planning acceptors, i.e., sterilization

and IUD. The data were also collected on distances between villages and the Sub-centres where the ANMs usually reside, besides villagewise population of the Sub-centres.

Analysis of Data and Results

The analysis of data was carried out by computing the number of expected ante-natal and post-natal cases out of expected pregnancies and deliveries from the given population, respectively. It was assumed that there would be 40 ANCs and 35 deliveries and PNCs, per thousand population[11]. Thus, the figures of the indices for ANCs, deliveries and PNCs are the percentages of expected numbers. These are higher for Hosanagar. But the expected figures were very high for Honnali because of almost double population. Thus, though the percentages are higher in Hosanagar, implying better coverage of the assigned area, the absolute figures (number of ANC, delivery and PNC) are higher (per ANM) in Honnali. This may not affect comparison within PHC since all ANMs/MWs are more or less assigned about equal population within a given PHC. The MCH equivalent was also worked out by adding twice the deliveries plus ANCs and PNCs conducted by the trained staff (i.e., ANM). This was further multiplied by thousand and divided by the population to obtain an index of per thousand population. The sterilization and IUD acceptors were also expressed in terms of per 1000 population to provide an uniform index. Further, it was assumed that there was no pressure on ANMs to accelerate the MCH performance during the reference period as was observed in case of family planning, especially sterilization. The latter, of course, had affected more or less uniformly throughout the country. Nevertheless, it was considered appropriate to limit the scope of the analysis mainly to MCH performance. However, sterilization and IUD acceptance rates are also presented in Table 1*.

In view of the small sample, no statistical test or significance was used. The main purpose of the paper, it may be recalled, was to gain certain insights into MCH performance of the ANMs in relation to their socio-demographic and other physical variables. Given the objectives of the paper and the nature of the data, the analysis was confined to highlighting only broad differentials rather than to establish causal relationships.

It would be appropriate to offer two general observations before the discus-

*All tables are given at the end of the article.

sion on results. Firstly, the local *dais* play a major role in conducting the deliveries of the rural mothers in the villages which are away from ANM's residential Headquarters (Sub-centres). Thus, they play an important role so far as delivery services are concerned though they are not officially involved. At the same time, it may be kept in mind that there is only one ANM posted at the Sub-centre who is supposed to cover the whole area. Whereas, in case of local *dias*, the possibility of being more than one local *dias*, may not be ignored who might be scattered over the villages of the Sub-centre area and thus, the distance factor might not be operating as much as in the case of ANMs. Secondly, the proportion of post-natal services rendered by both the groups in both the PHCs (especially, in Hosanagar) compared to ante-natal and the delivery services, was found to be relatively less.

(1) *MCH and Family Welfare Planning Performance by Distance.* Table I provides information by distance on the percent of ANCs/PNCs registered out of expected pregnancies/deliveries, deliveries conducted by ANMs and local *dais*, MCH equivalent and the number of acceptors of sterilization and IUD per thousand population. It also provides the percentage of villages and the population covered by the ANMs.

It may be observed that on an average, the number of villages covered by the ANM is less than one-fourth in Honnali (5) as compared to Hosanagar (23). On the contrary, the population coverage per ANM in Honnali PHC is more than double (5,903) as compared to Hosanagar (2,244) PHC. Broadly, it indicates that Hosanagar ANMs have to spend more time in travelling to cover less than fifty percent of the population as compared to that of Honnali.

The Hosanagar ANMs cover only one-third (6.3%) of the total villages as compared to Honnali (18.3%) even for the Headquarters villages. Likewise, the population coverage is also less than half (17.1%) in Hosanagar as compared to that of Honnali (38.4%) at the Headquarters level of the Sub-centres. It may be also seen that the registration of ANCs and PNCs is high in both the PHCs and shows uniform decreasing trend as the distance increased. This is supported by the findings reported by Srinivasan and Sugathan[11] as well as by Chandramouli and Guruswamy[12]. The same trend is found in the case of deliveries conducted by ANMs. The magnitude of the MCH services (especially deliveries) provided by ANMs in Hosanagar PHC is quite high in spite of the fact that its villages are much scattered and on an average, an ANM has to cover about five times the number of villages(23) compared to the Honnali

