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A. S. Dey* and P. K. Padhy**

Economic Cost of Primary Health Care Services in India[f]

A very little attention has been paid to study the economic cost of primary health care sevices in India. No reliable data is available to know what proportion of the resources (both manpower and material) is spent on different services like Family Planning, MCH, Curative Sevices etc. What proportion of total expenditure is incurred on salary or supply? On which inputs the expenditure is maximum? These informations are helpful for proper planning and effective management of limited resources available in the PHCs. Keeping these in mind the present study is planned as a pilot project. The broad objectives of this study are:

(i) to assess how the yearly expenditure of PHC is distributed among the various components of Health and Family Welfare Programmes; (ii) to estimate per unif cost of the specified programme output; (iii) to estimate programme specific per capita expenditure.

Location of the Study

The study was undertaken in four stales, namely Uttar Pradesh, Orissa, Gujarat and Maharashtra. The first two states represent low performing states (low contraceptive prevalence and high infant mortality) whereas, the remaining two states are from good performing states. Since, it was decided to cover only two PHCs from each state, no attempt was made to have a proper representation of the state. One district was purposively selected from each state. All the PHCs in each of the selected districts were stratified into two groups, based on their performance in the health and family welfare programme (one group below the average and the other group above it). From each of the two categories, one PHC was randomly selected. Information on cost of the equipments, building, staff salary etc., were collected from the 8 PHCs and all the 145 sub-centres under the jurisdiction of these selected PHCs.

Classification of Inputs

For estimating cost of health programmes all inputs were classified into two groups, non-recurrent (capital) resources and recurrent resources. In short, non-recurrent resources were defined as those inputs which had long term financial commitments (more than one

* A. S. Pandey, Research Director, Operations Research Group, Baroda, Gujarat 390007.
** P. K. Padhy, Senior Research *a*....ecutive, Operations Research Group, Baroda.
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year). While recurrent resources are those inputs which had financial commitments only in the accounting year. A further sub-classification in each of the two groups was done as mentioned below. For the purpose of this analysis all activities of PHC have been divided into four direct services. These include curative, MCH, family planning and other health programmes. Amount of time spent on these activities are referred as direct service time for that particular programme.

1. Non-Recurrent/ Capital Resources

A: Vehicles B: Buildings

2. Recurrent Resources

A: Personnel

(a) Salaries
(b) Honoraria
(c) Incentives

B. Supplies

(a) Drugs
(b) Vaccines
(c) Contraceptives
(d) Non-pharmaceutical items like cotton, spirit, needles, syringes etc.

C. Operation and Maintenance

Charges for electricity, water, fuel, telephone, cleaning, repairing, etc.,

D. Short-term In-service training or orientation course E.

IEC Activities

Film shows, cultural shows/theatre troups essay competition etc., In the present study 'Land' was not considered for cost estimation.

Estimation of Cost

Non-Recurrent (Capital) Inputs Cost

Capital resources have long term financial commitments. To estimate share of total cost of a capital item in the accounting year, annualised capital cost was estimated. The following steps were observed for cost estimation.

1. Identify all capital goods (vehicles, buildings, equipments etc.) being used in the accounting year;
2. find out the present value (replacement cost) of each item;

3. estimate number of years of useful life (working life) of each item.

The annualised capital cost (ACC) of each item was estimated by using simple 'straight line' depreciation as shown below.

$$\text{Annualised Capital Cost (ACC) of a capital item in the accounting year} = \frac{\text{Replacement cost of the capital item in the accounting year}}{\text{Working life time of the item (years)}}$$

Hence, for estimating ACC of each capital item, information about its replacement cost and number of years of working life were needed. A brief description about these two components of various capital items is provided below.

Building. The replacement cost of PHC/SC buildings along with their working life was obtained from the officials of Public Works Department (PWD). For the present study a uniform working life for all the buildings was taken as 75 years.