ANMs (5 villages per ANM). Obviously, it is the population coverage (less than 50%) that seems to be operating in Hosanagar PHC, rather than the distance factor, in providing better MCH care to the rural mothers. Further, relatively less population coverage seems to have placed the Hosanagar ANMs in an advantageous position of identifying the expectant mothers, establishing good rapport and ultimately leading to provision of better MCH services. This is evidenced by the fact that in spite of more than double the population (38.4%) being at the ANM's residential headquarters in Honnali PHC, the ANMs conducted only 74.1 percent of the deliveries as compared to 90 percent of the deliveries conducted by the ANMs of Hosanagar PHC. Possibly, due to this, the proposition, that better MCH services lead to better family welfare planning acceptance rate, is more clearly evidenced in Hosanagar than in Honnali.

(2) *MCH Performance Vs. Transport Facilities.* Availability of the amenities like transport seem? to have much relevance for the effective functioning of the ANMs at the peripheral level which (though indirectly) ensures their personal safety to a considerable extent. Therefore, it was considered pertinent to investigate the variation in MCH performance by the availability of transport facilities. In this regard, all the villages of the PHCs were classified in two groups : (i) villages having direct public transport links from the Sub-centre; and (!i) villages having no such links. The headquarters villages were also merged with the former as the ANMs usually reside there and hence the question of such facilities does not arise. Table-2 provides data on MCH performance and the accessibility of villages by public transport from the ANM's headquarters.

In Hosanagar PHC only 8 percent of the villages and 26 percent of the population were covered by direct transport links from the ANM's headquarters whereas in Honnali PHC about 43 percent of the villages and 62 percent of the population had such facilities. H is evident that in both the PHCs, the registration of ANCs and PNCs was found to be better in villages having transport facilities. In villages with no direct transport links, deliveries conducted by the local *dais* were relatively high in both the PHCs for obvious reasons.

While in Hosanagar, the ANMs conducted 88 percent of the deliveries in villages where they had direct access through public transport, only 65 percent of the deliveries were conducted by them in villages having no such direct links. In the case of Honnali, the corresponding percentages were 61 and 22, respectively. Thus, the MCH performance (in terms of deliveries conducted by ANMs) in the villages with transport facilities over the villages with no such facilities

was better by 39 percentage points in Honnali PHC. In case of Hosanagar, the corresponding performance was higher by only 23 percentage points; this may be due to the fact that three-fourth of the population living in 92 percent of the villages had no direct transport links with the concerned ANM's headquarters. In Honnali, on the other hand, only 38 percent of the population did not have any direct transport link with the ANM's headquarters. The Hosanagar PHC ANMs are rather forced to intensify their activities to cover the population of the villages having no direct transport facilities as well, in order to achieve their assigned targets.

(3) *MCH Performance by ANM Versus Midwife.* Family Welfare Planning Programme, in its initial stages, started with mostly illiterate midwives who were responsible for providing MCH services to the rural mothers through various Sub-centres set up at the village level. This possibly was due to the fact that educated women were not taking up this line for a professional career. The health department recruited midwives and subsequently trained them mainly in conducting a minimum of 100 deliveries through various government hospitals as a basic requirement needed for the midwifery profession. Later on, the ANMs were inducted in the programme after imparting them full-fledged training in midwifery profession for two years. The minimum educational qualification prescribed in the beginning was VIII standard, which was raised to S.S.L.C. in 1977. Thus, the midwives who are still in service, are usually old and virtually on the verge of retirement. On the contrary, the ANMs are mostly quite young, educated and professionally well trained. It was, therefore, considered to be of interest to investigate the variations in MCH performance, if any between these two types of peripheral workers.