Vehicles. The cost of vehicles like four wheelers, motor cycles, bicycles etc., was taken from the District Health Office (DHO). On the basis of discussion with the driver of the vehicles and other persons who had knowledge about it, working life was kept as 15 years for four-wheel drive vehicle, 10 years for motor cycles/scooters and 8 years for cycles. The working life was assumed as uniform for all the PHCs irrespective of extent of use or type of terrain.

Equipment. The cost of various equipments were obtained from DHO office. Cost of UNICEF supplied items were taken from UNICEF office at Delhi. On the basis of discussions with the suppliers of equipments and the personnels who used them, the working life of equipments was taken as 5 years for small equipments such as scissors, forceps etc., 10 years for autoclaves, vaccine carriers etc., and 15 years for costly equipments like microscope, ILRs, sterilisers etc.

Recurrent Inputs Cost

The cost estimation of different recurrent resources has been described below.

Salary. The gross salary of the PHC staff and the honorarium/incentives paid to VHGs, Trained Dais were obtained from the records maintained at PHCs. The honorarium paid to the Anganwadi Workers was also considered for cost calculation as they devote a portion of their working time towards the family welfare programme. After discussions with them it was informed that about one-third of their working time was devoted to the programme and consequently one-third of their honararium was considered for cost calculation. Similarly, a few personnel like Malaria Supervisor, Malaria Worker etc., work for more than one PHC. So, their salary was distributed equally among the number of PHCs they work.

Supplies. This category included several materials like drugs, vaccines, contraceptives etc., which were consumed in the accounting year. These materials were the direct inputs for health delivery services. For each item opening stock at the start of the accounting year, closing stock at the end of the year and the total quantity consumed (taking into account the wastages) in the accounting year were collected.

The inormation about cost of different items (per unit cost) was received from several sources including DHO and State Health Directorate office. Few drugs for which official price was not available, commercial price (subjected to 15 per cent deduction) was considered.

Operational and Maintenance Cost. This category includes operation and maintenance costs incurred by the PHCs on buildings, vehicles, furnitures, stationeries, electricity, water etc., during the accounting year.

Allocation of Cost

Cost of various resources were allocated into various programmes according to their uses in concerned programme(s).

(a) Resources which were being used exclusively to produce only one type of function or service such as curative care or MCH or family planning or any other programme such as malaria.

(b) Resources which were being used to produce more than one type of function or service. For example, health functionaries being multipurpose worker, their services were utilised for all programmes.

(c) Resources which did not produce any function or service but were used to support general operations; e.g. the services rendered by pharmacist, clerk, sweeper, attendant, etc., or building or room used for storage; and furnitures like chair, table, almirah etc.

Allocation of cost for 1st group of resources were alloted against the concerned programmes. So, if a building or equipment was used especially for MCH programme, the annualised capital cost of the building or equipment was alloted against MCH programme.

Allocation of cost for second group of resources was done on the basis of per cent of time spent by the workers on that activity. The cost of such resources was allocated to appropriate programme categories in the same proportion as the Direct Service Time of those programmes.

For the third group of resources, i.e. the resources which were being used only as support service, the cost allocation into four Direct Service Programmes was done on the basis of proportion of time spent on various programmes by the PHC stafff.

However, it can be mentioned that except 'Salary' for all other resources PHC Time Use Data was considered. The allocation of 'Salary' of PHC functionaries was done on the basis of individual per cent of time data. So, an ANM's salary was allocated proportional to her devotion of time to Direct Service activities. Nevertheless, allocation of salary of the support staff (pharmacists, clerks, sweepers, etc), was done on the basis of PHC Time Use Data

The same resource could be used for more than one programme. For example, in a PHC/Sub-centre building, one room may be used only for curative services or family planning programme or for MCH programme; another room may be used for more than one programmes, say MCH and FP or MCH and curative care or for all programmes. Yet, there may be another room which is being used only for storage. In such cases Annualised Total Cost (ATC) of the building is distributed amog different programmes according to floor area used for those programmes. Hence,

$$\text{Annualised Total Cost of building used for serviced (say, curative)} = \frac{\text{Floor area used for service } X}{\text{Total build up area of the building}} \times \text{Annualised total cost of building}$$

Utilisation of Time Use Data for Cost Estimation

The allocation of total cost into differentprogrammes was done on the basis of proportion of time spent by different health functionaries on various programmes. For this, a specially developed time use form was provided to the doctors, supervisors and workers for reporting, their daily activities. These schedules were filled up every day for 15 consecutive working days. To discourage filling the forms at the end of the day or on a later date, it was instructed to fill up the schedule every 30 minutes (considered as 1 unit) or after finishing some activity. Thus each worker reported about the place of work, activities carried out for direct services (curative care, FP, MCH and other programme), support services (supervision, waiting time, travelling time, record keeping administration etc.,) and the total output for each 30 minute period.

For estimating time devoted to different activities, the units attained for different activities were summed. Before summing some initial checking of the information on every unit was done. If, for the same 30 minute period both direct services (resulting in an immediate output) and support services (facilitating production of different services) were reported, only direct services were considered. However, if more than one direct service was performed, 1 unit was divided equally among as many direct services provided during a period of 30 minutes. Units for support service activities were also summed in a similar manner.

Programme Specific Time Use

The per cent of total service time of all health fuctionaries in a PHC that was spent on a specific activity is termed as programme specific time use.

$$\text{Programme specific time use in a PHC (in per cent)} = \frac{\text{No. of time units for the particular programme by all functionaries in the PHC}}{\text{No. of total time units for all programmes by all functionaries in the PHC}} \times 100$$

Individual Programme Specific Time Use

This is the percentage of total Direct Service Time devoted by a individual functionary on a specific programme.

$$\text{Programme specific individual time use (in per cent)} = \frac{\text{No. of time units of direct services for the programme by a functionary}}{\text{No. of Total units of time direct services for all programmes by the functionary}} \times 100$$

In short, the whole discussion about the cost estimation and its allocation in the different programmes can be summarised as follows.

Gross Programme Specific Time Use

This is the percentage of total direct service time used for one programme by all functionaries over their total direct service time on all relevant programmes by all functionaries.

$$\text{Gross programme specific time use (in per cent)} = \frac{\text{No. of units of direct services for a programme by all functionaries}}{\text{No. of units of direct services for all relevant programmes by all functionaries}} \times 100$$

In short, the whole discussion about the cost estimation and its allocation in the different programmes can be summarised as follows.

1. Estimation of total cost of health and family welfare programmes provided at PHC level (including all area under its jurisdiction) for the accounting year, 1989-90. Total Yearly Cost (TYC) was calculated by adding together both non-recurrent(capital) costs and recurrent costs.

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TYC = TYCC +TYRC

where, TYCC = Total yearly (annualised) capital costs,

and TYRC = Total yearly recurrent costs

Now, TYCC = Σ YCC

Σ Ri / Ti

Where, YCCi = Yearly (annualised) capital cost for the i-th non-recurrent resource in the accounting year.

Ri = Replacement cost of the i-th non-recurrent resource in the accounting year.

Ti = Working life time of the i-th non-recurrent resource (years)

The summation operates on all individual non-recurrent resources.

Again,

TYRC = YRCi

where, YRCi = Yearly recurrent cost of i-th recurrent resource in the accounting year.

The summation operates on all recurrent resources.

Hence, total yearly costs,

$$TYC = \sum \frac{R_i}{T_i} + \sum YRC_i$$

2. Allocation of total cost into the four direct service programmmes :

Total Yearly Cost(TYC) can be composed into four direct service programme categories as

TYC = Total yearly cost on curative care
+
Total yearly cost on MCH
+
Total yearly cost on family planning
+
Total yearly cost on other programmes.

Let us now describe how each of the four components of TYC was computed. Total yearly cost on curative care can be calculated as follows.