Table-3 indicates that the overall MCH services rendered by midwives are much better compared to ANMs in both the PHCs, especially in Honnali. It was also observed that in Hosanagar PHC, MCH services rendered, especially deliveries, both by ANMs/MWs, were much better than their counterparts in Honnali. This may be due to the smaller population coverage (less than fifty percent) by ANMs/MWs in Hosanagar. Remarkably, within the Hosanagar PHC also, the midwives were observed to have provided better delivery and post-natal coverage (about 8 and 7 percentage points more, respectively) compared to ANMs. Thus, it was observed that their long experience in the profession, elderly appearance, maturity and above all their relatively greater sincerity and commitment to the profession, had possibly helped them to come into

closer contacts with, and also to develop a sense of "self belongingness" in the minds, of rural mothers.

(4) *MCH Performance by Age.* Table-4 provides information on MCH services rendered by age of ANMs/MWs. Due to small sample size, it was considered better to combine the data of both the ANMs and the MWs together and also to classify it into two broad age groups, i.e., 29 years or below and 30 years plus.

In both the PHCs, the MCH services rendered by those aged 30 years or above were found to be far better as compared to their younger counterparts. In the case of conducting safe deliveries in Honnali PHC, the services rendered by the elder group were observed to be nearly 50 percent higher as compared to the younger group. In Hosanagar PHC, the difference between these two groups was much narrower but the overall magnitude of the delivery services rendered by both the younger and the cider groups was found to be far high as compared to Honnali PHC.

Overall, the better MCH services rendered by the elder group in both the PHCs strengthens the view that because of age and experience in the profession, they were able both to generate and render better MCH services as compared to their younger colleagues.

(5) *MCH Performance by Marital Status of ANMSJMWs.* According to the prevailing norm in the society, the married women command better social status as compared to unmarried ones. Therefore, It is hypothesised that the ANMs/MWs, especially, with higher marriage duration are more acceptable to the rural mothers so far as MCH services are concerned. Table-5 provides information on MCH performance by marital status of ANMs/MWs. The information was classified into two broad categories, namely, "ever married" and "unmarried".

It may be seen that the MCH services rendered by ever married group to the rural mothers were far more extensive than those performed by the unmarried ones in both the PHCs; especially, the ante-natal and delivery services.

(6) *MCH Performance by Number Of Living Children.* Out of the total sample of 48 ANMs/MWs, 15 were excluded in this section since they were unmarried. Therefore, Table-6 provides information on MCH performance by the number

of .living children based on 33 cases. Due to smallncss of the sample, it was decided to classify in two broad groups, i.e.. those having 3 or less living children and those having 4 or more living children.

Generally, the performance of those with 4 or more living children was much better than those with three or less living children in both the PHCs. The only exception was in respect of deliveries in the Hosanagar PHC, where the performance in this regard was slightly better by those with three or less living children. It may be noted, however, that the proportion of deliveries conducted by both the groups was larger in the Hosanagar PHC than in the Honnali.

Overall better MCH services rendered by the group having 4 or more living children may be broadly attributed to two reasons. Firstly, they were mostly midwives who wer6 found to have relatively longer experience in the profession. Secondly, it was quite likely that at least one of their children might be mature enough to take care of the rest while they were away from the residence to attend to their duty. Also, there was every likelihood that they might not have small children at all requiring their personal attention.

(7) *MCH Performance by Educational States.* This section attempts to show whether education has any bearing on the MCH activities carried out in rural areas by the ANMs/MWs. Since they are grassroot level workers in the hierarchy of health programme, the highest educational level was found to be secondary school only. Therefore, the data was classified in two major heads—primary or below and secondary. The primary group included upto 7th year of schooling but most of than belonged to lower Primary group. The secondary group ranged from 8th to 10th year of schooling. It may also be mentioned that most of the midwives fell under Primary or below Primary group.

Interestingly, those who were educated upto primary school, rendered far better MCH services to the rural mothers than those educated upto secondary school, especially in Honnali PHC. Thus, the level of education was found to have no positive relation to that of MCH services rendered by these two groups. Two possible reasons may be put forth. Firstly, those who were primary or below primary, were mostly midwives whose services were found to be otherwise better (see Table 3). Secondly, the differences in the level of education were very small; the level being either primary or secondary which may not be enough to arrive at any. definite conclusion on the impact of education. Similar findings were also reported by Nayar [13].