Total yearly cost on curative care =
Cost of capital resources (building, vehicles, equipment etc.,) which were used directly for curative care.
+
Allocated per cent of cost of capital resources which were used directly for curative care along with some other programme.
+
Allocated per cent of cost of capital resources used for support service activities.
+
Cost of personnel resources (salaries, allowances, honoraria), which were used directly for curative care.
+
Allocated per cent of cost of personnel resources (salaries, allowances, honoraria) which were used directly for curative care along with some other programmes
+
Allocated per cent of cost of personnel resources (salaries, allowances, honoraria) which were used for general support.
+
Cost of drugs and supplies which were used directly for curative care.
+
Allocated per cent value of total general operations, maintenance and other costs

Applying the above procedure the total costs on MCH, family planning and on other programmes were estimated.

Programme Specific Expenditure

The total cost for all programme along with programme specific cost is provided in Table 1

TABLE 1.-PROGRAMME-SPECIFIC YEARLY EXPENDITURE, 1989-90

Programme	*Expenditure (Rs.)*		
	Eight PHCs Combined	*Average Per PHC*	*per cent*
Curative Care	24,34,769	3,04,346	18.1
Family Planning	45,59,663	5,69,958	34.1
MCH Programme	39,97,453	4,99,682	29.9
Other Programmes	23,96,145	2,99,518	17.9
All Programmes (Rs.)	1,33,88,030	16,73,504	100.0

The table shows that average annual expenditure per PHC was Rs. 1,673 thousand. The programme specific analysis showed that maximum share of total expenditure was taken by the family planning programme (34 per cent) followed by the MCH Programme (30 per cent). Curative care and other programmes accounted for almost equal proportion of total expenditure (18 per cent each).

Programme-specific Expenditure on Different Resources

An analysis of programme specific expenditure on different resources is presented in Table 2. The table shows that more than four-fifth of the total expenditure (81 per cent) was accounted by expenditure on staff followed by supplies (12 per cent), capital (5 per cent) and other costs (2 per cent). Similar expenditure pattern was observed for individual programmes. The analysis shows that salary accounted for maximum share (71 per cent) of the total expenditure followed by drugs (7 per cent) and incentives (6 per cent).

Apart from salary among other resources which accounted relatively more expenditure were drugs (18 per cent) in curative care, incentives (17 per cent) and contraceptives (9 per cent) in the family planning programme, vaccines (10 per cent) and honoraria (7 per cent) in MCH Programme. A negligible proportion (0.1 per cent) of the total expenditure was spent on special programmes (short-term orientation course, film shows, cultural shows etc).

The component specific cost analysis shows (Table 3) that a major share (42 per cent) of the total expenditure on *capital* items is taken by MCH programme followed by the family planning programme (27 per cent). Similarly, 30 per cent of the total expenditure incurred on staff salary was accounted by the family planning programme. An equal amount (30per cent) was spent on MCH programme. It was followed by other programmes (22 per cent) and curative care (19 per cent). Maximum proportion of the expenditure on supplies was taken by family planning programme (36 per cent) followed by MCH programme (30 per cent).

TABLE 2: PROGRAMME-SPECIFIC EXPENDITURE ON DIFFERENT RESOURCES SUPPLIED TO ALL THE EIGHT PHCs COMBINED DURING 1989-90

(in percentage)

	Curative Care	*Family Planning*	*MCH Programmes*	*Other*	*All*
Capital	3.5	3.7	6.6	4.3	4.6
Buildings	2.1	1.7	2.2	2.4	2.0
Vehicles	0.6	0.5	0.7	0.8	0.6
Equipment	0.8	1.5	3.7	1.1	12.0
Staff	76.2	81.7	78.6	88.5	81.0
Salary	73.5	61.5	71.5	86.3	71.2
Honoraria	2.7	3.4	7.1	2.2	4.1
Incentives	-	16.8	-	-	5.7
Supplies	17.6	13.2	12.6	4.8	12.3
Drugs	17.6	4.7	2.7	4.8	6.5
Contraceptives	-	8.5		-	-2.9
Vaccines	-	-	-9.9	-	2.9
Other Costs	2.7	1.4	2.2	2.4	2.1
Gen. Operation &Maintenance	2.6	1.3	2.1	2.3	2.0
Spl.Programmes	0.1	0.1	0.1	0.1	0.1
Total Expenditure (Rs.,000)	2,435	4,560	3,997	2,396	13,388

Resources-specific Expenditure on Different Programmes

An attempt was made to see how expenditure on a particular resource item was shared by all the programmes and it is presented in Table 3.

Further, it was observed that maximum share of the expenditures on all capital resources (building, vehicle and equipments) was consumed by the MCH programme followed by the family planning programme. For example, about one-third expenditures on buildings and vehicles and more than half of the expenditures on equipments (56 percent) went for MCH programme. The corresponding proportion varied between 26 to 28 per cent for the family planning programme. About 60 per cent of the expenditure on salary was for performing MCH and family planning activities (30 per cent each). A major share (51 per cent) of the expenditure on honoraria went for the MCH programme. This may be due to the fact that most of the honorary workers like Anganwadi Worker, Trained Dai devoted major portion of their working time for the MCH programme.

TABLE 3: RESOURCE-SPECIFIC EXPENDITUTE ON DIFFERENT PROGRAMMES FOR ALL THE EIGHT PHCs COMBINEDLY DURING 1989-90

(Horizonal percentage)

Total Expn.	*Curative Care*	*Family Planning*	*MCH Programme*	*Other*	*All costs (Rs.OOO)*
Capital	14.0	27.0	42.3	16.7	1,620
Buildings	18.3	27.6	32.6	21.5	275
Vehicles	19.2	25.7	31.5	23.6	82
Equipment	7.9	26.7	55.8	9.6	263
Staff	17.1	34.4	29.0	19.5	10,846
Salary	18.8	29.5	30.0	21.7	9,528
Honoraria	11.8	27.8	51.0	9.4	553
Incentives	-	100.0	-	-	765
Supplies	26.0	36.4	30.5	7,1	1,646
Drugs	49.4	24.8	12.4	13.4	866
Contraceptives	-	100.0	—	-	385
Vaccines	-	-	100.0	-	395
Others	23.5	23.6	32.5	20.4	276
(Recurrent Cost)					
General Operation and Maintenance	23.8	23.3	32.6	20.3	268
Spl. Programmes	12.6	34.3	29.4	23.7	8
All resources	18.1	34.1	29.9	17.9	13,338

About half of the expenditure on drugs (49 per cent) went for curative care and about one-fourth was incurred for the family planning programmes. Entire cost on vaccines and contraceptives was for the MCH and family planning programme respectively.

Estimation of Cost Per Unit Output

It will be very interesting to see cost effectiveness analysis of different programmes. Keeping this in mind an attempt has been made to estimate per unit cost of different pogramme output.

Measures of Output

The output figures for different programme categories considered for estimating cost per unit output are given below.

(i) *Curative care:* The total number of beneficiaries who were provided services at the OPD of PHC/SC/Dispensary.

(ii) *Family Planning:* Family Planning output was measured by two ways, the total number of acceptors of various FP methods in the accounting year, and the another by estimating equivalent sterilisation. For computing equivalent sterilisation, 3 IUD acceptors or 9 oral pill users or 18 condom users were considered as 1 sterilisation acceptor.

(iii) *Other Programmes:* For other programmes number of beneficiaries treated under four national programmes namely Malaria (NMEP), Leprosy (NLCP), Blindness (NPCB) and T.B. (NTPC) was taken as output measure.

(iv) *MCH Programme:* For measuring MCH Programme output, all activities under it were made into two groups, MCH care (excluding Immunisation) and Immunisation service. Services under MCH care included Anti-Natal Care (ANC), Post-Natal Care (PNC), deliveries conducted, baby check up/weighing etc. Immunisation services included TT to pregnant mothers, BCG, DPT, Polio, Measles, TT, DT etc. given to Children.