(8) *MCHPerformanceby Age of Youngest Child.* The ANMs/MWs wereclassified by the age of their youngest child into two groups : below two years and above two years of age. It is hypothesised that if their children are below two years, it would affect their performance of MCH services since they had to take care of their children simultaneously. In both the PHCs, out of 48 ANMs/MWs, only 33 were married. Out of these, 3 were having no issue and, thus, excluded from the sample. Therefore, Table 8 is based on 30 ANMs/MWs who were married and had some issues.

Those ANMs/MWs whose youngest child was 2 years of age or older had provided fairly better MCH services, especially ante-natal and post-natal services, as compared to those who had their youngest child below two years of age. This trend was found to have operated in both the PHCs. In case of delivery services, the difference was quite small. This may be attributed to the urgency of delivery services an ANM (or MW) is required to attend regardless of her young child she has to look after. Besides this, some remuneration (in cash or kind) is usually received by her from the rural mothers.

(9) *Length of Service.* It was felt that the information about the length of service of the ANMs/MWs would be more appropriate if it pertained to the concerned Sub-centre rather than to consider their entire service in the health department. Thus, they were classified in two broad groups namely, 3 years or below and above 3 years.

Interestingly, inverse trends were found in the PHCs as may be seen from Table 9. In Honnali PHC, those who had 3 or less years of service in the particular Sub-centre, rendered around 10 percent more ante-nalal and post-natal services compared to those who had more than 3 years of service. Whereas, in Hosanagar PHC, as the length of service increased, the proportions of ante-natal, post-natal and delivery services also increased. The corresponding increase in the proportions of various MCH services rendered, were found to be 14 percent, 12 percent and 16 percent, respectively. Thus, we could not draw any definite conclusion on the relationship between the length of service and MCH performance.

Summary and Conclusion

In spite of the fact that the villages of Hosanagar PHC are much scattered and on an average, an ANM/MW has to cover about five times the number of

villages (23) as compared to Honnati ANM/MW (5 villages per ANM/MW), the magnitude of the MCH services provided by them was observed to be higher. This indicates that it is the smaller population coverage, rather than the distance factor, that seems to be responsible for better MCH care in Hosanagar. Therefore, the policy makers and the public health administrators should give weightage to the population coverage apart from the distance factor while assessing their work.

In both the PHCs wherever the villages were having direct transport links from the ANM's headquarters, the registration of ANCs and PNCs was found much better. The MCH performance (in terms of deliveries conducted by ANMs) in those villages having transport facilities was found to be higher by 39 percentage points in Honnali PHC. The corresponding performance was found to be more by 23 percentage points in Hosanagar PHC. On the contrary, in villages with no direct transport links, deliveries conducted by the local *dais* were observed to be relatively high in both the PHCs for obvious reasons. Direct transport links to various villages from the ANMs' headquarters appear, therefore, to have great relevance for the MCH services rendered by them.

The proportion of post-natal care rendered in both the PHCs compared to ante-natal care and delivery services was found to be relatively less. This may be attributed to the fact that after the normal delivery was taken care of through ante-natal check-ups, the ANMs' main responsibility was over. Further, the rural mothers usually give some remuneration in terms of cash or kind for the services rendered by them during the delivery and the fact that they are not likely to get any further remuneration for the services they would provide during the post-natal period, the post-natal services were probably ignored. This seems to be an inherent feature in the system to some extent.

The midwives were found to have rendered better MCH care to the rural mothers than the ANMs. Perhaps, their longer experience in the profession, elderly appearance and maturity helped them to establish better rapport as well as in developing a sense of 'self-belongingness' among the rural mothers. Likewise, older and married ANMs/MWs rendered far better MCH services than the young and unmarried. Among married ANMs/MWs those having 4 or more living children, rendered better MCH care compared to those having 3 or less living children. Further, the latter provided better MCH services than the unmarried ones. Age of the youngest child of the ANMs/MWs also showed positive relationship with the MCH care.

However, the educational level did not show any positive relation with the MCH services rendered, since educational status itself was found to be low (upto secondary school only) which is not sufficient enough Co arrive at any valid conclusion. Likewise, the length of service of the ANMs/MWs at a particular Sub-centre and the MCH services rendered by them, showed positive association in Hosanagar PHC and negative in Honnali PHC.