The Units of MCH Care (excluding Immunisation) was taken as number of beneficiaries contacts and for immunisation service as number of injections/doses administered in the accounting year.

Programme-specific Expenditure

Expenditure incurred for all the programmes (except MCH care and immunisation service separately) were already calculated. The total cost on the MCH programme was allocated into two components, the MCH care and immunisation service, as follows.

It was assumed that entire cost under the MCH programme on equipments (ILR, refrigerator etc) and vaccines was utilised for immunisation service and that on drugs for MCH care. The remaining expenditures of the MCH programme was allocated into two constituent groups based on PHC Time Use Data as discussed below.

Time spent on MCH care was estimated from the Daily Time Schedule. If during the same period more than one activity was done, the unit was divided by as many MCH activities were done. Units under MCH care (excluding immunisation) and immunisation service were summed together separately

$$\text{Allocated per cent of time for MCH care (excluding immunisation) in a PHC} = \frac{\text{No. of units for MCH care (excluding immunisation) activities by all functionries in the PHC}}{\text{Total No. of units for all MCH activities by all functionaries in the PHC.}} \times 100$$

$$\text{Allocated per cent of immunisation service in a PHC} = \frac{\text{No. of unite for immunisation activities by all functionaries in the PHC}}{\text{Total No. of units for all MCH activities by all functionaries in the PHC}} \times 100$$

$$\text{Expenditure on MCH care (excluding immunisation)} = \text{Total cost of drugs under MCH Programme} + \text{Allocated per cent of cost of MCH programme (except drugs, equipments and vaccines).}$$

Similarly,

$$\text{Expenditure on Immunisation Service} = \text{Total Cost on equipments under MCH programme} + \text{Total cost on vaccines under MCH programme} + \text{Allocated per cent of cost of MCH programme (except drugs, equipment and vaccines)}$$

Programme-Specific Expenditure Per Unit of Output

Programme-specific unit cost of output was computed by dividing total expenditure incurred in a programme by total units of service output in the programme. Table 4 presents programme specific expenditure for each unit of service output.

The analysis shows that as high as Rs. 351.66 was incurred for each family planning contact made. Since a majority of the beneficiaries included acceptors of permanent method, a major portion of this expenditure was spent on incentives for the beneficiaries and the staff. Costs per sterilisation equivalent was estimated to be Rs. 685.15. Similarly, cost for each contact of MCH beneficiaries (excluding immunisation) was Rs. 16.61 and that on curative care was Rs. 14.05. The expenditure incurred for immunisation service was Rs. 6.15 per dose/injection.

TABLE 4: PROGRAMME-SPECIFIC EXPENDITURE FOR PER UNIT SERVICE OF OUTPUT FOR ALL THE 8 PHCs COMBINEDLY

Programme	*Expenditure (Rs.) (Per Unit of Service Output)*
Curative Care	14.05
Family Planning	351.66*
	(685.15)**
MCH Care+	16.61
Immunisation	6.15
Other Programmes	33.82

*Costper FP beneficiary, **Cost per equivalent sterilisation, +Excluding immunisation.

Component-specific Per Unit Expenditure

A break up of per unit expenditure for each programme was done according to the different components of cost and is presented in Table 5. It is apparent from the table that per unit expenditure on capital, staff, supplies and other costs were higher for the family planning programme as compared to all other programmes.

The per unit expenditure on staff (salaries, honoraria and incentives) for the family planning programme was Rs. 287 (Rs. 560 per equivalent sterilisation), but the corresponding figure varied between only Rs. 4 to Rs. 30 for all other categories of programme. It is however, important to note that per unit cost among different programmes cannot be strictly compared due to difference in unit among different programmes. For example expenditure on incentives was only for the family planning programme. It seems incentives scheme played a crucial role in increasing per unit cost of the family planning programme. Apart from staff expenditure, per unit expenditure on supplies for the family planning programme (drugs and contraceptives) was also higher (Rs. 46) per beneficiary and Rs. 90 per equivalent sterilisation as compared to Rs. 1 to Rs. 2 for the other four programmes.