The difference in the MCH performance between Hosanagar and Honnali persisted even after the ANMs'/MWY age, marital status, number of living children etc., were controlled.

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References

1. Government of India, Ministry of Health and Family Planning, 1972, *Family Planning and Maternity and Child Health at Primary Health Centre—A Manual for Health and Family Planning Staff,* New Delhi, NIFP, p. 3.
2. Government of India *op. cit-,* p. 8
3. Srinivasan, K. and Sugathan, T. N., 1977, *Management Information and Evaluation System (MIES)—A System for Administrative Monitoring of Maternal, Child Health and Family Planning Programme,* Population Centre. India Population Project, Karnataka, Bangalore (Mimeographed), p. 8.
4. ___. and ____, 1976, Provision of maternal and child health services as a basis of motivation for family planning : an empirical investigation through record linkages, Population Centre, Bangalore, *Newsletter,* 2(1).
5. Milter, P. C. and others, 1975, Fertility reduction in an MCH/family planning program, *Studies in Family Planning,* 6(2).
6. Taylor (jr.) H. C. and Lapham, R. J., 1974, A program for family planning based on maternal/child health services : a feasibility study for a world program, *Studies in family Planning, 5, 71.*
7. __,__ and Berelson, B-, 1977, Comprehansive family planning based on maternal/child health services : a feasibility study for a world program, *Studies in Family Planning,* 2,21.
8. Srinivasau, K- and Sugathan, T. N., 1977, *op, cit.,* p. 59.
9. Waheed, M. 1977, Management information and evaluation system (MIES) in *1PP* districts—a follow-up study, Population Centre, Lucknow, *Newsletter,* 3(4).

10. Gazetteer of India, 1975, *Karnataka State Gazetteer*, Shimoga district, Bangalore, Karnataka, Gazetteer Unit, pp. 1-33.
11. Srinivasan, K, and Sugathan, T. N., 1976, *op. cit.*, p. 4.
12. Chandramouli, A. S. and Guruswamy, M., 1979, Distance as a variable influencing the delivery of FP and MCH services, *Journal of Institute of Economic Research, Dharwar*, 14(2).
13. Nayar, P. K. B., 1974, The influence of education on fertility, FPAl, Bombay, *The Journal of family Welfare*, **20,** 34.

TABLE 1—MCH AND FP PERFORMANCE OF PHCs BY DISTANCE

Distance (in km)	Total No. of Villages	Percentage of: Total Population	Percentage of: ANCs Registered out of expected Pregnancies	PNCs Registered out of expected Deliveries	Deliveries Conducted by: ANM	Deliveries Conducted by: Local Dai	MCH Equivalent	FP Acceptance Rate: Sterilization (Per 1000 population)	FP Acceptance Rate: IUD (Per 1000 population)
				A. Honnali PHC			($N = 21$)		
H. Qr.	18.3	38.4	98.2	79.0	74.1	25.0	107	8.2	0.9
1 — 6	68.7	52.7	83.2	55.6	26.8	73.2	63	9.0	0.2
6+	13.0	8.9	64.8	46.6	16.9	83.1	48	8.9	0.5
Total	100.0	100.0	87.3	63.8	48.1	51.9	79	8.7	0.5
	(115)	(123965)	(4328)	(2767)	(1334)	(1439)	(9763)	(1076)	(6.1)
				B. Hosanagar PHC			($N = 27$)		
H. Qr.	6.3	17.1	123.7	99.4	89.9	10.1	146	20.0	1.9
1 — 6	78.8	68.3	82.1	59.5	66.0	34.0	79	14.6	0.1
6+	14.9	14.6	78.0	55.6	63.2	36.8	75	14.8	0.1
Total	100.0	100.0	88.6	65.7	72.0	28.0	90	15.5	0.4
	(624)	(60586)	(2146)	(1393)	(966)	(376)	(5471)	(942)	(24)

Figures in brackets indicate crude numbers.