Per Capita Expenditure

The Per Capita Expenditure (PCE) on a programme is defined as total expenditure incurred for the programme per person. For example,

$$\text{PCE on curative care in an accounting year in a PHC} = \frac{\text{Total expenditure on curative care in the accounting year}}{\text{Total population in the accounting year}}$$

TABLE 5: COMPONENT-SPECIFIC EXPENDITURE OF PER UNIT OUTPUT CLASSIFIED BY DIFFERENT PROGRAMMES FOR THE EIGHT PHCs COMBINEDLY DURING 1989-90

(in Rupees)

Component of cost	*Curative Care*	*Family Planning*	*MCHCare+*	*Immunisation*	*Other Programmes*
Capital	0.50	12.89* (25.11)**	0.56	0.72	1.46
Staff	10.70	287.47 (560.09)	14.89	3.76	29.93
Supplies	2.47	46.27 (90.15)	0.73	1.57	1.64
Others	0.38	5.03 (7.79)	0.43	0.10	0.79
A H	14.05	351.66 (685.15)	16.61	6.15	33.82

+ Excluding Immunisation; * Cost per FP beneficiary, ** Cost per equivalent sterilisation

The total population in the accounting year was estimated by projecting 1981 Census population and considering intervening growth rate as 1971-81 exponential growth rate for the rural areas of the concerned district. Table 6 presents the per capita expenditure in the four programme categories for the 8 PHCs taken together. The table shows that on average expenditure of Rs. 16.91 was incurred per person in the study areas in primary health care. Out of Rs. 16.91, family planning and MCH programmes together consumed Rs. 10.81 and the remaining two programmes accounted for Rs. 6.10.

TABLE 6: PROGRAMME-SPECIFIC PER CAPITA EXPENDITURE FOR THE EIGHT PHCS COMBINEDLY, 1989-90

Programme	*Per-Capila Expenditure (Rs.)*
Curative Care	3.07
Family Planning	5.76
MCHCare*	3.10
Immunisation	1.95
Other Programmes	3.03
Total	16.91

*Exeluding Immunisation

A similar analysis for per capita expenditure on different components of programmes shows that out of Rs. 16.91, Rs. 13.70 went for paying staff salaries, incentives etc. and only Rs. 2.08 was spent on drugs and other supplies and Rs. 0.78 for capital resources. Other expenditure account for Rs. 0.35.

The same analysis was repeated for all the programme separately and is presented for all the PHCs combinedly in Table 7.

TABLE 7: PROGRAMME-SPECIFIC PER CAPITA EXPENDITURE CLASSIFIED BY DIFFERENT COST-COMPONENT FOR THE EIGHT PHCs COMBINEDLY, 1989-90

Cost Component	*Curative Care*	*Family Planning*	*MCH Care**	*Immunisation*	*Other Programmes*	*All Programme*
Capital	0.11	0.21	0.10	0.23	0.13	0.78
Staff	2.34	4.71	2.78	1.19	2.68	13.70
Supplies	0.54	0.76	0.14	0.49	0.15	2.08
Others	0.08	0.08	0.08	0.04	0.07	0.35
All	3.07	5.76	3.10	1.95	3.03	16.91

* Excluding Immunisation.

The table shows that per capita expenditure on staff varied from Rs. 1.19 on immunisation programme to Rs. 4.71 on FP programme. The expenditure on supplies varied from Rs. 0.14 on MCH Care to Rs. 0.76 on FP programme. The expenditure on capital resources was highest on immunisation programme (Rs. 0.23) and lowest on curative care (Rs. 0.11).

Summary and Conclusion

1. The objective of the study is to assess how the early expenditure of PHC is distributed among the four Direct Service Programmes, namely, curative care, family planning, MCH and other programmes? What is the programme specific per capita expenditure? How much cost is incurred for delivery of per unit output of different programmes?
2. The present study is based on 8 PHCs covering four states namely Uttar Pradesh, Orissa, Gujarat and Maharashtra.
3. To generate the required data two types of schedules were developed, daily time schedule and PHC/SC information schedule. The first type of schedule was filled up by the PHC and SC staff (doctors, supervisors, health workers) every day for 15 consecutive days. The second type of schedule was designed to collect various types of resources provided to the PHCs and SCs. The performance statistics of various programmes were also collected through this schedule.
4. For estimating cost of health programme, information on all the physical and human resources which were basic inputs to PHC services were collected and grouped into two categories, non-recurrent (capital resources vehicles, buildings etc.) and recurrent resources (salaries, drugs, vaccines, contraceptives, maintenance etc.).
5. For capital resources, its share in the accounting year was estimated by using simple straight line depreciation. So, annualised capital cost was estimated by dividing replacement cost (present value) of the item by working life time of that item. For recurrent resources, cost of those resources which was consumed in the accounting year was taken into consideration.
6. Cost of all resources was allocated in the four programmes namely, curative care, family planning, MCH and other programmes depending on how they were being

utilised in the programme. Resources which were being used for one programme only, entire cost of such resources was allowed against the concerned programme. For the resources which were being used for more than one programme, the cost of such resources was allocated to appropriate programme categories in the same proportion as per cent of time used for these programmes. For the resources which were being used only as support service the cost allocation into our programmes was done on the basis of PHC Time Use Data.

7. The average annual expenditure per PHC was found as Rs. 1.673 million. The maximum share of total expenditure was taken by the family planning programme (34 per cent) followed by the MCH programme (30 per cent). Curative care and other programmes accounted almost equal proportion of total expenditure (18 per cent each).
8. Component specific expenditure shows that 81 per cent of the total expenditure was accounted by expenditure on staff followed by supplies (12 per cent), capital (5 per cent) and other costs (2 per cent). This is also true in all the four programme specific expenditure.
9. A major share of the total expenditure on capital resources was taken by MCH programme (42 per cent) followed by FP programme (27 per cent). Similarly, 34 per cent of the total expenditure incurred on staff went for FP programme followed by 29 per cent for MCH. Maximum share of expenditure on supplies was taken by FP programme (30 per cent) and curative care (26 per cent) services.
10. Resource specific expenditure shows that salary accounted for maximum share (71 per cent) of the total expenditure followed by drugs (7 per cent) and incentives (6 per cent). Salary had taken major share in all the four programmes. Other resources which accounted for relatively more expenditure were drugs (9 per cent) in FP programme, vaccines (10 per cent) and honoraria (7 per cent) in MCH programmes and drugs (5 per cent) in other programme. General operations and maintainance cost hardly varied between 1 to 2 per cent in all the four programme categories.
11. It was observed that maximum share of the expenditure on all capital resources was consumed by MCH programme followed by the FP Programme. About 60 per cent of the expenditure on salary was for performing MCH and FP services.
12. On average, an expenditure of Rs. 16.91 was incurred per person on primary health care services by each of the PHCs. FP and MCH programmes together consumed Rs. 10.81 and the remaining two programmes accounted Rs. 6.10. Further, out of Rs. 16.91, Rs. 13.70 was spent for paying staff salaries, incentives etc. Only Rs. 2.08 was spent for drugs and other supplies, and Rs. 0.78 for capital resources.
13. Programme specific expenditure for per unit service output shows Rs. 351.66 was the expenditure per FP beneficiary (Rs. 685.15 per equivalent sterilisation). Per beneficiary (contact) the cost incurred on MCH care (excluding immunisation) was Rs. 16.61 and that on curative care was Rs. 14.05. The expenditure incurred for immunisation service was Rs. 56.15 per dose/injection.

14. For effective management of PHC services, not only mobilisation of resources (physical and manpower) but also proper programme planning and improvement of quality of service delivery component need to be emphasised.

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