TABLE 2—MCH PERFORMANCE Vs. TRANSPORT FACILITIES

Transport	Percentage of Total No. of Villages	Total Population	ANCs registered out of expected pregnancies	PNCs registered out of expected deliveries	Deliveries conducted by ANM	Local Dai
			A. Honnali PHC			
(a) With transport	42.6	61.9	105.5	61.0	60.5	39.5
(b) Without transport	57.4	38.1	90.5	47.5	22.0	78.0
Total	100.0	100.0	99.8	55.8	48.1	51.4
	(115)	(123965)	(4228)	(2767)	(1334)	(1439)
			B. Hosanagar PHC			
(a) With transport	7.9	26.4	112.5	70.9	87.9	12.1
(b) Without transport	92.1	73.6	97.2	52.7	64.9	35.1
Total	100.0	100.0	101.2	57.5	72.0	28.0
	(164)	(60586)	(2146)	(1393)	(966)	(376)

TABLE 3—MCH PERFORMANCE OF PHC BY ANM Vs. MIDWIFE

Percentage of Total No. of Villages	Total Population	ANCs registered out of expected pregnancies	PNCs registered out of expected deliveries	Deliveries conducted by ANM	Local Dai
		A. Honnali PHC		*ANMs* ($N = 16$)	
79.1	72.8	85.1	59.8	42.6	57.4
(91)	(90188)	(3101)	(1888)	(804)	(1085)
				Midwives ($N = 5$)	
20.9	27.2	90.8	74.3	60.0	40.0
(24)	(33777)	(1227)	(879)	(530)	(354)
		B. Hosanagar PHC		*ANMs* ($N = 2$)	
83.5	76.3	88.5	64.2	70.2	29.8
(521)	(46212)	(1635)	(1038)	(721)	(306)
				Midwives ($N = 5$)	
16.5	23.7	88.9	70.6	77.8	22.2
(103)	(14374)	(511)	(355)	(245)	(70)

TABLE 4—MCH PERFORMANCE OF PHCs BY AGE OF ANMs/MWs

Total No. of Villages	*Total Population*	*Percentage of ANCs registered out of expected pregnancies*	*PNCs registered out of expected deliveries*	*Deliveries conducted by ANM*	*Deliveries conducted by Local Dai*
	A. Honnali PHC		*29 years or below*		(N = 8)
42.6	33.4	82.1	60.8	32.4	67.6
(49)	(41406)	(1360)	(881)	(291)	(607)
			30 years or above		(N = 13)
57.4	66.6	89.9	65.3	55.6	44.4
(66)	(82559)	(2968)	(1886)	(1043)	(832)
	B. Hosanagar PHC		*29 years or below*		(N = 14)
57.9	50.3	89.7	61.5	65.7	34.3
(361)	(30511)	(1094)	(657)	(426)	(222)
			30 years or above		(N = 13)
42.1	49.7	87.4	69.9	77.8	22.2
(263)	(30075)	(1052)	(736)	(540)	(154)

TABLE 5—MCH PERFORMANCE OF PHCs BY MARITAL STATUS OF ANMs/MIDWIVES

Total No. of Villages	*Total population*	*Percentage of ANCs registered out of expected pregnancies*	*PNCs registered out of expected deliveries*	*Deliveries conducted by ANM*	*Deliveries conducted by Local Dai*
		A. Honnali PHC		*Unmarried*	(N = 6)
33.9	29.6	73.4	52.5	34.1	65.9
(39)	(36638)	(1076)	(673)	(237)	(459)
				Ever married	(N = 15)
66.1	70.4	93.1	68.5	52.8	47.2
(76)	(87327)	(3252)	(2094)	(1097)	(980)
		B. Hosanagar PHC		*Unmarried*	(N = 9)
31.2	36.1	79.5	64.2	63.8	36.2
(195)	(21888)	(696)	(492)	(288)	(162)
				Ever married	(N = 18)
68.8	63.9	93.7	66.5	76.1	23.9
(429)	(38698)	(1450)	(901)	(680)	(214)

TABLE 6—MCH PERFORMANCE OF PHCs BY NUMBER OF LIVING CHILDREN OF ANMs/MIDWIVES

Total No. of Villages	Total Population	Percentage of ANCs registered out of expected pregnancies	Percentage of PNCs registered out of expected deliveries	Deliveries conducted by ANM	Deliveries conducted by Local Dai
	A. Honnali PHC		0–3 *Living Children*		($N = 11$)
75.0	68.9	88.3	59.2	47.5	52.5
(57)	(60177)	(2126)	(1246)	(607)	(761)
			4 *or more Living Children*		($N = 4$)
25.0	31.1	103.7	89.3	61.3	38.7
(19)	(27150)	(1126)	(848)	(490)	(309)
	B. Hosanagar PHC		0–3 *Living Children*		($N = 12$)
66.2	72.9	91.3	61.0	76.3	23.7
(284)	(28208)	(1030)	(602)	(453)	(141)
			4 *or more Living Children*		($N = 6$)
33.8	27.1	100.0	81.5	75.7	24.3
(145)	(10490)	(420)	(299)	(227)	(73)

TABLE 7—MCH PERFORMANCE OF PHCs BY EDUCATIONAL LEVEL OF ANMs/MIDWIVES

Total No. of Villages	Total population	Percentage of ANCs registered out of expected pregnancies	Percentage of PNCs registered out of expected deliveries	Deliveries conducted by ANM	Deliveries conducted by Local Dai
	A. Honnali PHC		*Primary or below* ($N = 5$)		
20.9	27.2	90.8	74.4	60.0	40.0
(24)	(33777)	(1227)	(879)	(530)	(354)
			Secondary ($N = 6$)		
79.1	72.8	86.0	59.8	42.6	57.4
(91)	(90188)	(3101)	(1888)	(804)	(1085)
	B. Hosanagar PHC		*Primary or below* ($N = 4$)		
9.9	20.6	81.6	70.1	80.9	19.1
(62)	(12506)	(408)	(307)	(216)	(51)
			*Secondary** ($N = 23$)		
90.1	79.4	90.4	64.5	69.8	30.2
(562)	(48080)	(1738)	(1086)	(750)	(325)

*One ANM had Per-University Course (PUC)

TABLE 8—MCH PERFORMANCE OF PHCs BY AGE OF YOUNGEST CHILD OF ANMs/MIDWIVES

Total No. of Villages	Total population	Percentages of: ANCs registered out of expected pregnancies	PNCs registered out of expected deliveries	Deliveries conducted by: ANM	Local Dai
	A. Honnali PHC		*Below 2 years (N = 4)*		
20.0	17.6	80.8	59.1	55.2	44.8
(14)	(14547)	(470)	(301)	(164)	(133)
			2 years or above (N = 10)		
80.0	82.4	94.4	69.3	56.6	43.4
(56)	(68213)	(2575)	(1655)	(928)	(711)
	B. Hosanagar PHC		*Below 2 years (N = 4)*		
29.2	27.2	92.6	63.8	73.7	26.3
(106)	(9142)	(339)	(204)	(151)	(54)
			2 years or above (N = 12)		
70.8	72.8	95.2	71.8	78.6	21.4
(257)	(24406)	(929)	(613)	(480)	(131)

TABLE 9—MCH PERFORMANCE OF PHCs BY LENGTH OF SERVICE OF ANMs/MIDWIVES

Total No. of Villages	Total population	Percentage of: ANCs registered out of expected pregnancies	PNCs registered out of expected deliveries	Deliveries conducted by: ANM	Local Dai
	A. Honnali PHC		*3 years or below (N = 12)*		
62.6	53.0	91.7	68.5	43.7	56.3
(72)	(65675)	(2408)	(1574)	(684)	(882)
			3 years or above (N = 9)		
37.4	47.0	82.3	58.5	53.9	46.1
(43)	(58290)	(1920)	(1193)	(650)	(557)
	B. Hosanagar PHC		*3 years or below (N = 16)*		
63.0	52.0	82.0	59.7	63.8	36.2
(393)	(31495)	(1033)	(658)	(413)	(234)
			3 years or above (N = 11)		
37.0	48.0	95.7	72.2	79.6	20.4
(231)	(29089)	(1113)	(735)	(553)	(142)